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GEOLOGICAL SURVEY

PRESSURE-VOLUME-TEMPERATURE RELATIONS OF HYDROTHERMAL SEAWATER:
Experimental determination, mathematical formulation, and calculation of thermochemical parameters

by

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1984
Menlo Park, CA 94025

ABSTRACT

The pressure dependence of the specific volume of seawater (3.2% NaCl) was determined by isothermal decompression experiments from 650 bars down to the two-phase boundary. Temperatures of the isotherms ranged from 200° to 470°C. After extrapolation to 1000 bars, the isotherms were fit to the Tammann compressibility equation. The temperature-dependent parameters of the Tammann equation were then regressed to polynomials of temperature. The result is an empirical equation of state that describes the specific volume, compressibility, and expansivity of seawater as a function of temperature and pressure applicable to seafloor geothermal systems. Using this equation and applying corresponding states theory, enthalpy, entropy, heat capacity, and the isothermal and isenthalpic Joules-Thompson coefficients of seawater as a function of temperature and pressure were calculated.

INTRODUCTION

In many geothermal systems, particularly those exploited for power generation, circulation is governed by the properties of the fluid near the two-phase boundary. In contrast to dilute waters in terrestrial geothermal systems, seawater in seafloor geothermal systems can become superheated to temperatures well in excess of the critical temperature as a consequence of the great hydrostatic pressure exerted by the oceanic mass. Under these conditions seawater becomes very expanded while still in the liquid state. Seawater circulates between the boundaries of the subsurface magma chamber and the seafloor. At oceanic spreading centers these boundaries generally correspond to a pressure range of 200 to 750 bars. Based on the two-phase curve the corresponding maximum temperatures are 300°C to 500°C (Bischoff and Rosenbauer, 1984). Modeling of circulation patterns in this region requires knowledge of such factors as density, expansivity, and compressibility as functions of temperature and pressure. These factors can be calculated from experimental pressure- specific volume-temperature (PVT) data of seawater. In the absence of direct experimental studies, modeling of circulation patterns has had to rely on the properties of pure water as an analogue (for example, Lister, 1983, and Sleep, 1983).

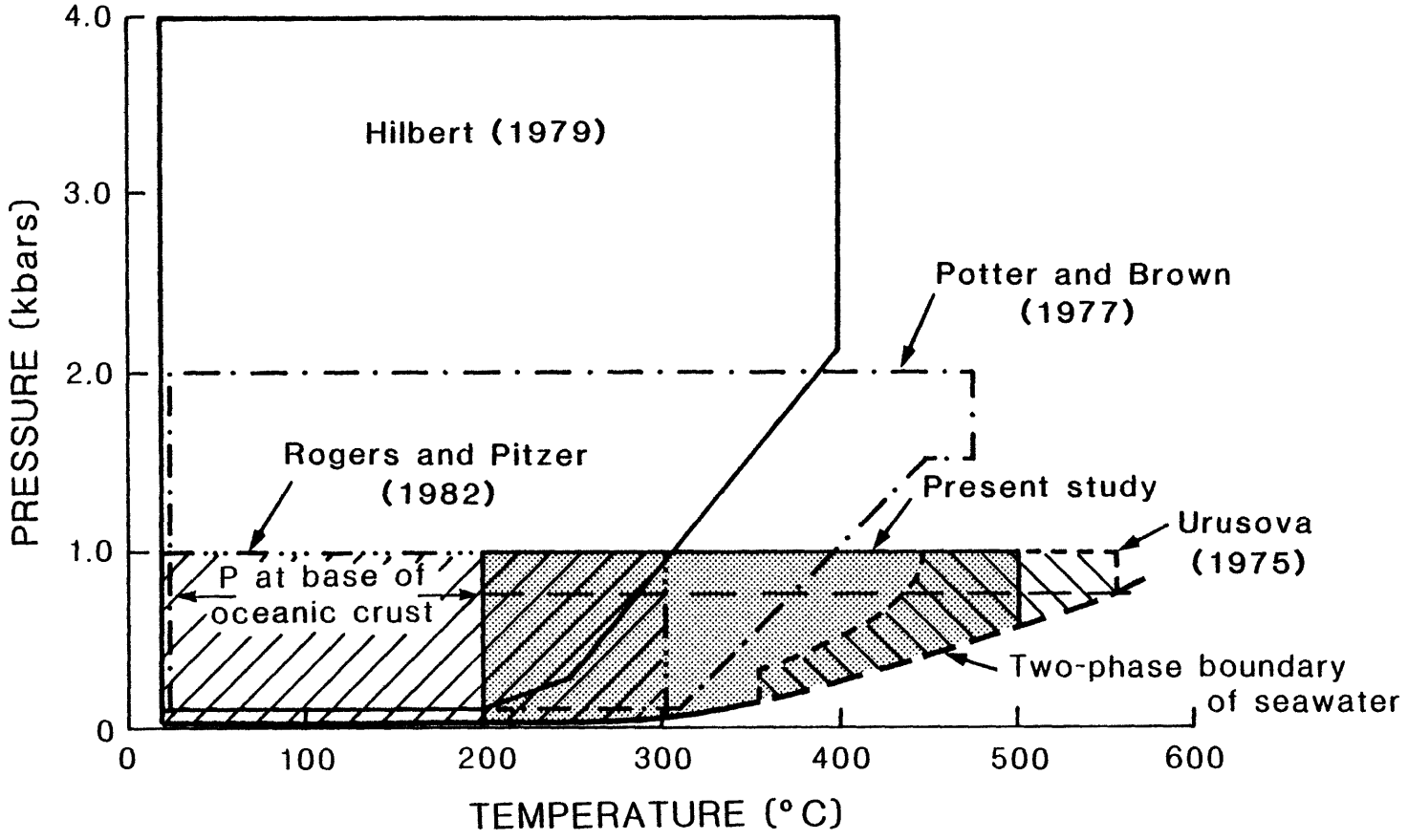
Other useful factors derivable from PVT relations include enthalpy, entropy, heat capacity, and quartz solubility, each of which is important in understanding fluid dynamics in seafloor sys-

tems. For example, the discharge, or ascending part of the geothermal cycle is probably an adiabatic process if the system has reached steady-state (Barton and Toulmin, 1961; Bischoff, 1980). Such an adiabatic change is isentropic (constant entropy) if the process is gradual and reversible, and isenthalpic (constant enthalpy) if the decompression is rapid and irreversible. The real system probably lies somewhere in between. Knowledge of the entropy and enthalpy of seawater allows construction of the two kinds of adiabats in P-T space along which a given vent fluid might have risen, and thus, provides an estimate of the maximum subsurface temperature. A recently derived expression for quartz solubility (Fournier, 1983) relates quartz solubility to temperature and specific volume of the fluid. Thus, knowledge of PVT for seawater allows calculation of quartz solubility for the subsurface conditions. Quartz geothermometry can then be applied to silica concentrations determined on vent waters to estimate maximum subsurface temperature.

An earlier report dealt with the experimental determination of the critical point and the two-phase boundary of seawater (Bischoff and Rosenbauer, 1984). In this study it was found that the PVT properties of 3.2% NaCl coincided exactly with those of seawater within experimental error over the range 200° to 500°C, 100 to 700 bars. Seawater loses all of it SO_4 and Mg during interaction with basalt in the seafloor geothermal systems, such that Cl remains as the only important anion at 0.546 molal, corresponding to 3.2% NaCl. We report here on the results of a PVT study of 3.2% NaCl in the range of 200°C to 470°C at pressures ranging from the two-phase boundary to 1000 bars. We have fitted the results to an empirical equation which in turn was then utilized to calculate additional parameters of state.

Millero and his co-workers have carried out extensive studies of the volumetric properties of seawater applicable to the determination of the thermodynamic properties and circulation patterns of the oceanic water masses (see Millero, 1980, for example). Accordingly these studies have been carried out at temperatures below 100°C and at pressures up to 1000 bars. Higher temperature studies have been carried out for simple NaCl solutions, the range of which is shown in figure

Figure 1
Pressure-temperature field covered in present study and previous studies.


4.0
3.0
2.0
1.0
0
PRESSURE (kbars)
0
100
200
300
400
500
600
TEMPERATURE (°C)
Hilbert (1979)
Potter and Brown
(1977)
Rogers and Pitzer
(1982)
Present study
Urusova
(1975)
P at base of
oceanic crust
Two-phase boundary
of seawater

5.

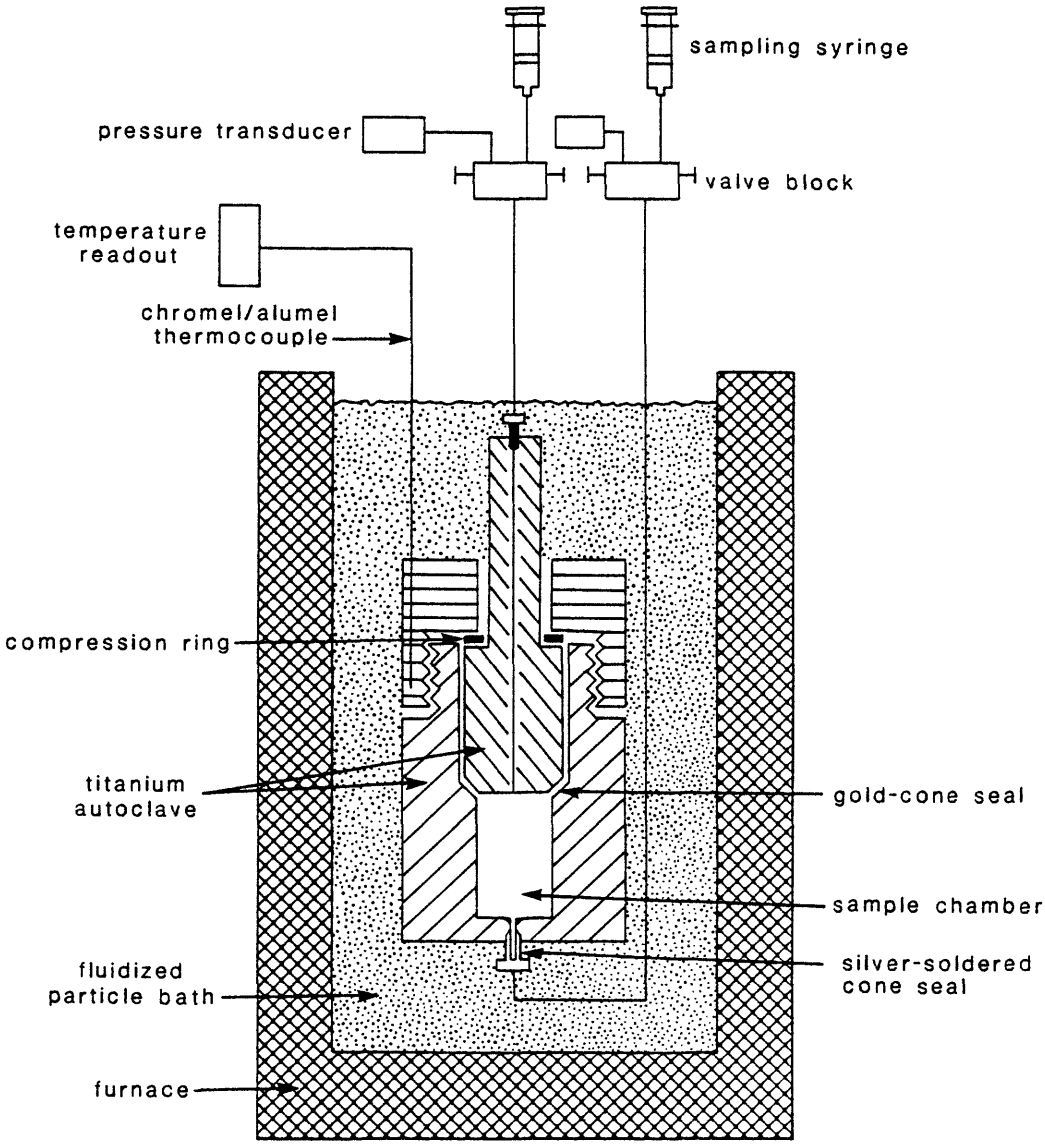
1 along with the field covered in the present study. Among these is a compilation of earlier experimental work by Potter and Brown (1977), and more recent studies by Urusova (1975) and by Hilbert (1979). Rogers and Pitzer (1982) made use of these studies to provide a general equation for the volumetric properties of NaCl solutions of varying salt content up to 300° and 1000 bars. The data of Potter and Brown and of Hilbert include the salinity range of seawater but are confined to very high pressures such that only a small region is included of the lower temperature range of interest to the seafloor geothermal systems. The study by Urusova covers the temperature-pressure range of interest, but was carried out at salt contents exceeding 10% (1.7 molal). Finally, in a companion paper to Rogers and Pitzer (1982), Pitzer et al. (1984) used experimental measurements of osmotic and activity coefficients, enthalpy, and heat capacity to provide a highly accurate and complete equation of state for NaCl solutions valid for temperatures 0° to 300°C, saturation pressure to 1000 bars, and from 0 to 6 molal NaCl. A paper by Pitzer and Li (1984) also provides semiempirical equations estimating the thermochemical parameters of NaCl solutions. Although these equations are less accurate than those of Pitzer et al. (1984), they extend from 300° to 550°C at high pressure, and provide a basis of comparison for the present study.

EXPERIMENTAL

Pressure-specific volume points were measured at constant temperature in a constant volume cell by the technique of decompression. The experimental apparatus (figure 2) is described in Bischoff and Rosenbauer (1984) and was earlier used to determine the two-phase boundary of seawater. It consists of a 26 ml pure titanium pressure vessel held vertically within a fluidized particle bath. Openings on top and bottom of the vessel were connected to sampling valve blocks and pressure transducers via titanium and 316SS tubing. Dead volumes of the pressure line including the valve blocks were 0.3 ml each for the top and bottom line.

A weighed quantity of solution was added to the pressure vessel and the apparatus assembled

Figure 2
Constant volume cell used in experimental determination of isotherms of specific volume versus pressure.


sampling syringe
pressure transducer
valve block
temperature readout
chromel/alumel thermocouple
compression ring
titanium autoclave
gold-cone seal
sample chamber
silver-soldered cone seal
fluidized particle bath
furnace

and loaded into the furnace. Sufficient fluid was added to the vessel to completely fill it at ambient conditions. Excess fluid was gradually withdrawn during heating to maintain the pressure at approximately 650 bars. At thermal equilibrium samples were withdrawn and weighed (typically 0.35 grams) and the pressure drop noted. Sampling was continued until the two-phase boundary was reached as indicated by a difference in refractive index of samples taken from the top and bottom of the vessel. A strict accounting of the weight of all the samples allowed calculation of the weight of the fluid remaining in the vessel for each pressure and from this specific volume was calculated. A plot of pressure versus specific volume then defines the isothermal decompression curve for the particular temperature of the experiment.

Pressure was measured by two pressure transducers manufactured by Setra Systems*, models 204E (0-333 bars) and 204O (0-666 bars), calibrated by Viking Laboratories, Mountain View, California by an 11-point dead weight calibration of 0.01% accuracy. Pressure was readable to 0.66 bar and accuracy at maximum pressure was within one bar. In addition, the two transducers were simultaneously calibrated against each other by 100 separate readings during the course of each experiment.

Temperature was measured with a type K (chromel - alumel) thermocouple, sheathed and grounded connected to an Omega* model 2160A-KC-04 ASTM-calibrated digital thermometer readable to within 0.5 °C. The temperature probe was calibrated against ASTM-calibrated Hg thermometers up to 405 °C and against a platinum probe thermometer from 250° to 500 °C, which was itself calibrated against the Hg thermometers. The electronics were calibrated with an NBS-calibrated DC voltage source. And finally, the entire system was calibrated against the known vapor pressure of pure water up to 370 °C, and , because the volume of the cell is known, against the specific volume and pressure of pure water from 370 °C to 500 °C. The response of the type K thermocouple is not perfectly linear over this higher temperature range, but accuracy is deemed to be within 1 °C. The particle-bath furnace maintains temperature to ±1 °C over a 24 hour period and has a maximum thermal gradient of 0.5 °C from top to bottom. 3.2 wt% NaCl

solution (0.546 m) was prepared from reagent grade NaCl and deionized water. Standard seawater was used for three isotherms and the results were found to be indistinguishable, at the resolution of the system, from similarly conducted experiments with 3.2% NaCl system. The NaCl solution was used exclusively for all the remaining experiments, because the high acidity of natural seawater buffered by the precipitation of magnesium hydroxysulfate (Bischoff and Rosenbauer, 1983) caused weakening of the seals of the capillary pressure lines.

The system was calibrated by three isothermals of distilled water, at 326°, 405°, and at 435°C, and comparison of the specific volume determinations with those calculated from the equation of state for pure water (Harr et al., 1981). The comparison, shown in figure 3, indicates that the average absolute difference between measured and actual volume is 0.135% with a single measured point differing by a maximum value of 0.6%. It appears that no significant deformation of the experimental cell takes place at the highest pressures of the study (650 bars), and that no corrections for cell volume were required. This would indicate that the determination of specific volume is accurate to ±0.1% (or better) at the one sigma level.

DATA

Fourteen isotherms were determined between 200°C to 470°C at intervals of about 20° (Appendix 1). Six of the isotherms are shown in figure 4, which include extrapolated points to 1000 bars and fits of the isotherms to the Tammann equation. The lower bound of each isotherm is the two-phase boundary. Isotherms below the critical temperature, 405°C (Bischoff and Rosenbauer, 1984), are characterized by only small changes in volume over the pressure range from the boiling point to 1000 bars. Seawater is relatively incompressible in this region and behaves very much like pure liquid water. In the critical region and temperatures above, the specific volume varies greatly with pressure. At 400.5°, for example, the isotherm closest to the critical tempera-

Figure 3

Plot of residual errors between specific volume of water measured in present study compared to calculated values from the equation of Harr et al. (1981).

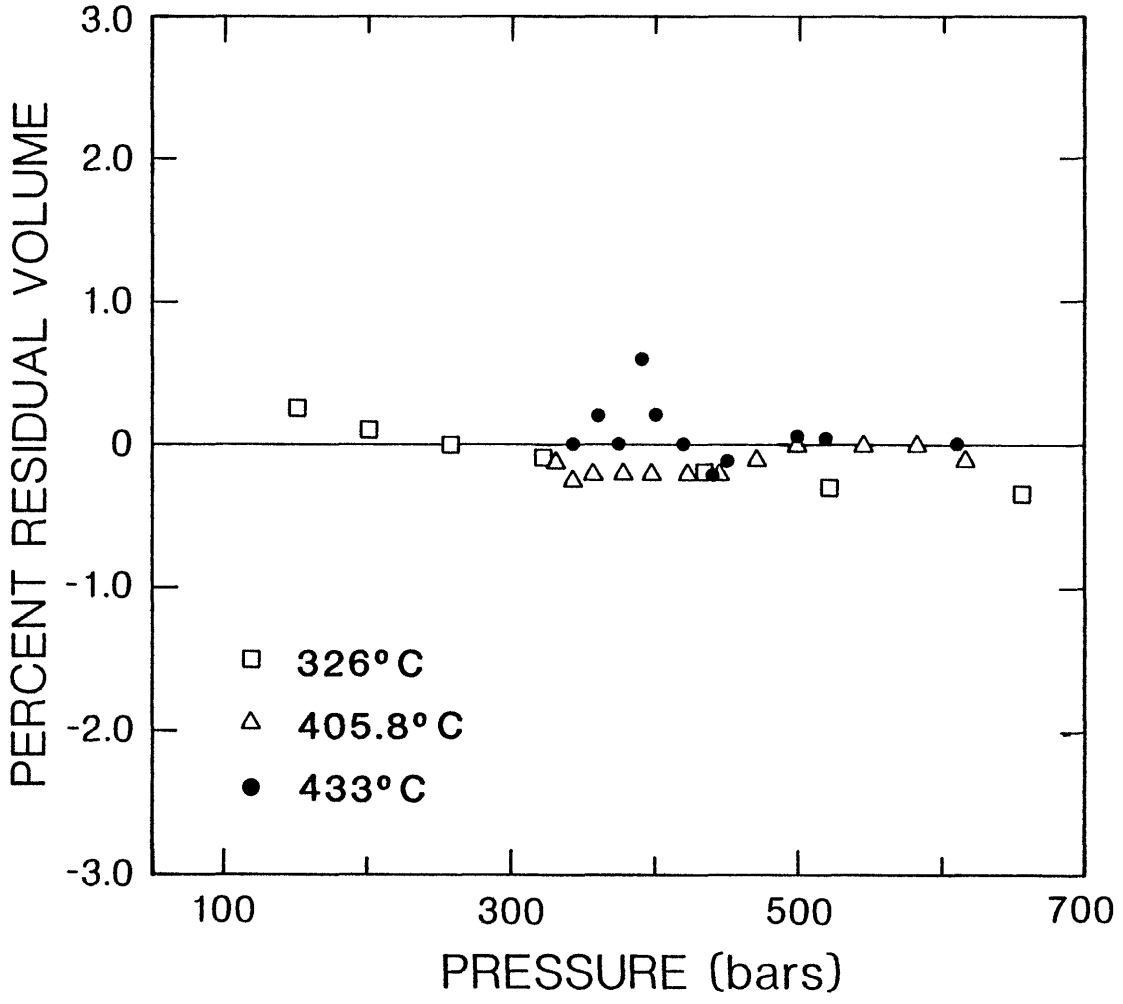
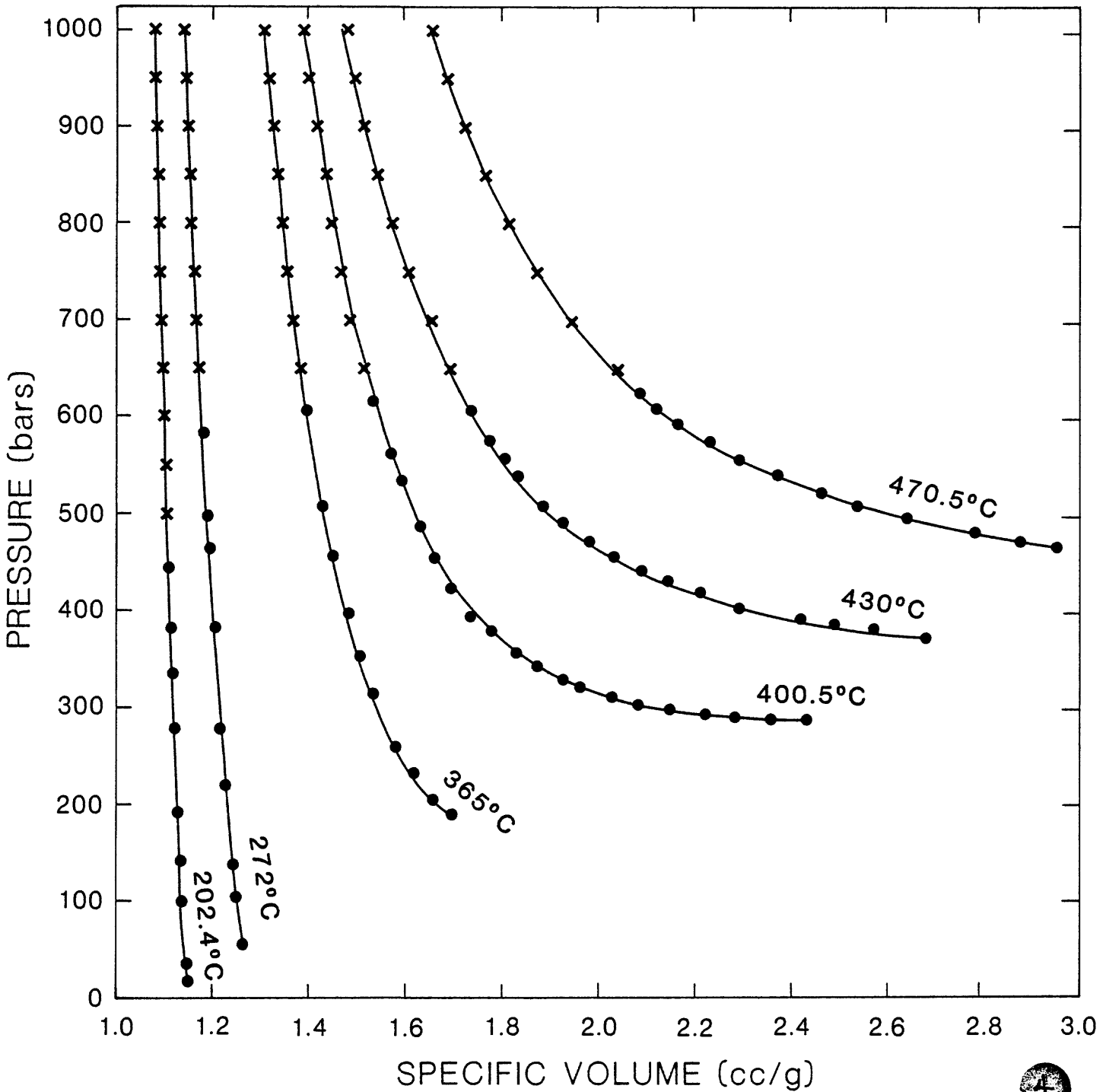

3.0
2.0
1.0
0
-1.0
-2.0
-3.0
PERCENT RESIDUAL VOLUME
100
300
500
700
PRESSURE (bars)
326° C
405.8° C
433° C

Figure 4

Specific volume versus pressure for six of the experimental isotherms; circles are measured points, x's are extrapolated. Curves are least squares fit of data points to the Tammann equation.


PRESSURE (bars)
SPECIFIC VOLUME (cc/g)
0
100
200
300
400
500
600
700
800
900
1000
1.0
1.2
1.4
1.6
1.8
2.0
2.2
2.4
2.6
2.8
3.0
470.5°C
430°C
400.5°C
365°C
272°C
202.4°C

4

ture, seawater is relatively incompressible in the high pressure region from 1000 to 500 bars, expanding only from 1.4 to 1.6 cc/g. In the lower pressure region, from 500 bars to the two-phase boundary a little below 300 bars, seawater expands to 2.4 cc/g. In fact, the curve becomes almost horizontal as the lower pressure is approached, which is consistent with the property that dV/dP approaches a maximum negative value at the critical point. At 470.5 °C compressibility is large and continuous throughout the entire pressure range, with maximum specific volume at the two-phase boundary reaching nearly 3.0 cc/g, corresponding to a density of only 0.33 g/cc.

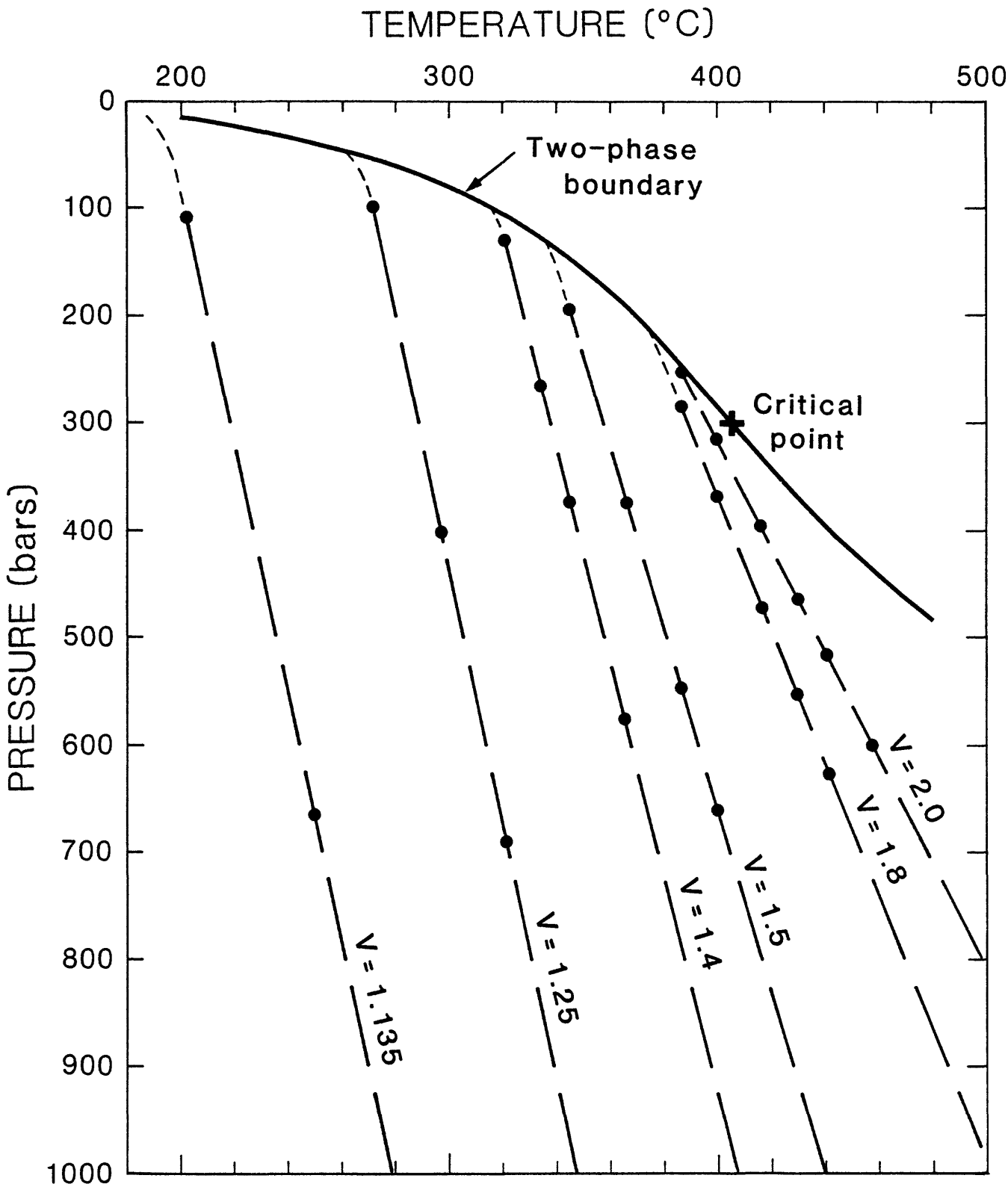
Extrapolations to 1000 bars were carried out to allow comparison and calibration to the lower pressure regions of Potter and Brown (1977) and Hilbert (1979), and also to allow application of corresponding-states theory in the calculation of enthalpy and entropy. At the high pressures, supercritical seawater is little different from pure liquid water, a fact that is important in the enthalpy and entropy calculations developed later. The extrapolated points between 650 and 1000 bars were determined by a linear extension of isochores on a pressure-temperature grid (figure 5), a procedure that is reasonable because isochores for pure water are linear in the same temperature-pressure range except in the region very near the two-phase boundary. Thus, projected specific volumes were estimated for 50 bar increments from 650 to 1000 bars and added to each isotherm. Projected points are shown as x's in figure 4, and it is clear that they plot smoothly on trend with the measured points. Because such extrapolation integrates all the measured data it serves as a useful check on the temperature and pressure calibrations of the system. Any errors in estimates of temperature or pressure will result in extrapolated points that do not fit smoothly on the isotherms.

THE EQUATION OF STATE

The general equation describes specific volume as a function of temperature and pressure,

15

Figure 5
Constant specific volume extrapolations to 1000 bars. Points are interpolated from the isotherms of appendix 1.


TEMPERATURE (°C)
200
300
400
500
0
100
200
300
400
500
600
700
800
900
1000
PRESSURE (bars)
Two-phase boundary
Critical point
V = 1.135
V = 1.25
V = 1.4
V = 1.5
V = 1.8
V = 2.0

V = f(T,P), and was determined in two steps. Each of the individual isotherms (along with their respective extrapolated points) is first fit to a general isothermal compressibility expression. Secondly, the terms in each of the individual isotherms are then regressed against temperature to produce the general equation.

The various kinds and relative merits of compressibility equations have been reviewed by Hayward (1967). Several empirical equations have been used over the years since Tait in 1888 first proposed an equation of the form:

$$\frac{V_o P}{V_o - V} = K_o + mP \tag{1}$$

in which V_o is the volume of the liquid at standard pressure (one bar) and K_o and m are constants. Millero (1980, and references therein) found that a modification of this equation, the secant bulk modulus equation,

$$\frac{V_o P}{V_o - V} = K_o + AP + BP^2 \tag{2}$$

in which A and B are constants, best fit his experimental studies on low temperature seawater. Another form of the Tait equation which has been used by numerous investigators (for example, Li, 1967, and Hilbert, 1979) is called the "Tammann" equation by Hayward (1967) who deems it to have originated by an accidental misquotation by Tammann in 1907 of the original Tait Equation. This equation has the form,

$$V = V_o \left[1 - C \ \ln \frac{(B+P)}{B} \right] \tag{3}$$

in which B and C are constants, and V_o is the volume at one bar pressure.

We have attempted to fit the various equations to the isotherms using least-squares methods and have found that the suspect Tammann equation not only fit the data best, as shown in figure 4, it produced the only reasonable fit for the pronounced curvature of the higher temperature isotherms. The secant bulk modulus form, figure 6, is an unsatisfactory expression for these conditions of large curvature.

Because the isotherms do not extend to one bar pressure in the present study, it was necessary to modify the equations to introduce a P_o term which corresponds to a specific V_o. The choice of the V_o, P_o pair is arbitrary as long as it corresponds to an actual single point on the compression curve. Accordingly, we have chosen 500 bars for P_o in all of the isotherms, because the measured data are probably most accurate at this pressure. Thus, the Tammann equation takes the form,

$$V = V_o - A \ \ln \frac{(B+P)}{(B+P_o)} \tag{4}$$

A and B were calculated for each isotherm by a Marquardt non-linear least squares regression of the set of experimental and extrapolated points and an interpolated value for V_o at 500 bars. The closeness of fit for three typical isotherms, including the highest temperature of the study, is shown on the residual error plot (figure 7) which indicates an average absolute error in specific volume to be 0.10%. Thus, the Tammann equation describes the specific volume within ±0.05% at one sigma as a function of pressure at constant temperature.

The variation of A, B, and V_o with temperature is shown in figure 8. V_o and B were found to vary smoothly throughout the entire temperature range, and each could be described by a single

Figure 6

Least squares fit of two isotherms to the bulk modulus form of the Tait equation, symbols as in figure 5.

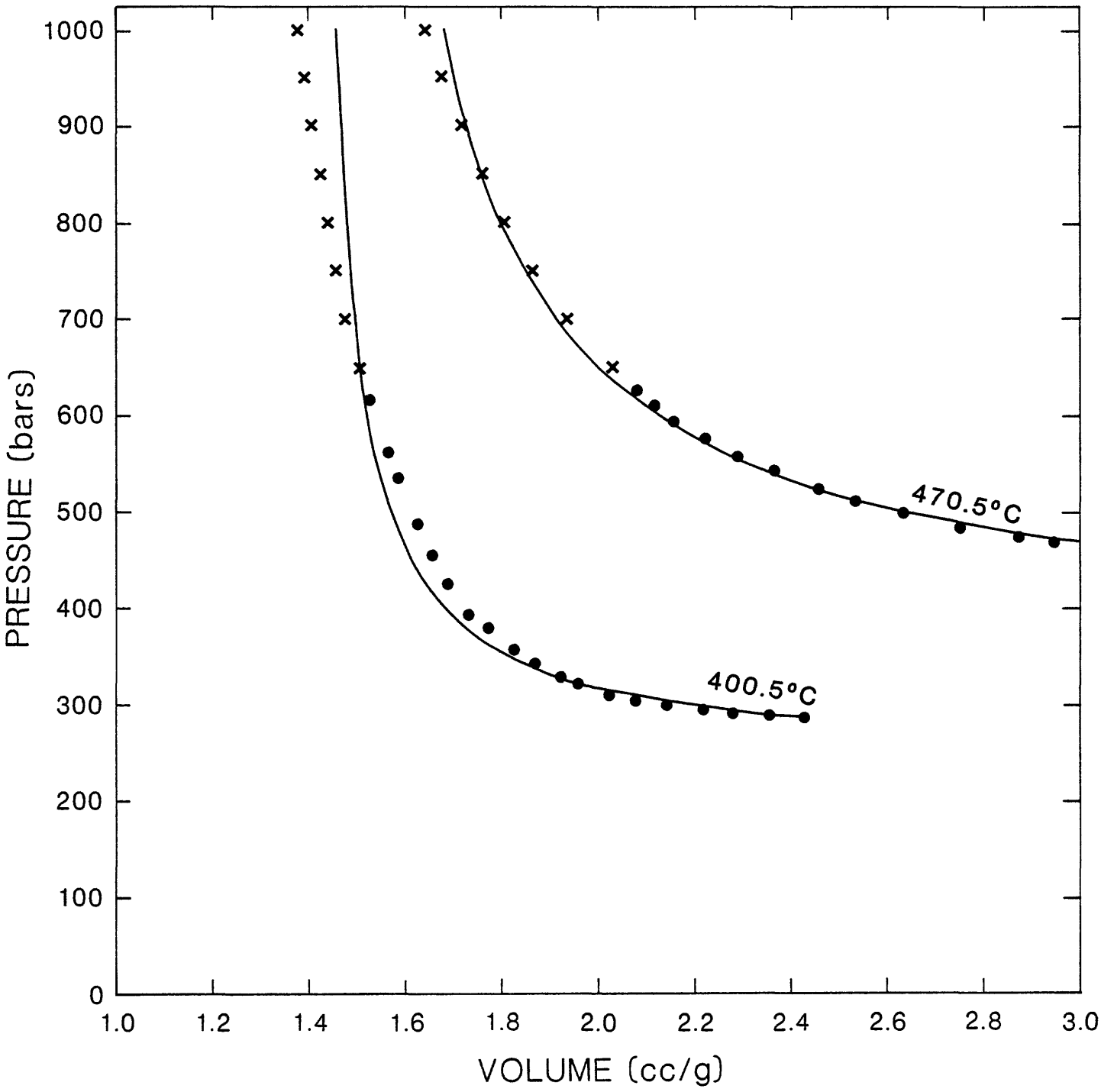
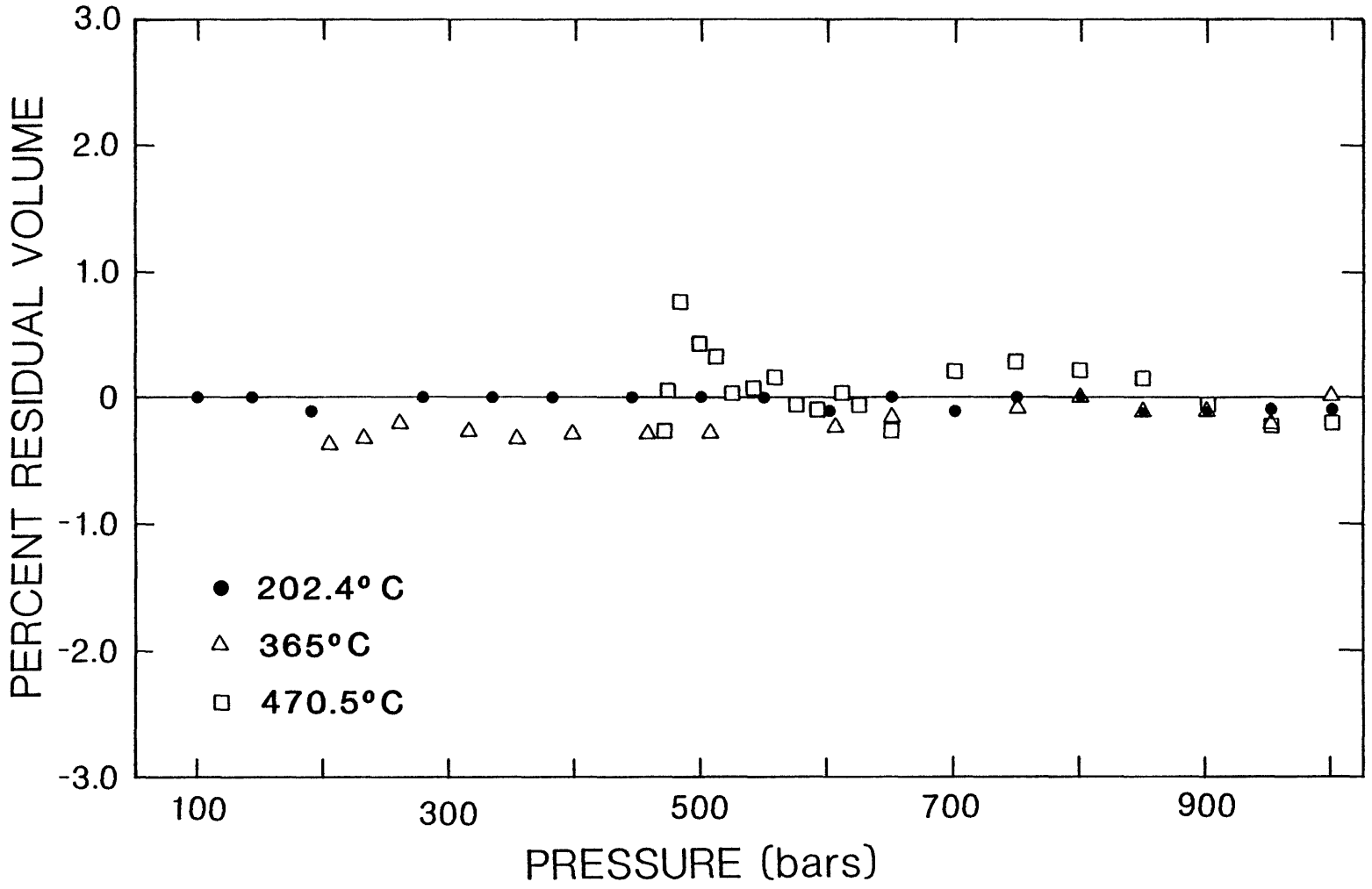

PRESSURE (bars)
VOLUME (cc/g)
470.5°C
400.5°C
0
100
200
300
400
500
600
700
800
900
1000
1.0
1.2
1.4
1.6
1.8
2.0
2.2
2.4
2.6
2.8
3.0

Figure 7
Difference in specific volume between measured and calculated from fits of the Tammann equation to three isotherms plotted against pressure.


3.0
2.0
1.0
0
-1.0
-2.0
-3.0
PERCENT RESIDUAL VOLUME
100
300
500
700
900
PRESSURE (bars)
202.4° C
365°C
470.5°C

polynomial expansion with temperature. A, on the other hand, goes through two rather abrupt changes, one near the critical temperature of water (374 °C) and another near the critical temperature of seawater (405°). Thus, separate simple polynomials were fit to A for three temperature regions. Above the critical point a single function of A described specific volume to within 2%, but it was found that splitting A into two pressure regimes resulted in a slightly improved overall fit of the general equation to the measured and extrapolated points. B was likewise split in this region because it is dependant on A. The polynomials for A, B, and V_o are described in Appendix 2. Thus, the general equation for specific volume as a function of T and P is given by the Tammann equation with A, B, and V_o described by the polynomials of T. The quality of the overall fit is indicated by the residual plot of specific volume versus temperature (figure 9), which indicates average absolute residual error is 0.24%, and that the equation predicts the experimental measurements within ±0.12% at the one sigma level. Combining these errors with the experimental error of 0.135% based on the pure water isotherms the accuracy of the overall equation is on the order of ± 0.4% at the one sigma level.

Comparisons of the results of the present study with previous investigations are shown in Table 1. Agreement with Rogers and Pitzer (1982) at 300° and various pressures is almost exact. Comparisons at 1000 bars at all temperatures are good, which support the assumptions regarding the extrapolations to 1000 bars. At 300 °C and 1000 bars we calculate a specific volume of 1.17 cc/g which compares to 1.18 cc/g interpolated from the data of Hilbert (1979) and 1.15 cc/g interpolated from those of Potter and Brown (1977). A plot of density versus NaCl content at 300 °C from Potter and Brown, however, does not project to pure water whereas that of Hilbert does. So Hilbert's study is considered more reliable at this temperature. At 400 °C, 1000 bars we calculate a specific volume of 1.38 cc/g which is in excellent agreement with 1.38 interpolated from Potter and Brown. At this temperature their data project exactly to pure water and, thus, appear to be more reliable. Unfortunately, Hilbert's study does not extend below 2000 bars at this temperature. Comparison of the present study with Urusova (1975) for the higher temperature range of the study requires interpolation of her data from 10% NaCl all the way to pure

Figure 8
A, B, and V_o parameters of the Tammann equation plotted against temperature.

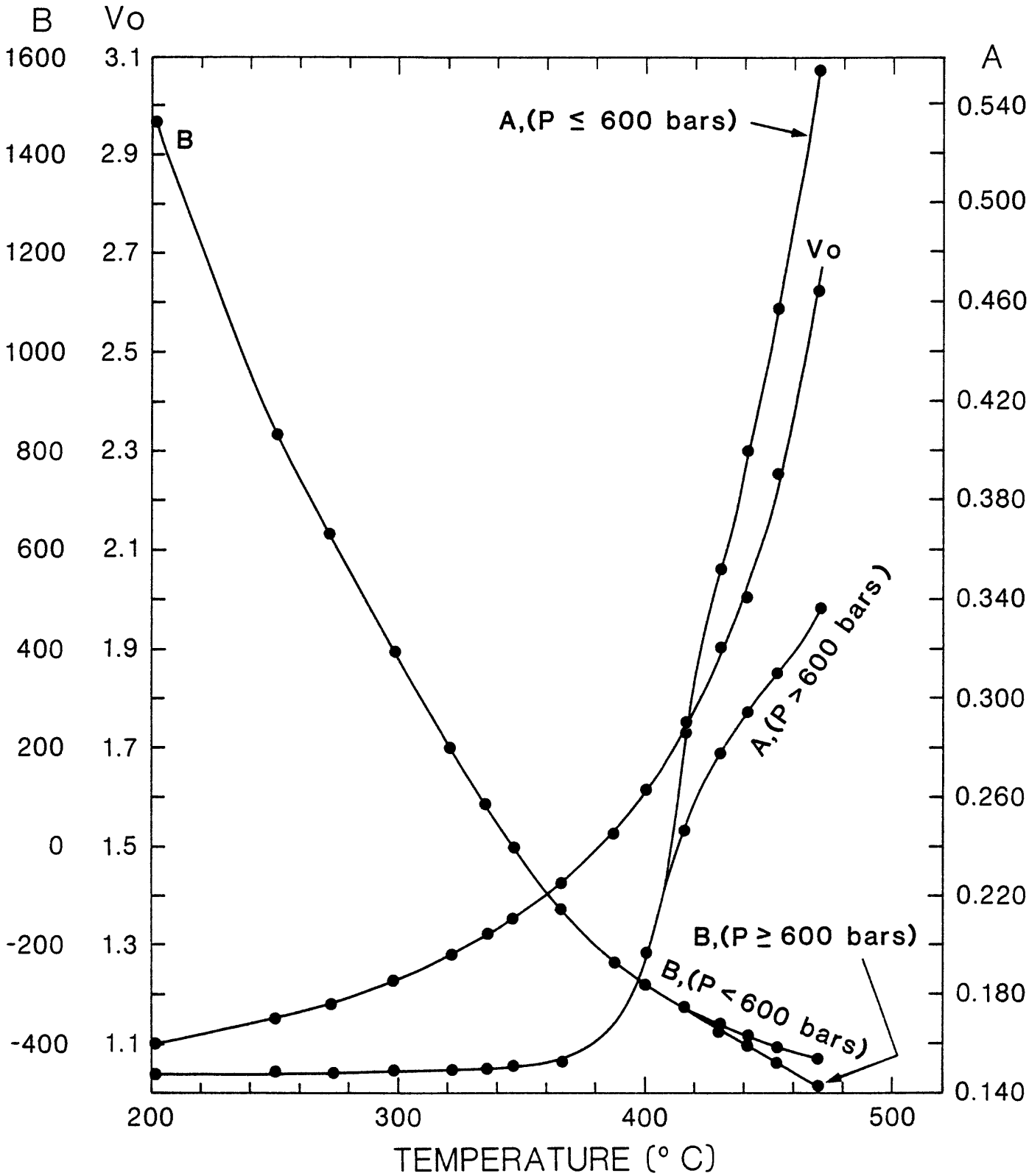

B
Vo
A
1600
1400
1200
1000
800
600
400
200
0
-200
-400
3.1
2.9
2.7
2.5
2.3
2.1
1.9
1.7
1.5
1.3
1.1
0.540
0.500
0.460
0.420
0.380
0.340
0.300
0.260
0.220
0.180
0.140
200
300
400
500
TEMPERATURE (° C)
B
Vo
A,(P ≤ 600 bars)
A,(P > 600 bars)
B,(P ≥ 600 bars)
B,(P < 600 bars)

Figure 9
Error plot of difference in specific volume measured and calculated from the general equation of state.

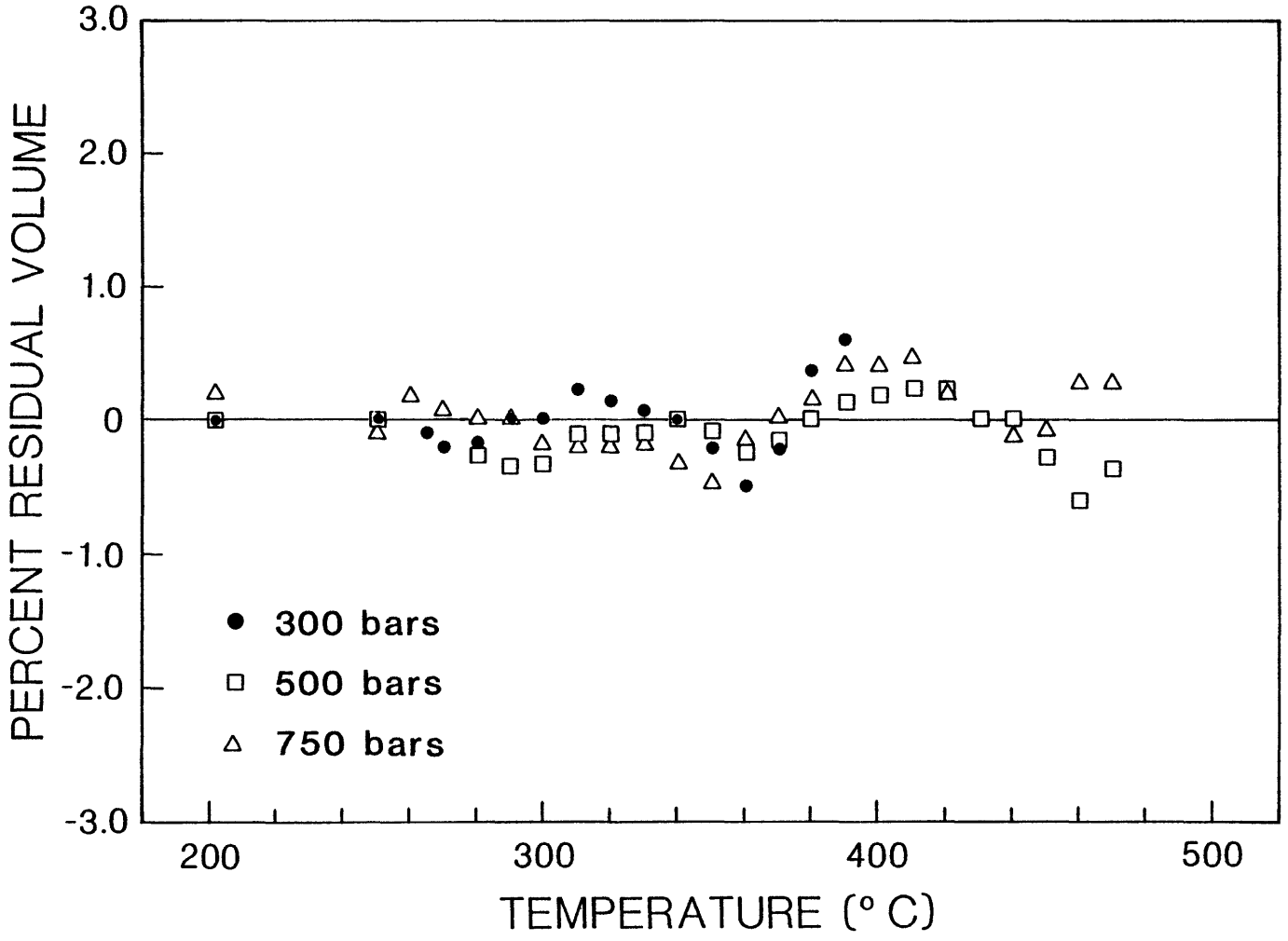

3.0
2.0
1.0
0
-1.0
-2.0
-3.0
PERCENT RESIDUAL VOLUME
200
300
400
500
TEMPERATURE (° C)
300 bars
500 bars
750 bars

Table 1. Specific volume (cc/g) of 3.2% NaCl solution at various temperatures and pressures compared to values interpolated from previous studies

Pressure (bars)	Potter & Brown (1977)	Hilbert (1979)	Urusova (1975)	Rogers & Pitzer (1982)	Present Study
		300°C			
1000	1.15	1.18		1.17	1.17
800	1.18	1.20		1.20	1.19
600	1.22			1.22	1.22
400	1.27			1.30	1.30
		400°C			
1000	1.38				1.38
900	1.40				1.41
800	1.42				1.44
700	1.48				1.48
600	1.53		1.53		1.54
500	1.60		1.60		1.61
400			1.74		1.73
		450°C			
1000	1.54		1.54		1.54
900	1.59		1.59		1.60
800	1.62		1.65		1.67
700	1.74		1.75		1.77
600			1.89		1.89
500			2.15		2.19

water, a rather large span. Even so, the agreement is rather good, particularly at 450 °C and 1000 bars at which point specific volumes from both studies is 1.54 cc/g (table 1).

Specific volume as a function of temperature and pressure calculated from the general equation is shown in figures 10 and 11.

DERIVATIVES WITH RESPECT TO T AND P

Coefficients of isobaric expansion (α) and isothermal compressibility (κ) are calculated from the temperature and pressure derivatives of the equation of state and have the following definitions,

$$\alpha \equiv \frac{1}{V}\left(\frac{\partial V}{\partial T}\right)_P \tag{5}$$

and

$$\kappa \equiv -\frac{1}{V}\left(\frac{\partial V}{\partial P}\right)_T \tag{6}$$

The pressure derivative of the equation of state (equation 4) is simply

$$\left(\frac{\partial V}{\partial P}\right)_T = \frac{-A}{B+P} \tag{7}$$

and is calculated directly from the polynomial expressions for A and B (appendix 2). The temperature derivative of (4) is somewhat more complicated,

Figure 10
Specific volume versus temperature.

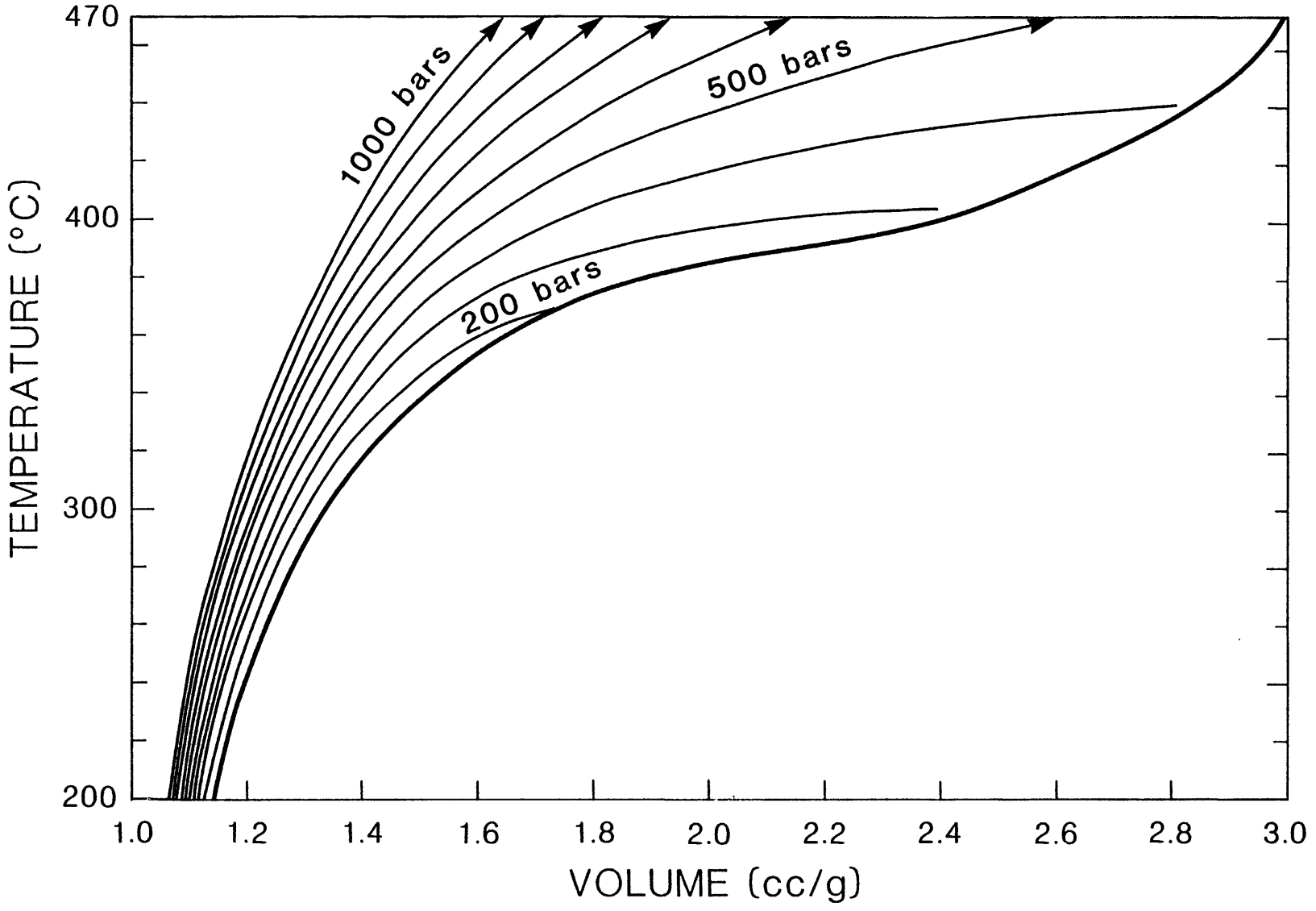
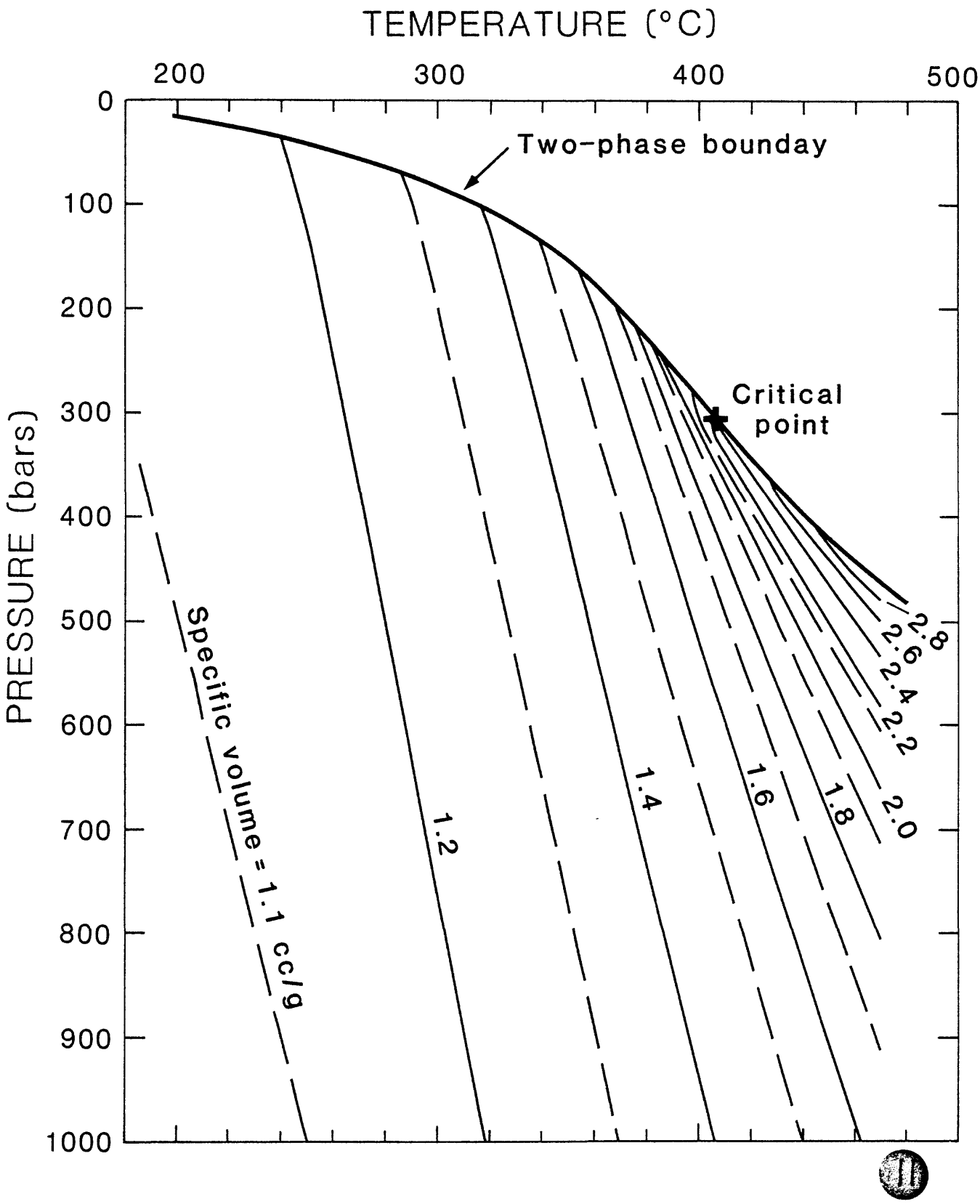

470
400
300
200
TEMPERATURE (°C)
1.0
1.2
1.4
1.6
1.8
2.0
2.2
2.4
2.6
2.8
3.0
VOLUME (cc/g)
1000 bars
500 bars
200 bars

Figure 11
Specific volume surface as a function of pressure and temperature.


TEMPERATURE (°C)
200
300
400
500
PRESSURE (bars)
0
100
200
300
400
500
600
700
800
900
1000
Two-phase bounday
Critical point
Specific volume = 1.1 cc/g
1.2
1.4
1.6
1.8
2.0
2.2
2.4
2.6
2.8

$$\left(\frac{\partial V}{\partial T}\right)_P = V_o' + A' \left[\ln \frac{(B+500)}{(B+P)} \right] + AB' \left[\frac{1}{(B+500)} - \frac{1}{(B+P)} \right] \tag{8}$$

where the prime symbol (') refers to the temperature derivative of the term. The derivatives of V_o and B are obtained by the differentiation of their polynomial expressions; while the derivative of A, because it is divided into several regions whose boundaries have discontinuous mathematical derivatives was evaluated by the method of finite differences, expressed as a polynomial of temperature. The coefficients for these polynomials are given in appendix 3.

Plots of α versus T and κ versus P calculated from equations (5) through (8) are shown in figures 12 and 13, respectively. Units for α and κ are fractional change in specific volume per degree and per bar, respectively, and therefore, their associated errors are larger than those for specific volume; α ranges from less than 0.001 at 200 ° to very large but indeterminate values as the critical point is approached and κ ranges from less than 0.0001 at low temperatures and high pressures, to very large but indeterminate values as the critical point is approached.

It should be emphasized that fluids have anomalous thermodynamic properties at their gas-liquid critical point, and that these properties do not remain as analytic functions of P, V, and T as the critical region is approached. The base function for specific volume and derived thermochemical parameters become inadequate. Thus, specific volume and other thermochemical parameters to be derived below are considered as semiquantitative within the critical region defined as 405 ° C ±3 °, 295 bars ± 10 bars.

The equation of Rogers and Pitzer (1982) allows comparison up to 300 ° C, and results (table 2) indicate agreement within about 3% for α and about 7% for κ. The agreement is very good considering both coefficients are very small at this temperature.

Figure 12
Coefficient of thermal expansion, α, as a function of temperature for various isobars.

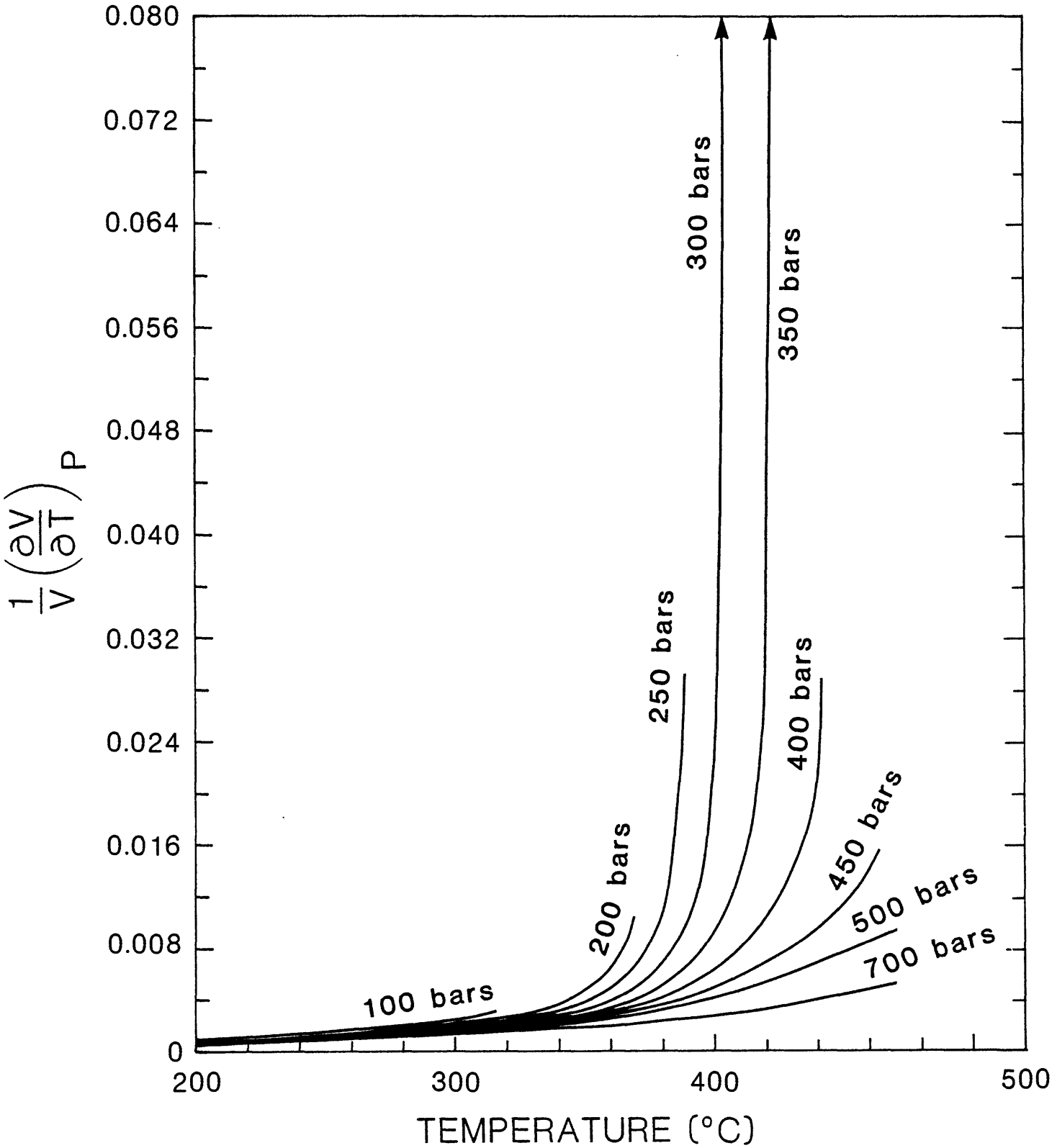

0.080
0.072
0.064
0.056
0.048
0.040
0.032
0.024
0.016
0.008
0
$\frac{1}{V}\left(\frac{\partial V}{\partial T}\right)_P$
200
300
400
500
TEMPERATURE (°C)
100 bars
200 bars
250 bars
300 bars
350 bars
400 bars
450 bars
500 bars
700 bars

Figure 13
Isothermal compressibility, κ, as a function of pressure, for various isotherms.

Table 2. Comparison of compressibilities and expansivities of 3.2% NaCl solution at 300°C and various pressures between present study and equation of Rogers and Pitzer (1982).

Pressure (bars)	coefficient of thermal expansion ($\alpha x10^3$)		coefficient of isothermal compressibility ($\kappa x10^4$)	
	Rogers & Pitzer (1982)	Present Study	Rogers & Pitzer (1982)	Present Study
1000	1.30	1.28	0.83	0.92
800	1.43	1.40	0.98	1.06
600	1.62	1.57	1.19	1.24
400	1.87	1.83	1.48	1.52
200	2.28	2.23	1.99	1.97

ENTHALPY

Enthalpy of seawater has been measured up to 200 °C along the vapor pressure curve by Bromley et al. (1970), using a standard state of 0 °C, 1 bar. This provides a base upon which to extend enthalpy calculations into the temperature and pressure regime of the present study. The relationship

$$dH = TdS + VdP \tag{9}$$

where H is enthalpy and S entropy, is equivalent to

$$dH = Cp\ dT + [V - T\left(\frac{\partial V}{\partial T}\right)_P]\ dP \tag{10}$$

in which Cp is heat capacity at constant pressure and T is in Kelvin. All the terms necessary to complete this calculation are available from the general equation of state except for Cp.

Wood and Quint (1982) have shown that heat capacities of aqueous salt solutions can be estimated by corresponding-states theory and the properties of pure water. This theory assumes that the major effect of the salt is to shift the critical point of the water in the solution. Therefore pure water has the same Cp as the water in the solution at the same temperature and pressure relative to its critical point; that is

$$\frac{T}{T_c}(sw) = \frac{T'}{T_c}(w) \tag{11}$$

$$\frac{P}{P_c}(sw) = \frac{P'}{P_c}(w) \tag{12}$$

where Tc (in °Kelvin) and Pc are the critical temperatures and pressures of seawater (sw) and pure water (w) (Wood and Quint, 1982). This assumption is most applicable in the present study at the highest pressures where seawater is most condensed and liquid-like and furthest from the complexities of the two-phase boundary. Thus, we can estimate Cp as a function of temperature along the 1000 bar isobar by corresponding-states with pure water, using the equations given by Wood and Quint (1982). Cp of seawater is calculated at 20°C intervals from 200° to 470°C at this pressure and fit to a simple polynomial of temperature.

The integrated form of equation (10) defining the change in enthalpy for a finite change from T_1 to T_2 and from P_1 to P_2 is

$$H_2 - H_1 = \int_{T_1}^{T_2} C_P \, dT + \int_{P_1}^{P_2} [V - T\left(\frac{\partial V}{\partial T}\right)_P] \, dP \tag{13}$$

The coefficients of the polynomial of the integrated form of the Cp function are given in Appendix 3. Because the Cp polynomial is only valid at 1000 bars it is necessary to establish a base value for enthalpy at 200°C, 1000 bars, based on existing measurements at 200° and at the vapor pressure (15.5 bars). Thus,

$$H^{1000} - H^{15.5} = \int_{15.5}^{1000} [V - T\left(\frac{\partial V}{\partial T}\right)_P] \, dP \tag{14}$$

the integral is calculated from the general equation of state (4) and its temperature derivative (8) and evaluated at the stated limits of pressure. Based on Bromley et al. (1970), $H_{200\,^\circ C,\ 15.5\ bars}$ = 816.88 J/g for seawater of combined anion molality of 0.546. This seawater differs slightly from the 0.546 molal NaCl in that it contains some Mg and SO_4. However, as shown below,this difference has an insignificant effect on enthalpy of the solution. Using the above relation, $H_{200\,^\circ C,\ 1000\ bars}$ = 885.43 J/g. Thus,a general enthalpy expression is

$$H_T^P = \int_{200}^{T} C_P \, dT + \int_{1000}^{P} [V - T\left(\frac{\partial V}{\partial T}\right)_P] \, dP + 885.43 \ J/g \tag{15}$$

The computation of enthalpy at any given temperature and pressure thus follows two steps, first starting at 200° and 1000 bars the temperature effect on enthalpy is calculated along the 1000 bar isobar by the integral of the Cp polynomial, and second the pressure effect from 1000 bars down to the pressure of interest is calculated by the volume integral evaluated from the equation of state. The algebraic expression for the volume integral of (15) is given in Appendix 4. After completing the above calculations we became aware of the work in press by Pitzer et al. (1984) whose model incorporates more recent data on enthalpies and heat capacities of salt solutions, and provides the best estimates of thermochemical parameters of NaCl solutions up to 300° C. The agreement between the present model and that of Pitzer et al. is quite good (Table 3). Pitzer (written communication) has also calculated enthalpies from the equations in Pitzer and Li (1983) to allow intercomparisons at higher temperature but only at 1000 bars. The agreement here is

Table 3. Enthalpy and entropy for 3.2% NaCl solution at various temperatures and pressures calculated from equation of Pitzer et al. (1984), and Pitzer and Li (1983) compared to present study. Standard state is 0°C, 1 bar.

Pressure (bars)	Enthalpy (J/g) Pitzer et al. (1984)	Enthalpy (J/g) Present Study	Entropy (J/g°K) Pitzer et al. (1984)	Entropy (J/g°K) Present Study
		250°C		
1000	1073	1079	2.53	2.53
800	1063	1068	2.55	2.56
600	1056	1058	2.58	2.58
400	1048	1049	2.61	2.61
200	1042	1042	2.65	2.64
		300°C		
1000	1275	1279	2.90	2.92
800	1270	1274	2.93	2.95
600	1267	1271	2.97	2.99
400	1267	1270	3.01	3.03
200	1272	1274	3.06	3.08
	Pitzer & Li (1983)		Pitzer & Li (1983)	
		325°C		
1000	1384	1390	3.09	3.10
		375°C		
1000	1608	1601	3.45	3.47
		425°C		
1000	1839	1839	3.79	3.84

also quite good (table 3) indicating that the assumptions behind the corresponding states theory are sound.

Isenthalps of seawater calculated from (15) are shown on a temperature-pressure grid in figure 14, along with the corresponding isenthalps for pure water. The values and trends of the isenthalps seem reasonable because they generally parallel those of pure water, but are offset to higher temperatures by about 15 °C. This diagram is particularly useful in estimating subsurface temperature-pressure relations for fluids ascending adiabatically and irreversibly.

ENTROPY

Pressure-temperature dependency of entropy is given by

$$dS = \frac{C_p}{T}\, dT - [\frac{\partial V}{\partial T}]_P\, dP \tag{16}$$

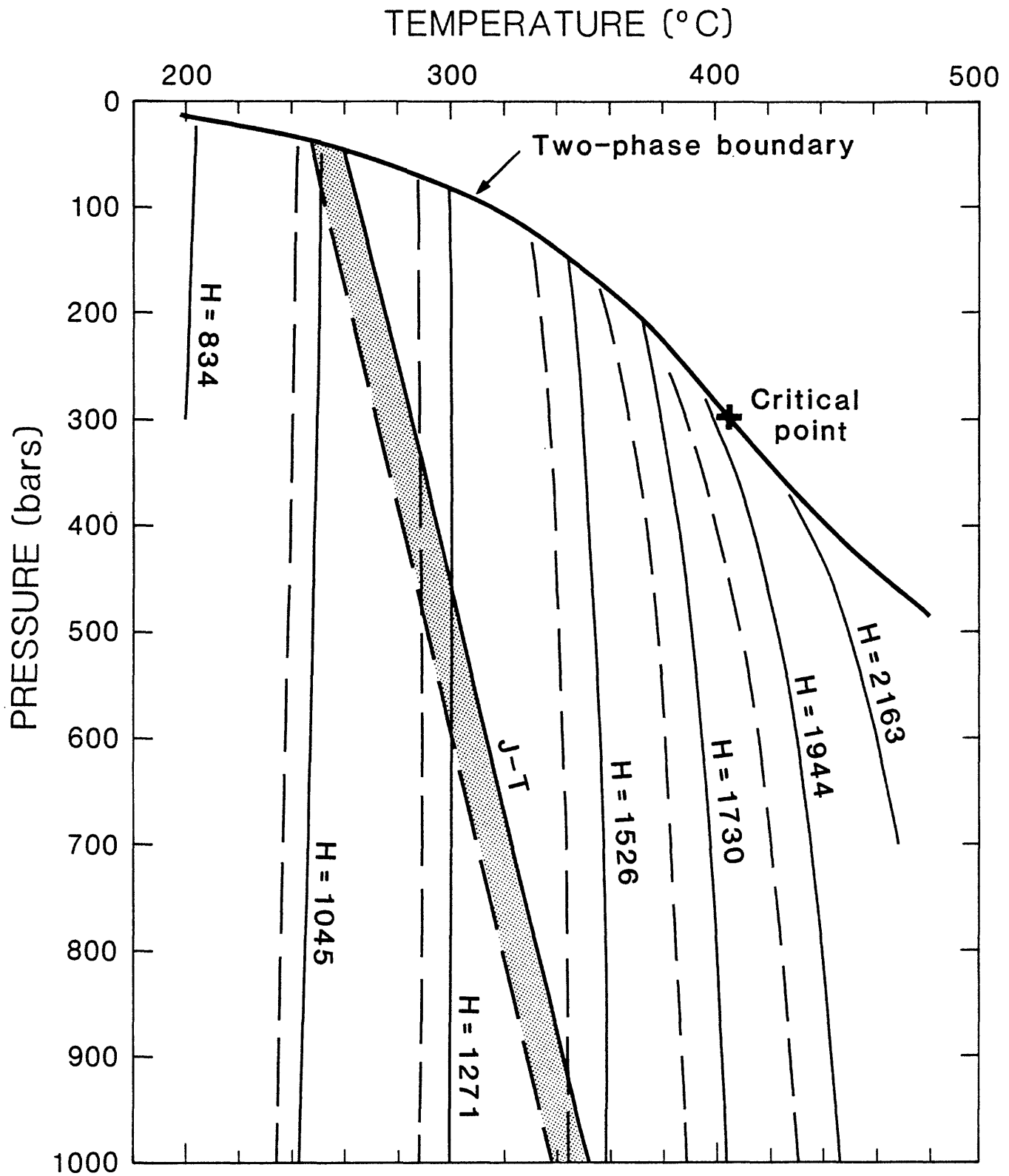
Pitzer et al. (1984) provide entropy data up to 300 °C. We use their value at 200 °C and 1000 bars converted to a standard state of 0 °C, 1bar (S = 2.128 J/g °K), for a base value and calculate entropy for other temperatures and pressures from the integral of equation (16):

$$S_T^P - 2.128 = \int_{200}^{T} \frac{C_P}{T}\, dT - \int_{1000}^{P} [\frac{\partial V}{\partial T}]_P\, dP \tag{17}$$

The integral of heat capacity over temperature was evaluated from corresponding state heat capacities fit to a polynomial whose coefficients are given in appendix 3. The algebraic expression for the volume integral of equation (17) is given in appendix 4. Calculated entropies from (17) com-

Figure 14

Isenthalps in joules/gram of 3.2%NaCl (solid lines) and pure water (dashed lines) as a function of temperature and pressure. The pair of shaded lines labled J-T refer to Joules-Thompson inversion curve. Two-phase boundary and critical point of 3.2% NaCl from Bischoff and Rosenbauer (1984).


TEMPERATURE (°C)
200
300
400
500
PRESSURE (bars)
0
100
200
300
400
500
600
700
800
900
1000
Two-phase boundary
Critical point
H = 834
H = 1045
H = 1271
H = 1526
H = 1730
H = 1944
H = 2163
J-T

pare very well with those calculated from the equation of Pitzer et al. (1984) at 250 °C and 300 °C at various pressures and with that of Pitzer and Li (1983) at higher temperatures and 1000 bars (Table 3).

Isentrops are shown in pressure-temperature space in figure 15, and define the adiabats for seawater ascending slowly and reversibly in its discharge cycle. Temperature increase as a function of pressure is much more pronounced than for the isenthalps (figure 14).

HEAT CAPACITY

Heat capacity at constant pressure, Cp, can be calculated from the corresponding states heat capacity at 1000 bars and the second derivative of specific volume with respect to temperature:

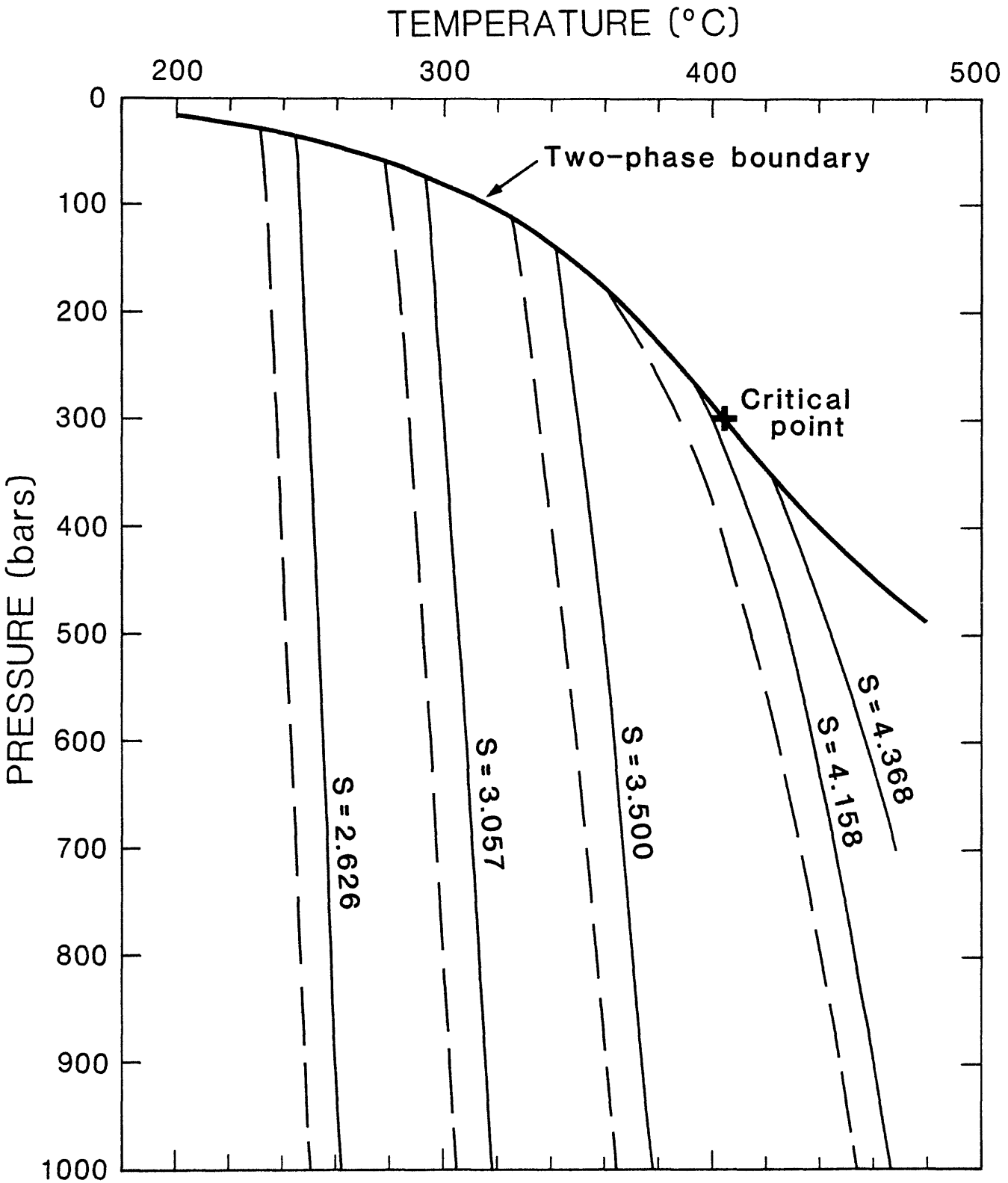
$$Cp_{P,T} = Cp_{1000,T} - T \int_{1000}^{P} [\frac{\partial^2 V}{\partial T^2}]_P \, dP \tag{18}$$

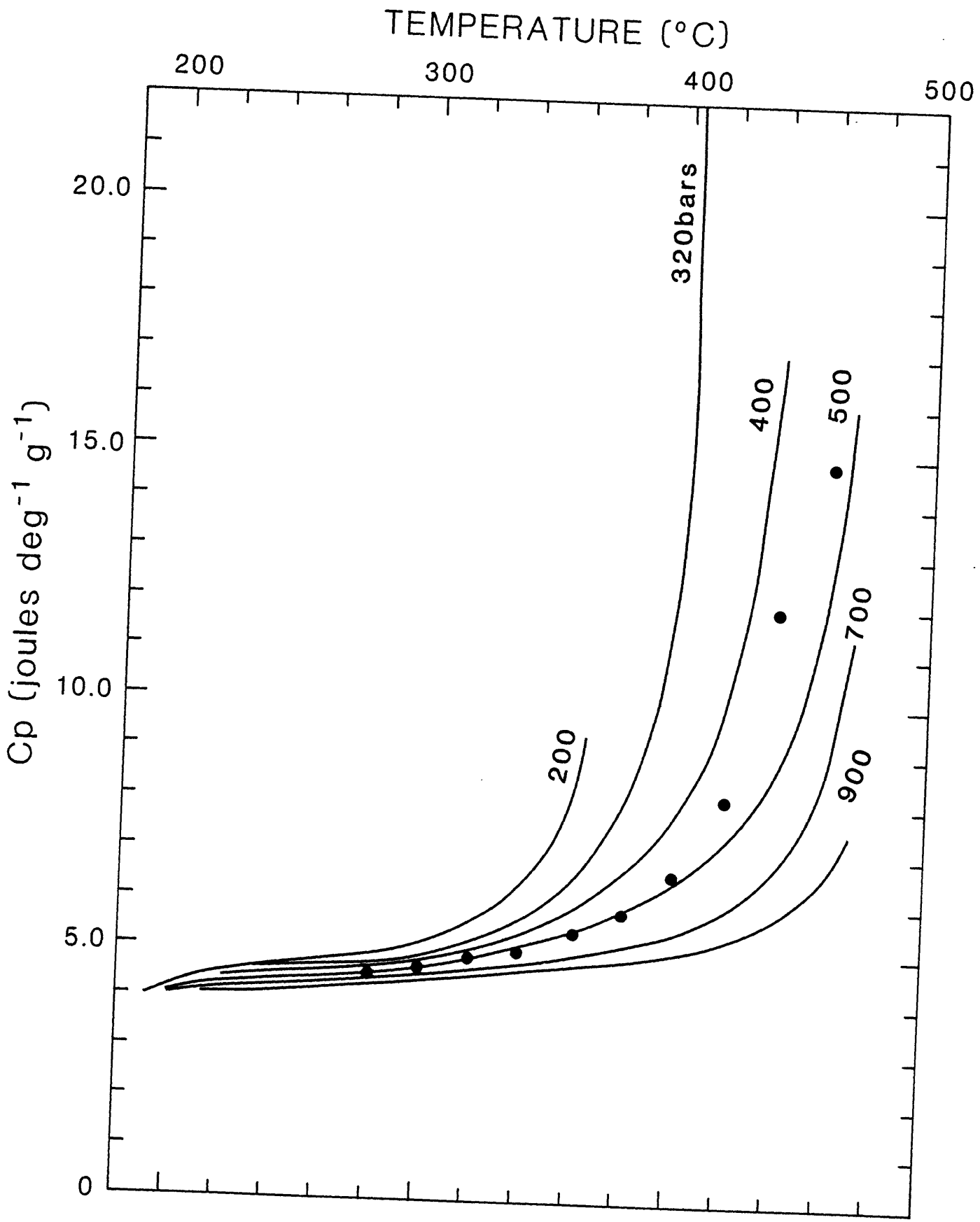
The polynomial expression for corresponding states Cp at 1000 bars is given in Appendix 3. The second derivative of specific volume with respect to temperature was evaluated from the pressure integral in equation (17) and the relation

$$\int_{1000}^{P} [\frac{\partial^2 V}{\partial T^2}]_P \, dP = \frac{\partial}{\partial T} \int_{1000}^{P} [\frac{\partial V}{\partial T}]_P \, dP \tag{19}$$

The algebraic expression for equation (19) is given in Appendix 4, which contains, in addition to previously defined terms, second derivatives with respect to temperature of Vo, A, and B. In the case of Vo and B, the second derivatives were obtained by differentiation of their first derivatives (Appendix 3). The second derivative of A, complicated by discontinuities, was evaluated by the

Figure 15
Isentrops of 3.2% NaCl as a function of temperature and pressure, symbols as in figure 14.


TEMPERATURE (°C)
200
300
400
500
0
100
200
300
400
500
600
700
800
900
1000
PRESSURE (bars)
Two-phase boundary
Critical point
S = 2.626
S = 3.057
S = 3.500
S = 4.158
S = 4.368


TEMPERATURE (°C)
200
300
400
500
20.0
15.0
10.0
5.0
0
Cp (joules deg^{-1} g^{-1})
320bars
400
500
700
900
200

16

TABLE 4

Heat capacity for 3.2% NaCl solutions at 177 bars and various temperatures calculated from equation (18) and compared with values interpolated from direct measurements by Smith-Magowan and Wood (1981).

T°C	Cp	Cp
	present study	Smith-Magowan and Wood (1981)
217.9	4.4	4.3
224.6	4.5	4.3
276.0	4.8	4.6
299.0	5.0	4.9
330.2	5.8	5.6

method of finite differences of the first derivative. The coefficients for these polynomials are given in Appendix 3.

Plots of Cp versus temperature, calculated from equation (18) are shown in figure 16. Values of Cp become very large near the two-phase boundary, and approach a maximum but undefined value as the critical point is approached. As of this writing the only published heat capacity measurements on NaCl solutions at the temperature and pressures of interest are those by Smith-Magowan and Wood (1981) who performed direct measurements at temperatures up to 330 °C at a single pressure of 177 bars. Comparison with their results is shown in Table 4 and indicates agreement within about 3.5%. Accuracy of heat capacity values calculated from equation (18) is probably less at higher temperatures because of the more rapid changes in volume. Also, the error must be relatively large because of the use of the second derivative with respect to temperature of the specific volume expression which tends to magnify small errors of overfit in the polynomial expressions. In the higher temperature region comparison can only be made with heat capacity calculated by corresponding states theory, as was done for the 500 bar isobar (corresponding pressure of pure water is 380 bars), and agreement seems to be very good at temperatures up to 400 °C (figure 16). At temperatures from 420 to 460 °, however, the deviations are rather large, and it is not clear whether the reason lies in the inaccuracy of the Cp calculation, or in the breakdown of the corresponding states theory in this region of rapidly changing specific volume.

Until actual measurements of heat capacity of seawater are made in this temperature-pressure regime, the values calulated from the present model can serve only as semiquantitative estimates.

JOULES-THOMPSON COEFFICIENTS

The isothermal and the isenthalpic Joules-Thompson coefficients, are defined as follows:

Figure 16

Heat capacity of 3.2% NaCl as a function of temperature at various temperatures. Circles are heat capacities at 500 bars calculated from pure water using corresponding states theory.

$$\phi_{jt} \equiv (\frac{\partial H}{\partial P})_T \tag{20}$$

and

$$\mu_{jt} \equiv (\frac{\partial T}{\partial P})_H \tag{21}$$

The isothermal coefficient describes the amount of heat exchanged per unit difference in pressure during isothermal free expansion and is calculated from

$$\phi_{jt} = [V - T(\frac{\partial V}{\partial T})_P] \tag{22}$$

The isenthalpic coefficient which describes the change in temperature per unit difference in pressure during isenthalpic free expansion can be calculated from

$$\mu_{jt} = -[V - T(\frac{\partial V}{\partial T})_P]\frac{1}{C_P} \tag{23}$$

The accuracy of this coefficient is limited by the accuracy for Cp.

A fluid is either cooled or heated by free expansion, depending on the temperature and pressure of the process. The locus of pressure- temperature points at which the fluid is neither heated nor cooled by free expansion is called its Joules-Thompson inversion curve. Along this curve both the isothermal and the isenthalpic Joules-Thompson coefficients are zero. The inversion curve is plotted on figure 14; its trend is parallel to, but slightly offset from, that for pure water.

OTHER PARAMETERS

We attempted to calculate some additional parameters from the foregoing equations, including heat capacity at constant volume (Cv), isentropic compressibility (κ_S), and the speed of sound in seawater (u) respectively from the following equations:

$$C_V = C_P - [\frac{T\alpha^2 V}{\kappa}] \tag{24}$$

$$\kappa_s = (\frac{C_V}{C_P})\kappa \tag{25}$$

and

$$u^2 = \frac{V}{\kappa_s} \tag{26}$$

Because Cv depends on a difference between Cp and a term including T, V, α, and κ, its associated error in the more expanded region of the present study is on the order of its absolute value. Thus, calculated values for Cv, and the the parameters dependent upon it have no validity in the present study.

PRESENTATION OF RESULTS

For a given temperature and pressure, calculation of specific volume (equation 4), compressibility (equation 7), expansivity (equation 8), enthalpy (equation 15), entropy (equation 17), heat capa-

city (equation 18), and isothermal and isenthalpic Joules-Thompson coefficients (equations 22 and 23) is carried out by use of parameters given in Appendices 2 and 3 and a Fortran program entitled GEOSEAWAT. Magnetic tapes of the program will be made available for duplication upon written request to the authors. Results of the calculations for 5 °C intervals and respective saturation pressures along the two-phase boundary are given in Appendix 5, and for the overall liquid field at 5 °C and 20 bar intervals are given in Appendix 6.

SOME APPLICATIONS

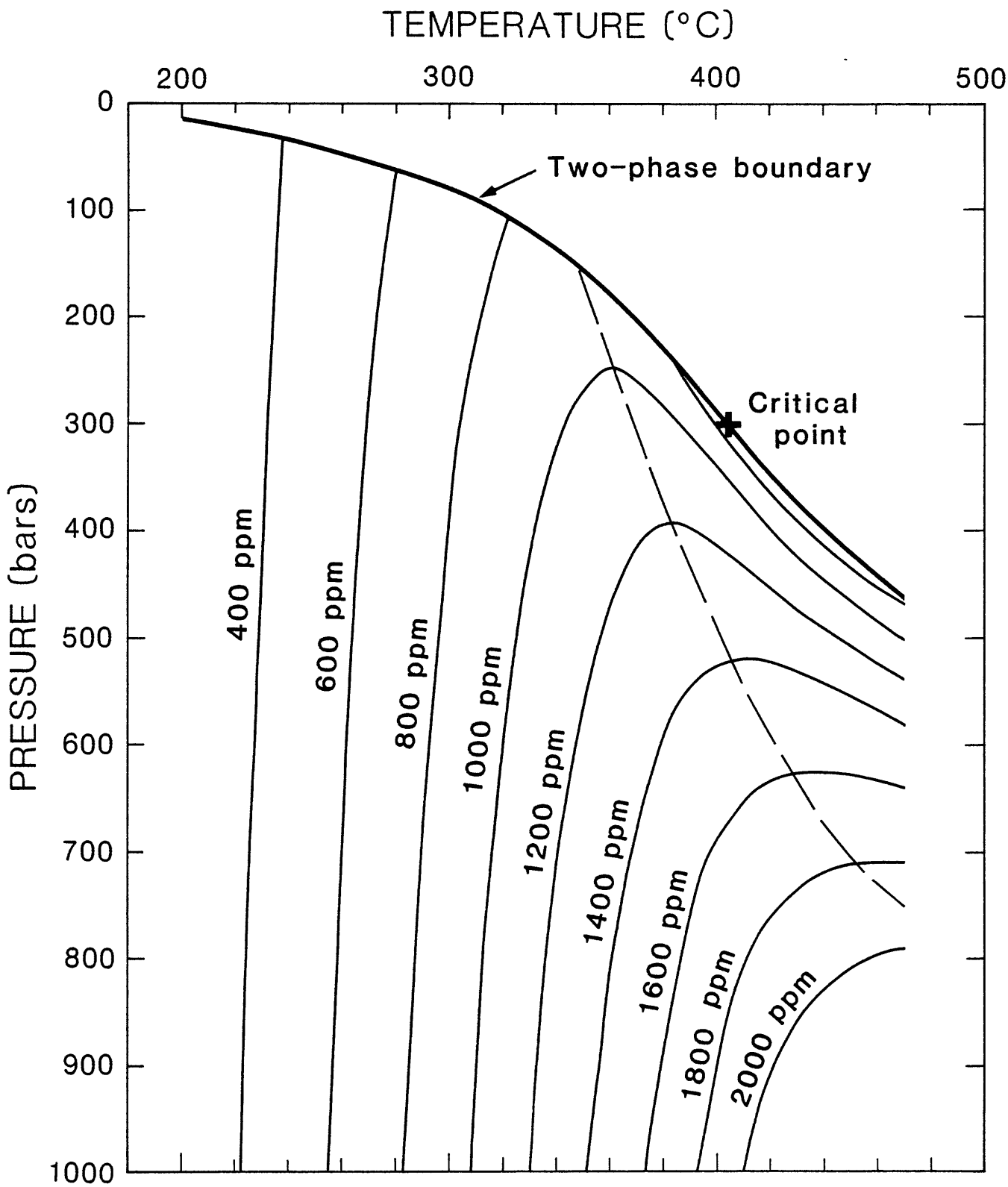
The foregoing allows some inferences for seafloor geothermal systems. These include determination of the depth below the seafloor to phase-separation; determination of quartz solubility; and the construction of possible ascension pathways of superheated subsurface seawater.

Quartz Solubility

Fournier (1983) has presented a general solubility equation for quartz in NaCl solutions from 25 ° to 900 °C. The equation relates log K of quartz dissolution to a polynomial function of temperature and "effective" density of water in the solution. Effective density is a function of the bulk density of the fluid, the mole fraction of water, and the hydration number of the solute. Comparisons of calculated and experimental quartz solubilities at 350 °C and 0.5 molal NaCl along the vapor pressure curve showed good agreement (Fournier 1983). Therefore the equation should apply equally well to seawater for the pressure-temperature field of interest in this study. Quartz solubility was calculated for seawater according to Fournier's equation with an effective density calculated from equation (4) in the present study. Isopleths of dissolved silica in equilibrium with quartz are shown in figure 17. Isopleths up to 800 ppm silica are relatively straight,

Figure 17

Isopleths of dissolved silica in 3.2% NaCl in equilibrium with quartz as a function of temperature and pressure, as calculated from equation of Fournier (1983), using specific volumes calculated from the present study. Dashed line connecting points of maximum quartz solubility may define zones of self sealing.


TEMPERATURE (°C)
200
300
400
500
PRESSURE (bars)
0
100
200
300
400
500
600
700
800
900
1000
Two-phase boundary
Critical point
400 ppm
600 ppm
800 ppm
1000 ppm
1200 ppm
1400 ppm
1600 ppm
1800 ppm
2000 ppm

while higher isopleths display marked curvature and reversals. This pattern, well known for quartz solubility in pure water, is a consequence of the increased specific volume associated with increased temperature that decreases the solubility of quartz and dominates the normal temperature effect. In the region where seawater is greatly expansive, silica content is affected more by volume than temperature and hence the reversal of the isopleth. These reversals may give rise to self-sealing of channelways of the geothermal fluid. Truesdell and Fournier (1976) have suggested that such self-sealing by quartz deposition might be the primary control on the maximum temperature of the geothermal waters at Yellowstone. Seawater heated at a constant pressure (i.e., constant depth) of 400 bars, a likely pressure at the top of a seafloor magma chamber, would attain a maximum silica content of about 1200 ppm at 380 °C. Any further heating results in lowered quartz solubility and, therefore, deposition of quartz and the sealing of the channelways of the fluid. Thus, a line connecting the temperature-pressure points of maximum quartz solubility, the dashed line in figure 17, may possibly define the practical maximum subsurface temperature of steady-state seafloor geothermal systems. Figure 17 should be useful for application of quartz geothermometry-geobarometry to seafloor vents for which dissolved silica has been measured.

Pressure-Depth Relationships and Maximum Subsurface Conditions

As heated seawater rises toward the surface its pressure decreases. Eventually, it may reach a level at which it strikes the two-phase boundary and a vapor phase separates. Above this level, the temperature of the liquid is constrained by the two-phase boundary, as shown in figures 14, 15, and 17 as a function of pressure. The same boundary given as a function of depth provides a useful limiting condition on the maximum temperature seawater can attain at any given depth below the sea floor. The relationship between pressure and depth is given by

$$\frac{dP}{dh} = \rho g \tag{27}$$

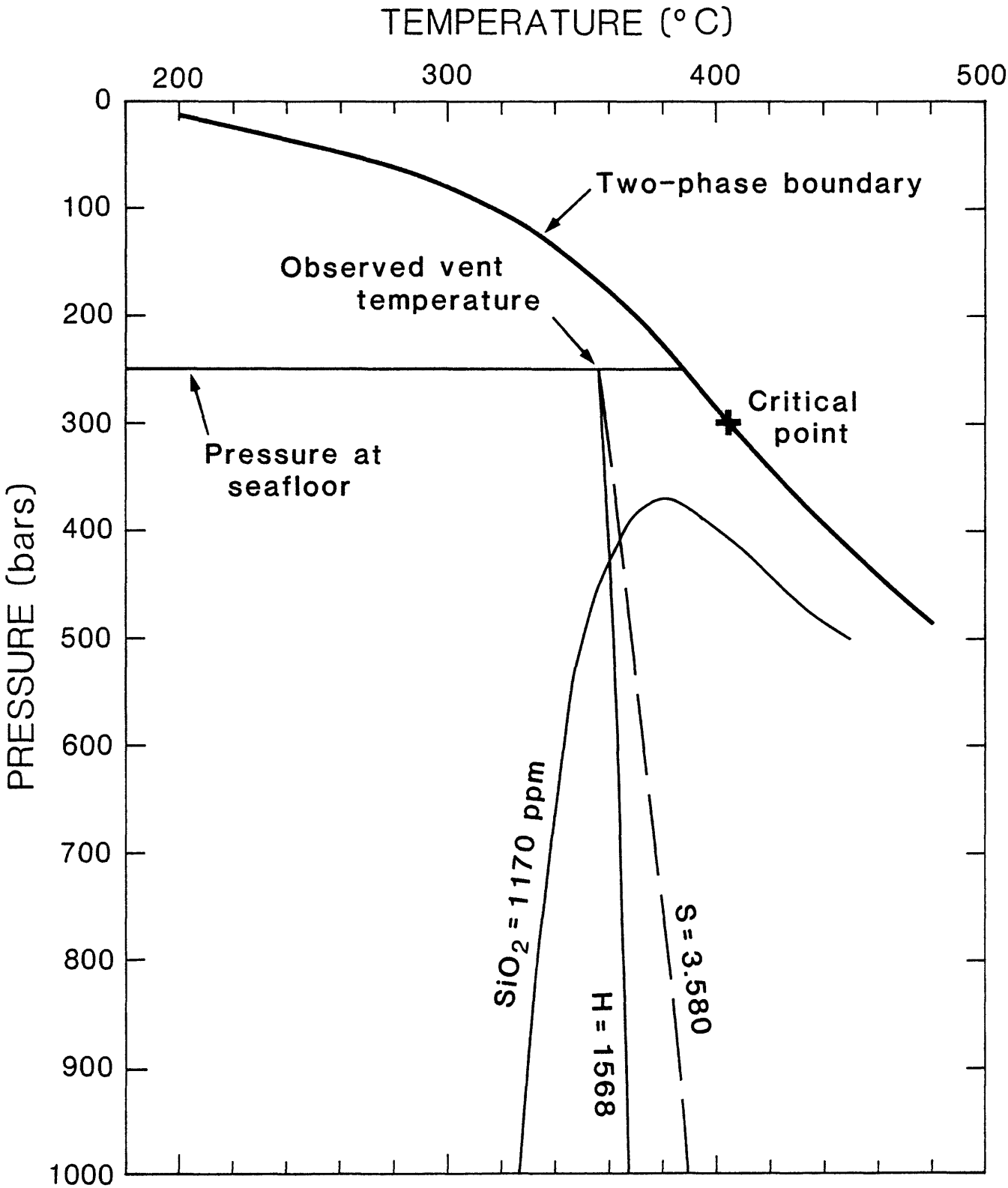
in which ρ is the density of the liquid as a function of pressure g is the acceleration due to gravity and h is the height of the overlying water column. Rearranging and solving for h gives

$$h - h_o = \int_{P_o}^{P} V \, dP \tag{28}$$

in which h_o and P_o refer to depth and hydrostatic pressure of the seafloor. The integral is evaluated after first fitting the specific volume of seawater along any trajectory that ascending seawater may traverse, to a polynomial of pressure.

We first consider the case in which the two-phase boundary is not reached during ascent. If the seafloor geothermal systems have reached steady state, the venting fluids have likely lost little or no heat by conduction to the wall rocks of the discharge conduit. The fluid, therefore, has risen adiabatically in its discharge cycle, and traveled along either an isenthalp or isentrop. We can infer the source region for this fluid. The highest exit temperature measured to date for vents in the seafloor geothermal system at 21° N, East Pacific Rise was 355°C (Von Damm, 1983). At a seafloor pressure of 250 bars, this fluid has an enthalpy of 1568 J/g and an entropy of 3.58 J/g°K as calculated from equations (15) and (17), respectively. The corresponding isentrop and isenthalp are plotted in figure 18, along with the 1170 ppm isopleth of quartz solubility which corresponds to the highest measured dissolved silica in the 21° N vents. From the seafloor down to the intersection with the quartz isopleth the divergence between the isenthalp and isentrop is very small. If the fluid equilibrated with quartz and underwent no retrograde deposition of silica during ascent, we can infer that the maximum temperature-pressure condition of the fluid was at

Figure 18
Isenthalp, isentrop, and isopleth of quartz solubility as a function of temperature and pressure for the specific case of the 355 °C vent at 21 °N, EPR geothermal system.


TEMPERATURE (°C)
200
300
400
500
0
100
200
300
400
500
600
700
800
900
1000
PRESSURE (bars)
Two-phase boundary
Observed vent temperature
Critical point
Pressure at seafloor
SiO_2 = 1170 ppm
H = 1568
S = 3.580

the intersection of the adiabat and the quartz isopleth, at approximately 362 °C and 410 bars (figure 18). Any conductive cooling of the fluid or retrograde deposition of quartz prior to seafloor discharge would shift the maximum conditions to a higher temperature.

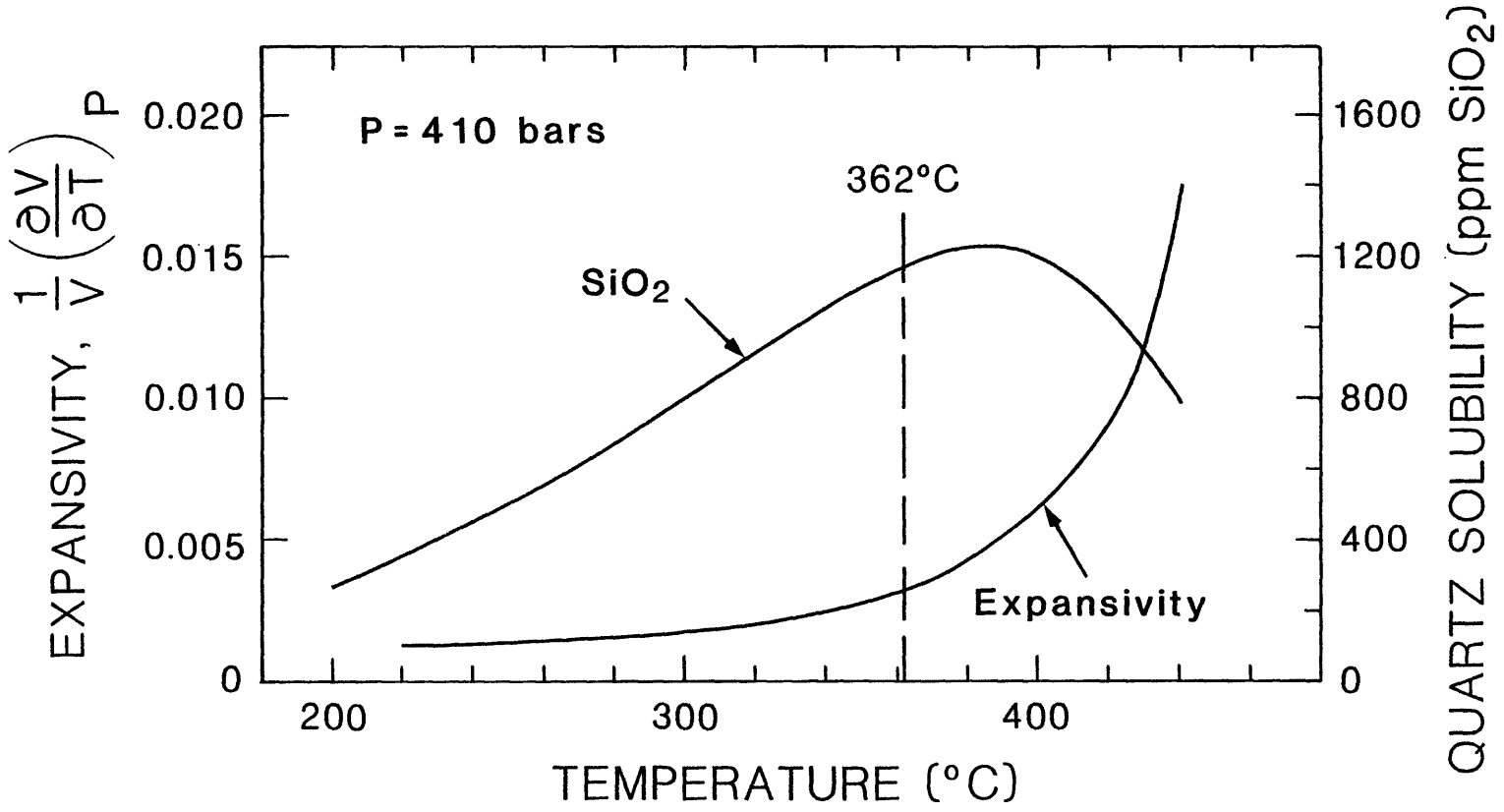
The depth below the seafloor at which 410 bars occurs can be calculated from equation (28) on the assumption that the overlying water column in the subsurface is defined by the isenthalp. Individual pressure-specific volume points are chosen along the isenthalp and V is fitted to a polynomial of P. The calculation indicates that 410 bars corresponds to a depth of approximately 2.2 km below the seafloor, in good agreement with geophysical inferences for the depth of the top of the magma chamber which limits the absolute depth of seawater penetration. Geophysical measurements suggest that the top of these magma chambers are approximately 2 km beneath the seafloor (Sleep et al., 1983).

The maximum inferred conditions are somewhat removed from the two-phase boundary, raising the question as to what prevents the fluid from reaching the boiling point if it is harvesting heat at the top of the magma chamber. A plot of expansivity and quartz solubility versus temperature at 410 bars (figure 19) indicates that 362 °C occurs just before the maximum in quartz solubility and just before a marked increase in expansivity. It is possible that quartz self-sealing of channelways, a consequence of the maximum in quartz solubility at 410 bars, and rapid changes in buoyancy, a consequence of the accelerated expansion of the fluid near 362 ° might in part provide an upper limit on the heating of the fluid.

The other possibility is that the observed seafloor vent waters have undergone conductive cooling prior to discharge on the sea floor, and that subsrface temperatures are much higher and perhaps are controlled by the two-phase boundary. The depths of the seafloor spreading centers generally range between 2000 and 2500 meters. Therefore, the calculation of the depth to the two-phase boundary is made for two seafloor conditions, namely for a system discharging at its boiling point on the seafloor at 1975 m and for one discharging at 2500 m. Results (Table 5) indicate that depth-pressure gradients are very much larger than for lower temperature seawater, a consequence of the very low densities of seawater along its two-phase boundary. For example,

Figure 19

Quartz solubility and coefficient of thermal expansion, α, as a function of temperature at 410 bars.


P = 410 bars
362°C
SiO2
Expansivity
EXPANSIVITY, $\frac{1}{V}\left(\frac{\partial V}{\partial T}\right)_P$
0.020
0.015
0.010
0.005
0
200
300
400
TEMPERATURE (°C)
1600
1200
800
400
0
QUARTZ SOLUBILITY (ppm SiO2)

starting from a seafloor depth of 1975 meters (200 bars) a depth of 4.8 km is required to attain a total pressure of 400 bars along the two-phase boundary. This compares to a subseafloor depth of only 2 km to attain the same 400 bars under a column of cold seawater. Similarly, for a seafloor depth of 2500 meters, 400 bars requires a subseafloor depth of 3.7 km, compared to 1.5 km for cold seawater.

If the tops of magma chambers limit penetration of seawater to only 2 km, for example, then the maximum pressure determined by a boiling column of seawater extending downward from the seafloor would be about 290 to 330 bars (Table 5) with seafloor depths of 1975 to 2500 meters. This range spans the critical pressure, and creates the possibility that at these pressures the fluid may enter the critical region as it approaches the two-phase boundary, a condition with profound implications.

Experiments with circulation of pure water in porous media carried out by Dunn and Hardee (1981) show that as the critical point is approached from either higher or lower temperatures, natural convective circulation increases dramatically. They found that heat transfer rates increase by a factor of 70 and suggested that appropriate conditions for such superconvection might possibly occur under some geologic conditions such as above magma bodies in the earth's crust. It appears that oceanic crust beneath mid-ocean ridges may offer such geologic conditions. According to Dunn and Hardee (1981) the enhanced convection is caused by a three order of magnitude increase in the Rayleigh number occurring in a rather broad band of about 10 °C spanning the critical temperature, a consequence of large gradients in density and volume expansion coefficients.

Another important consideration is that the heat capacity of a geothermal fluid is dramatically enhanced in its critical region. This is well illustrated for seawater in figure 16 which shows heat capacity approaching very large values near its critical point. Thus, a powerful combination may exist of dramatically accelerated flow and elevated heat capacity. Such a combination may actually act as a "lid" on magma chambers rising from greater depths in the oceanic crust, and provide an explanation for the common occurrence of magma chambers at this particular depth.

Table 5. Pressure-temperature relationship for heated sea water rising along two-phase boundary and discharging on sea floor.

		(Seafloor = 1975 m) depth, m		(Seafloor = 2500 m) depth, m	
T°C	P(bars)	below seafloor	Total	below seafloor	Total
370	200	0	1975	-	-
377	220	365	2340	-	-
384	240	760	2735	-	-
388	250	969	2944	-	-
389	253	1044	3019	0	2500
391	260	1185	3160	141	2641
398	280	1639	3614	594	3093
404	300	2120	4095	1074	3574
411	320	2624	4599	1579	4079
418	340	3151	5126	2105	4606
426	360	3696	5671	2651	5151
434	380	4258	6233	3213	5713
442	400	4833	6808	3714	6214
450	420	5419	7394	4374	6874
459	440	6014	7989	4873	7373
468	460	6618	8593	5572	8072

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Appendix 1: Measurements of Pressure (bars) and Specific Volume (cc/g) for 3.2% NaCl at various temperatures (°C).

202.4°		249.8°		272.0°		297.0°	
P	V	P	V	P	V	P	V
445.6	1.106	574.6	1.144	583.5	1.176	492.1	1.233
382.0	1.111	478.1	1.154	497.5	1.187	426.0	1.246
334.3	1.115	429.5	1.159	464.3	1.191	342.6	1.261
279.1	1.120	340.1	1.170	381.9	1.202	253.0	1.280
191.6	1.128	260.1	1.181	279.0	1.217	194.7	1.294
143.9	1.132	190.1	1.191	219.9	1.227	153.5	1.305
100.3	1.136	132.1	1.199	138.9	1.242	116.0	1.317
34.6	1.145	79.9	1.207	104.5	1.249	82.0	1.330
19.4	1.149	40.5	1.216	56.6	1.26		
		38.3	1.229				

321.0°		346.0°		365.0°		387.0°	
P	V	P	V	P	V	P	V
534.0	1.280	648.0	1.319	606.7	1.389	676.1	1.444
418.6	1.304	520.0	1.349	507.1	1.425	629.3	1.463
370.8	1.315	419.6	1.381	457.7	1.446	554.3	1.498
338.0	1.323	331.0	1.418	397.0	1.476	506.0	1.523
287.5	1.338	274.1	1.447	354.0	1.502	475.1	1.545
218.5	1.361	219.5	1.480	313.9	1.530	430.9	1.578
200.3	1.368	191.5	1.502	260.3	1.578	394.5	1.613
173.3	1.379	168.7	1.523	233.4	1.612	355.7	1.658
131.1	1.398	151.9	1.550	204.7	1.657	330.1	1.697
112.5	1.413			191.7	1.693	308.3	1.740
						289.9	1.788
						280.4	1.822
						268.1	1.873
						262.3	1.906
						259.0	1.931
						253.7	1.977
						250.3	2.031

400.5°		416.2°		430.0°		441.0°	
P	V	P	V	P	V	P	V
615.5	1.528	632.0	1.622	609.0	1.728	624.0	1.801
563.0	1.563	611.0	1.637	576.0	1.768	603.0	1.830
535.0	1.584	594.0	1.653	557.0	1.796	585.0	1.855
488.0	1.625	567.0	1.678	539.0	1.823	562.0	1.895
456.0	1.656	547.0	1.697	510.0	1.879	544.0	1.932
425.0	1.689	520.0	1.729	492.0	1.920	523.0	1.982
394.0	1.731	475.0	1.796	473.0	1.975	507.0	2.026
380.0	1.773	461.0	1.822	457.0	2.029	496.0	2.062
357.0	1.827	445.0	1.855	443.0	2.085	479.0	2.124
344.0	1.869	427.0	1.898	433.0	2.138	469.0	2.170
330.0	1.922	408.0	1.954	420.0	2.207	457.0	2.233
323.0	1.957	394.0	2.005	403.0	2.287	437.0	2.355
312.0	2.023	383.0	2.059	393.0	2.415	429.0	2.420
305.0	2.079	372.0	2.124	387.0	2.482	417.0	2.542
300.0	2.142	364.0	2.188	381.0	2.567	411.0	2.623
295.0	2.218	357.0	2.246	374.0	2.675	484.0	2.719
292.0	2.279						
290.0	2.354						
288.0	2.428						

453.5°		470.5°	
P	V	P	V
613.0	1.918	625.0	2.079
587.0	1.969	610.0	2.113
576.0	1.991	593.0	2.157
554.0	2.049	575.0	2.220
540.0	2.094	557.0	2.288
522.0	2.158	541.0	2.364
508.0	2.215	524.0	2.456
494.0	2.287	511.0	2.531
481.0	2.362	497.0	2.632
470.0	2.442	483.0	2.750
457.0	2.549	474.0	2.870
446.0	2.649	469.0	2.946
437.0	2.758		
432.0	2.862		
429.0	2.961		

Appendix 2. Temperature coefficients (C_1) for polynomial expressions*, for A, B, and V_o for equation of state (equation 4) for 3.2% NaCl valid from 200°C to 470°C, and pressures from the two-phase boundary to 1000 bars.

	A			
T°C	>400	>400	200-350	350-400
P bars	≤600	>600	all	all
C_o	-4.39413609101×10	$4.38995402196\times10^{2}$	.14792734567	45.158775913
C_1	$2.96487731249\times10^{-1}$	-4.23587073649	$-1.138220607\times10^{-5}$	-0.531911563233
C_2	$-6.708548209\times10^{-4}$	$1.52725527632\times10^{+2}$	5.927787806×10^{-8}	$2.35518845023\times10^{-3}$
C_3	5.136975689×10^{-7}	$-2.438744901\times10^{-5}$	0	$-4.631068525\times10^{-6}$
C_4	0	1.456036263×10^{-8}	0	3.412480552×10^{-9}
C_5	0	0	0	0
C_6	0	0	0	0

	V_o	B		
T°C	all	>400	>400	<400
P bars	all	<600	≥600	all
C_o	-2.20200528945	$-1.00944152867\times10^{4}$	$-5.29945112267\times10^{5}$	$6.74229929637\times10^{4}$
C_1	0.062412249074	7.64278782454×10	$4.73952630245\times10^{3}$	$-1.14153070965\times10^{3}$
C_2	$-4.743335985\times10^{-4}$	$-1.92005120942\times10^{-1}$	-1.58416004908×10	8.18075319566
C_3	1.790543501×10^{-6}	1.556341276×10^{-4}	$-2.34474785913\times10^{-2}$	$-3.09726755934\times10^{-2}$
C_4	$-3.326380137\times10^{-9}$	0	-1.29736501×10^{-5}	6.466418941×10^{-5}
C_5	$2.471059429\times10^{-12}$	0	0	$-7.046404353\times10^{-8}$
C_6	0	0	0	$3.134419224\times10^{-11}$

* $\sum_{i=0}^{6} C_i T^i$, (T in °C)

Appendix 3. Temperature coefficients for polynomial expressions, for terms in equations from (8), (15), (17), (18), (21), and (22) valid from 200°C to 470°C and pressures from two-phase boundary to 1000 bars. Prime (') and double prime (") refer to first and second temperature derivatives respectively.

		A'	
T°C	200-330	330-404	404-470
Co	1.4×10^{-4}	8.35318713788	9.51467083687
C1	0	-0.10668166575	-0.0871617104131
C2	0	$5.080134554 \times 10^{-4}$	$2.997016827 \times 10^{-4}$
C3	0	$-9.963668427 \times 10^{-7}$	$-4.586695593 \times 10^{-7}$
C4	0	$1.904752401 \times 10^{-10}$	$2.638473404 \times 10^{-10}$
C5	0	$1.920274818 \times 10^{-12}$	0
C6	0	$-1.887997141 \times 10^{-15}$	0

		A"	
T°C	200-330C	330-407	407-470
Co	0	-0.10668165	-0.08716171
C1	0	1.0160269×10^{-3}	5.9940336×10^{-4}
C2	0	$-2.9891005 \times 10^{-6}$	$-1.3760086 \times 10^{-6}$
C3	0	$7.6190096 \times 10^{-10}$	1.0553893×10^{-9}
C4	0	$9.6013740 \times 10^{-12}$	0
C5	0	$-1.1327982 \times 10^{-14}$	0
C6	0	0	0

Appendix 3. (continued)

	Vo'	B'	Cp
T°C	200-470	200-470	200-470
Co	0.148120991155	-6.941476698	10.224970
C1	$-2.097913472 \times 10^{-3}$	3.187811354	-0.10452793
C2	$1.105280452 \times 10^{-5}$	-0.095948999	6.7866594×10^{-4}
C3	$-2.55895072 \times 10^{-8}$	0.051796446	$-2.1362229 \times 10^{-6}$
C4	$2.216853171 \times 10^{-11}$	0	3.3034591×10^{-9}
C5	0	0	$-1.9439814 \times 10^{-12}$
C6	0	0	

	*Vo'	*B"	[integral Cp dT]	[integral Cp/T dT]
T°C	200-470	200-470	200-470	200-470
Co	$0.295490786 \times 10^{-4}$	0.04756152697	-1.744929×10^{2}	2.11849106
C1	$0.457554643 \times 10^{-4}$	-.0028630809	1.00224970329×10	1.13329575
C2	$0.447995224 \times 10^{-4}$	0.0023183788	$-5.2263685 \times 10^{-2}$	$-1.749066184 \times 10^{-5}$
C3	$0.142225139 \times 10^{-3}$	0	$2.262219767 \times 10^{-4}$	2.1735517×10^{-8}
C4	0	0	$-5.340557283 \times 10^{-7}$	$-1.62783695 \times 10^{-11}$
C5	0	0	$6.606918306 \times 10^{-10}$	$1.363664259 \times 10^{-14}$
C6	0	0	$-3.239969003 \times 10^{-13}$	0

*Note: Coefficients of B', B" and Vo" are multiplied by (0.0149198060425T - 5.01976874301) instead of T.

Appendix 4

Algebraic expressions for the volume integrals

The volume integral in equation (15)

$$\int_{1000}^{P} [V - T\left[\frac{\partial V}{\partial T}\right]_P] \, dP \tag{a}$$

is expanded into two parts to facilitate integration:

$$\int_{1000}^{P} V \, dP - T\int_{1000}^{P} [\frac{\partial V}{\partial T}]_P \, dP \tag{b}$$

The first half is simply the integral of the Tammann equation (4):

$$\int_{1000}^{P} V \, dP = V_o [P - 1000] + A [P - 1000] \ln [B + 500]$$

$$-A \; [\, [\, (B+P) \ln (B+P) - (B+P) \,] - [\, (B+1000) \ln (B+1000) - (B+1000) \,] \,] \tag{c}$$

The second half is T(°K) times the integral of equation (8):

$$\int_{1000}^{P} [\frac{\partial V}{\partial T}]_P \; dP = (P-1000)[A' \; ln\,(B+500) + \frac{AB'}{(B+500)} + V_o' \;]$$

$$-AB' \; [\ln(B+P) - \ln(B+1000)] - A' \; [\,[\,(B+P)\ln(B+P)$$

$$-(B+P)] - [(B+1000)\ln(B+1000) - (B+1000)\,]\,] \qquad \text{(d)}$$

where the prime symbol (') indicates the first derivative with respect to temperature. Equation (d) is also the volume integral for the entropy equation (17).

The integral of the second derivative of volume with respect to temperature used in the calculation of Cp in equation (18), equation (d) is differentiated with respect to temperature to give:

$$\frac{\partial}{\partial T}\int_{1000}^{P} [\frac{\partial V}{\partial T}]_P \; dP = (P-1000)\,[\,A'' \; \ln(B+500) + \frac{2A' \; B' + A \; B''}{B+500} - \frac{AB'^{\,2}}{(B+500)^2} + V_o''\,]$$

$$-(A' \; B' + AB'')\,[\,\ln(B+P) - \ln(B+1000)\,] - A \; B'^{\,2}\,[\,\frac{1}{(B+P)} - \frac{1}{(B+1000)}\,]$$

$$-A'' \; [\,[\,(B+P)\ln(B+P) - (B+P)\,] - [\,(B+1000)\ln(B+1000) - (B+1000)\,]\,]$$

$$-A' \; B' \; [\,\ln(B+P) - \ln(B+1000)\,] \qquad \text{(e)}$$

where the double prime ('') refers to the second derivative with respect to temperature. Equation (e) is multiplied by (0.1)T to yield heat capacity in units of joules per gram degree.

Appendix 5

Thermodynamic properties of liquid seawater along two-phase boundary calculated from equations (4), (5), (6), (15), and (17) by use of Fortran program GEOSEAWAT; p = pressure in bars, t = temperature in °C, v = specific volume in cc g^{-1}, h = enthalpy in J g^{-1}, s = entropy in J g^{-1} °K^{-1}, a = coefficient of thermal expansion in t^{-1}, k = compressibility in p^{-1}, cp = heat capacity in J g^{-1} °K^{-1}, jt(t) = isothermal Joules-Thompson coefficient in J g^{-1} bar^{-1}, and jt(h) = isenthalpic Joules-Thompson coefficient in °K bar^{-1}. Standard state is 0 °C, 1 bar.

t	p	v	h	s	a	k	cp	jt(t)	jt(h)
200	15.4	1.141	816	2.21	0.105E-02	0.847E-04	4.2	0.576E-01	-0.14E-01
205	18.0	1.147	836	2.26	0.109E-02	0.903E-04	4.3	0.551E-01	-0.13E-01
210	20.6	1.154	857	2.30	0.114E-02	0.959E-04	4.4	0.519E-01	-0.12E-01
215	23.2	1.160	878	2.35	0.120E-02	0.101E-03	4.5	0.482E-01	-0.11E-01
220	25.7	1.167	900	2.39	0.126E-02	0.107E-03	4.6	0.440E-01	-0.95E-02
225	28.2	1.174	922	2.44	0.133E-02	0.112E-03	4.7	0.394E-01	-0.84E-02
230	30.8	1.182	945	2.49	0.141E-02	0.118E-03	4.8	0.346E-01	-0.73E-02
235	33.4	1.189	968	2.53	0.148E-02	0.123E-03	4.8	0.294E-01	-0.61E-02
240	36.1	1.197	991	2.58	0.156E-02	0.128E-03	4.9	0.240E-01	-0.49E-02
245	38.9	1.206	1015	2.63	0.164E-02	0.134E-03	4.9	0.184E-01	-0.38E-02
250	41.8	1.215	1038	2.67	0.171E-02	0.140E-03	4.9	0.126E-01	-0.26E-02
255	44.9	1.225	1062	2.72	0.179E-02	0.146E-03	4.9	0.656E-02	-0.13E-02
260	48.1	1.235	1086	2.76	0.187E-02	0.153E-03	5.0	0.296E-03	-0.60E-04
265	51.4	1.245	1110	2.81	0.195E-02	0.160E-03	5.0	-0.624E-02	0.13E-02
270	55.0	1.256	1134	2.85	0.203E-02	0.168E-03	5.0	-0.131E-01	0.26E-02
275	58.8	1.268	1158	2.90	0.212E-02	0.177E-03	5.0	-0.204E-01	0.40E-02
280	62.8	1.280	1182	2.94	0.221E-02	0.186E-03	5.1	-0.281E-01	0.56E-02
285	67.1	1.293	1206	2.99	0.230E-02	0.197E-03	5.1	-0.365E-01	0.72E-02
290	71.7	1.307	1230	3.03	0.240E-02	0.210E-03	5.1	-0.457E-01	0.89E-02
295	76.6	1.321	1255	3.08	0.250E-02	0.224E-03	5.2	-0.559E-01	0.11E-01
300	81.8	1.336	1280	3.12	0.262E-02	0.241E-03	5.3	-0.673E-01	0.13E-01
305	87.4	1.352	1305	3.17	0.276E-02	0.260E-03	5.4	-0.803E-01	0.15E-01
310	93.3	1.369	1330	3.21	0.291E-02	0.282E-03	5.5	-0.952E-01	0.17E-01
315	99.6	1.387	1356	3.25	0.308E-02	0.309E-03	5.6	-0.113E+00	0.20E-01
320	106.4	1.406	1383	3.30	0.328E-02	0.340E-03	5.8	-0.133E+00	0.23E-01
325	113.5	1.427	1410	3.35	0.351E-02	0.377E-03	6.0	-0.157E+00	0.26E-01
330	121.2	1.450	1439	3.39	0.379E-02	0.422E-03	6.2	-0.186E+00	0.30E-01
335	129.3	1.474	1468	3.44	0.415E-02	0.477E-03	6.5	-0.224E+00	0.35E-01
340	137.9	1.501	1498	3.49	0.458E-02	0.545E-03	6.8	-0.272E+00	0.40E-01
345	147.0	1.531	1530	3.54	0.512E-02	0.630E-03	7.2	-0.331E+00	0.46E-01
350	156.7	1.565	1563	3.59	0.579E-02	0.741E-03	7.7	-0.408E+00	0.53E-01
355	166.9	1.598	1598	3.65	0.664E-02	0.885E-03	8.3	-0.507E+00	0.61E-01
360	177.7	1.637	1634	3.70	0.775E-02	0.108E-02	9.1	-0.639E+00	0.71E-01
365	189.1	1.682	1673	3.76	0.920E-02	0.134E-02	10.0	-0.819E+00	0.82E-01
370	201.1	1.735	1714	3.83	0.112E-01	0.172E-02	11.3	-0.108E+01	0.95E-01
375	213.8	1.800	1757	3.89	0.140E-01	0.229E-02	13.1	-0.145E+01	0.11E+00
380	227.2	1.882	1804	3.96	0.181E-01	0.316E-02	15.7	-0.204E+01	0.13E+00
385	241.2	1.989	1853	4.03	0.242E-01	0.454E-02	19.7	-0.297E+01	0.15E+00
390	256.0	2.128	1906	4.11	0.331E-01	0.671E-02	25.7	-0.446E+01	0.17E+00
395	271.5	2.289	1958	4.19	0.446E-01	0.973E-02	33.6	-0.659E+01	0.20E+00
400	287.7	2.374	2004	4.25	0.540E-01	0.126E-01	39.2	-0.839E+01	0.21E+00
405	301.8	2.449	2070	4.34	0.870E-01	0.221E-01	58.6	-0.142E+02	0.24E+00
410	316.2	2.505	2122	4.42	0.111E+00	0.304E-01	70.9	-0.187E+02	0.26E+00
415	330.3	2.566	2161	4.47	0.114E+00	0.334E-01	70.0	-0.198E+02	0.28E+00
420	344.1	2.627	2186	4.50	0.956E-01	0.299E-01	57.4	-0.172E+02	0.30E+00
425	357.6	2.687	2204	4.52	0.731E-01	0.243E-01	43.2	-0.134E+02	0.31E+00
430	370.8	2.743	2222	4.54	0.550E-01	0.194E-01	32.4	-0.103E+02	0.32E+00
435	383.6	2.794	2241	4.57	0.422E-01	0.157E-01	25.2	-0.808E+01	0.32E+00
440	396.2	2.838	2262	4.59	0.335E-01	0.132E-01	20.5	-0.650E+01	0.32E+00
445	408.4	2.876	2285	4.62	0.274E-01	0.114E-01	17.5	-0.537E+01	0.31E+00
450	420.3	2.907	2309	4.65	0.230E-01	0.101E-01	15.7	-0.454E+01	0.29E+00
455	431.8	2.931	2334	4.69	0.197E-01	0.917E-02	14.8	-0.390E+01	0.26E+00
460	443.1	2.950	2360	4.72	0.170E-01	0.841E-02	14.8	-0.339E+01	0.23E+00
465	454.0	2.967	2387	4.75	0.149E-01	0.774E-02	15.8	-0.297E+01	0.19E+00
470	464.7	2.984	2420	4.80	0.131E-01	0.707E-02	18.0	-0.262E+01	0.15E+00

Appendix 6

Thermodynamic properties of seawater calculated from equations (4), (5), (6), (15), and (17) by use of Fortran program GEOSEAWAT; p = pressure in bars, t = temperature in °C, v = specific volume in cc g^{-1}, h = enthalpy in J g^{-1}, s = entropy in J g^{-1} °K^{-1}, a = coefficient of thermal expansion in t^{-1}, k = compressibility in p^{-1}, cp = heat capacity in J g^{-1} °K^{-1}, jt(t) = isothermal Joules-Thompson coefficient in J g^{-1} bar^{-1}, and jt(h) = isenthalpic Joules-Thompson coefficient in °K bar^{-1}. Standard state is 0°C, 1 bar.

P 20

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.141	816	2.21	0.104E-02	0.844E-04	4.2	0.578E-01	-0.14E-01
205	1.147	836	2.26	0.109E-02	0.902E-04	4.3	0.552E-01	-0.13E-01

P 40

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.139	817	2.21	0.103E-02	0.835E-04	4.1	0.585E-01	-0.14E-01
205	1.145	837	2.25	0.107E-02	0.891E-04	4.3	0.560E-01	-0.13E-01
210	1.152	858	2.30	0.112E-02	0.947E-04	4.4	0.528E-01	-0.12E-01
215	1.158	879	2.34	0.118E-02	0.100E-03	4.5	0.491E-01	-0.11E-01
220	1.165	901	2.39	0.125E-02	0.106E-03	4.6	0.449E-01	-0.98E-02
225	1.173	923	2.44	0.132E-02	0.111E-03	4.7	0.402E-01	-0.86E-02
230	1.180	945	2.48	0.139E-02	0.117E-03	4.7	0.352E-01	-0.74E-02
235	1.188	968	2.53	0.147E-02	0.122E-03	4.8	0.299E-01	-0.62E-02
240	1.197	991	2.58	0.155E-02	0.128E-03	4.8	0.243E-01	-0.50E-02
245	1.206	1015	2.63	0.163E-02	0.134E-03	4.9	0.185E-01	-0.38E-02

P 60

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.137	819	2.21	0.101E-02	0.826E-04	4.1	0.592E-01	-0.14E-01
205	1.143	838	2.25	0.105E-02	0.881E-04	4.3	0.568E-01	-0.13E-01
210	1.149	859	2.30	0.110E-02	0.935E-04	4.4	0.538E-01	-0.12E-01
215	1.156	880	2.34	0.116E-02	0.989E-04	4.5	0.501E-01	-0.11E-01
220	1.163	902	2.39	0.122E-02	0.104E-03	4.6	0.460E-01	-0.10E-01
225	1.170	924	2.43	0.129E-02	0.110E-03	4.7	0.415E-01	-0.89E-02
230	1.178	946	2.48	0.137E-02	0.115E-03	4.7	0.367E-01	-0.78E-02
235	1.185	969	2.53	0.144E-02	0.120E-03	4.8	0.315E-01	-0.66E-02
240	1.194	992	2.57	0.152E-02	0.126E-03	4.8	0.261E-01	-0.54E-02
245	1.203	1015	2.62	0.160E-02	0.131E-03	4.9	0.204E-01	-0.42E-02
250	1.212	1039	2.67	0.168E-02	0.137E-03	4.9	0.145E-01	-0.30E-02
255	1.222	1062	2.72	0.177E-02	0.144E-03	4.9	0.829E-02	-0.17E-02
260	1.232	1086	2.76	0.185E-02	0.151E-03	4.9	0.179E-02	-0.36E-03
265	1.244	1110	2.81	0.193E-02	0.158E-03	5.0	-0.505E-02	0.10E-02
270	1.255	1134	2.85	0.202E-02	0.167E-03	5.0	-0.123E-01	0.25E-02
275	1.268	1158	2.90	0.211E-02	0.176E-03	5.0	-0.202E-01	0.40E-02

P 80

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.135	820	2.20	0.998E-03	0.817E-04	4.1	0.599E-01	-0.14E-01
205	1.141	839	2.25	0.104E-02	0.870E-04	4.3	0.576E-01	-0.14E-01
210	1.147	860	2.29	0.108E-02	0.924E-04	4.4	0.547E-01	-0.12E-01
215	1.154	881	2.34	0.114E-02	0.976E-04	4.5	0.512E-01	-0.11E-01
220	1.160	903	2.38	0.120E-02	0.103E-03	4.6	0.472E-01	-0.10E-01
225	1.167	925	2.43	0.127E-02	0.108E-03	4.6	0.428E-01	-0.92E-02
230	1.175	947	2.48	0.134E-02	0.113E-03	4.7	0.380E-01	-0.81E-02
235	1.183	970	2.52	0.142E-02	0.118E-03	4.8	0.330E-01	-0.69E-02
240	1.191	993	2.57	0.149E-02	0.124E-03	4.8	0.277E-01	-0.58E-02
245	1.200	1016	2.62	0.157E-02	0.129E-03	4.8	0.222E-01	-0.46E-02
250	1.209	1039	2.66	0.165E-02	0.135E-03	4.9	0.165E-01	-0.34E-02
255	1.218	1062	2.71	0.173E-02	0.141E-03	4.9	0.105E-01	-0.21E-02
260	1.229	1086	2.76	0.181E-02	0.148E-03	4.9	0.420E-02	-0.85E-03
265	1.240	1110	2.80	0.189E-02	0.155E-03	4.9	-0.238E-02	0.48E-03
270	1.251	1133	2.85	0.198E-02	0.163E-03	5.0	-0.936E-02	0.19E-02
275	1.263	1157	2.89	0.207E-02	0.172E-03	5.0	-0.168E-01	0.34E-02
280	1.276	1181	2.94	0.216E-02	0.182E-03	5.0	-0.249E-01	0.50E-02
285	1.290	1205	2.98	0.226E-02	0.194E-03	5.1	-0.338E-01	0.67E-02
290	1.304	1230	3.03	0.237E-02	0.207E-03	5.1	-0.437E-01	0.85E-02
295	1.320	1255	3.08	0.249E-02	0.223E-03	5.2	-0.549E-01	0.11E-01

P 100

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.133	821	2.20	0.984E-03	0.808E-04	4.1	0.606E-01	-0.15E-01
205	1.139	841	2.25	0.102E-02	0.860E-04	4.3	0.584E-01	-0.14E-01
210	1.145	861	2.29	0.107E-02	0.912E-04	4.4	0.555E-01	-0.13E-01
215	1.152	882	2.34	0.112E-02	0.963E-04	4.5	0.521E-01	-0.12E-01
220	1.158	904	2.38	0.118E-02	0.101E-03	4.5	0.483E-01	-0.11E-01
225	1.165	925	2.43	0.125E-02	0.106E-03	4.6	0.440E-01	-0.95E-02
230	1.172	948	2.47	0.132E-02	0.111E-03	4.7	0.394E-01	-0.84E-02
235	1.180	970	2.52	0.139E-02	0.116E-03	4.7	0.345E-01	-0.73E-02
240	1.188	993	2.57	0.147E-02	0.121E-03	4.8	0.293E-01	-0.61E-02
245	1.197	1016	2.61	0.154E-02	0.127E-03	4.8	0.240E-01	-0.50E-02
250	1.206	1039	2.66	0.162E-02	0.132E-03	4.8	0.184E-01	-0.38E-02
255	1.215	1063	2.71	0.170E-02	0.138E-03	4.9	0.126E-01	-0.26E-02
260	1.225	1086	2.75	0.178E-02	0.144E-03	4.9	0.649E-02	-0.13E-02
265	1.236	1110	2.80	0.186E-02	0.151E-03	4.9	0.144E-03	-0.29E-04
270	1.247	1133	2.84	0.194E-02	0.159E-03	4.9	-0.656E-02	0.13E-02
275	1.259	1157	2.89	0.202E-02	0.168E-03	5.0	-0.137E-01	0.28E-02
280	1.271	1181	2.93	0.211E-02	0.177E-03	5.0	-0.214E-01	0.43E-02
285	1.285	1205	2.98	0.221E-02	0.188E-03	5.0	-0.298E-01	0.59E-02
290	1.299	1229	3.02	0.231E-02	0.201E-03	5.1	-0.391E-01	0.77E-02
295	1.314	1254	3.07	0.242E-02	0.216E-03	5.1	-0.496E-01	0.96E-02
300	1.330	1278	3.11	0.255E-02	0.233E-03	5.2	-0.616E-01	0.12E-01
305	1.347	1304	3.16	0.270E-02	0.253E-03	5.3	-0.755E-01	0.14E-01
310	1.366	1330	3.21	0.287E-02	0.278E-03	5.4	-0.922E-01	0.17E-01
315	1.387	1356	3.25	0.308E-02	0.308E-03	5.6	-0.112E+00	0.20E-01

P 120

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.131	822	2.20	0.970E-03	0.799E-04	4.1	0.612E-01	-0.15E-01
205	1.137	842	2.24	0.100E-02	0.851E-04	4.2	0.591E-01	-0.14E-01
210	1.143	862	2.29	0.105E-02	0.901E-04	4.4	0.564E-01	-0.13E-01
215	1.149	883	2.33	0.110E-02	0.951E-04	4.4	0.531E-01	-0.12E-01
220	1.156	905	2.38	0.116E-02	0.100E-03	4.5	0.493E-01	-0.11E-01
225	1.163	926	2.43	0.123E-02	0.105E-03	4.6	0.451E-01	-0.98E-02
230	1.170	949	2.47	0.130E-02	0.110E-03	4.7	0.407E-01	-0.87E-02
235	1.177	971	2.52	0.137E-02	0.115E-03	4.7	0.359E-01	-0.76E-02
240	1.185	994	2.56	0.144E-02	0.119E-03	4.8	0.309E-01	-0.65E-02
245	1.193	1017	2.61	0.152E-02	0.125E-03	4.8	0.256E-01	-0.54E-02
250	1.202	1040	2.66	0.159E-02	0.130E-03	4.8	0.202E-01	-0.42E-02
255	1.212	1063	2.70	0.167E-02	0.135E-03	4.8	0.145E-01	-0.30E-02
260	1.222	1086	2.75	0.174E-02	0.142E-03	4.9	0.867E-02	-0.18E-02
265	1.232	1110	2.79	0.182E-02	0.148E-03	4.9	0.254E-02	-0.52E-03
270	1.243	1133	2.84	0.190E-02	0.155E-03	4.9	-0.390E-02	0.79E-03
275	1.255	1157	2.88	0.198E-02	0.163E-03	4.9	-0.107E-01	0.22E-02
280	1.267	1180	2.93	0.207E-02	0.173E-03	5.0	-0.181E-01	0.36E-02
285	1.280	1204	2.97	0.216E-02	0.183E-03	5.0	-0.260E-01	0.52E-02
290	1.294	1228	3.02	0.225E-02	0.195E-03	5.0	-0.348E-01	0.69E-02
295	1.308	1253	3.06	0.236E-02	0.209E-03	5.1	-0.446E-01	0.87E-02
300	1.324	1277	3.11	0.248E-02	0.225E-03	5.2	-0.557E-01	0.11E-01
305	1.341	1302	3.15	0.261E-02	0.244E-03	5.3	-0.686E-01	0.13E-01
310	1.359	1328	3.20	0.277E-02	0.266E-03	5.4	-0.837E-01	0.16E-01
315	1.378	1354	3.25	0.296E-02	0.293E-03	5.5	-0.102E+00	0.18E-01
320	1.400	1381	3.29	0.318E-02	0.327E-03	5.7	-0.124E+00	0.22E-01
325	1.424	1409	3.34	0.346E-02	0.369E-03	5.9	-0.152E+00	0.26E-01

P 140

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.129	823	2.20	0.956E-03	0.791E-04	4.1	0.618E-01	-0.15E-01
205	1.135	843	2.24	0.989E-03	0.841E-04	4.2	0.598E-01	-0.14E-01
210	1.141	863	2.29	0.103E-02	0.890E-04	4.3	0.572E-01	-0.13E-01
215	1.147	884	2.33	0.108E-02	0.939E-04	4.4	0.540E-01	-0.12E-01
220	1.154	906	2.38	0.114E-02	0.987E-04	4.5	0.503E-01	-0.11E-01
225	1.160	927	2.42	0.121E-02	0.103E-03	4.6	0.463E-01	-0.10E-01
230	1.167	949	2.47	0.127E-02	0.108E-03	4.6	0.419E-01	-0.90E-02
235	1.175	972	2.51	0.134E-02	0.113E-03	4.7	0.372E-01	-0.79E-02
240	1.182	994	2.56	0.142E-02	0.117E-03	4.7	0.323E-01	-0.68E-02
245	1.191	1017	2.61	0.149E-02	0.122E-03	4.8	0.272E-01	-0.57E-02
250	1.199	1040	2.65	0.156E-02	0.127E-03	4.8	0.219E-01	-0.46E-02
255	1.208	1063	2.70	0.164E-02	0.133E-03	4.8	0.164E-01	-0.34E-02
260	1.218	1086	2.74	0.171E-02	0.139E-03	4.8	0.108E-01	-0.22E-02
265	1.228	1110	2.79	0.179E-02	0.145E-03	4.9	0.482E-02	-0.99E-03
270	1.239	1133	2.83	0.186E-02	0.152E-03	4.9	-0.138E-02	0.28E-03
275	1.250	1156	2.88	0.194E-02	0.160E-03	4.9	-0.794E-02	0.16E-02
280	1.262	1180	2.92	0.202E-02	0.168E-03	4.9	-0.149E-01	0.30E-02
285	1.275	1204	2.97	0.211E-02	0.178E-03	5.0	-0.225E-01	0.45E-02
290	1.288	1228	3.01	0.220E-02	0.189E-03	5.0	-0.308E-01	0.61E-02
295	1.303	1252	3.06	0.230E-02	0.202E-03	5.1	-0.400E-01	0.79E-02
300	1.318	1276	3.10	0.241E-02	0.217E-03	5.1	-0.503E-01	0.98E-02
305	1.334	1301	3.15	0.254E-02	0.235E-03	5.2	-0.622E-01	0.12E-01
310	1.351	1326	3.19	0.268E-02	0.255E-03	5.3	-0.761E-01	0.14E-01
315	1.370	1352	3.24	0.285E-02	0.280E-03	5.4	-0.926E-01	0.17E-01
320	1.391	1379	3.28	0.305E-02	0.310E-03	5.6	-0.112E+00	0.20E-01
325	1.413	1407	3.33	0.329E-02	0.348E-03	5.8	-0.137E+00	0.24E-01
330	1.439	1435	3.38	0.359E-02	0.395E-03	6.1	-0.168E+00	0.28E-01
335	1.467	1466	3.43	0.400E-02	0.456E-03	6.4	-0.210E+00	0.33E-01
340	1.500	1498	3.49	0.454E-02	0.539E-03	6.8	-0.268E+00	0.40E-01

P 160

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.128	825	2.19	0.943E-03	0.783E-04	4.1	0.625E-01	-0.15E-01
205	1.133	844	2.24	0.974E-03	0.832E-04	4.2	0.606E-01	-0.14E-01
210	1.139	864	2.28	0.102E-02	0.880E-04	4.3	0.580E-01	-0.13E-01
215	1.145	885	2.33	0.107E-02	0.927E-04	4.4	0.549E-01	-0.12E-01
220	1.151	907	2.37	0.112E-02	0.974E-04	4.5	0.513E-01	-0.11E-01
225	1.158	928	2.42	0.119E-02	0.102E-03	4.6	0.474E-01	-0.10E-01
230	1.165	950	2.47	0.125E-02	0.106E-03	4.6	0.431E-01	-0.93E-02
235	1.172	973	2.51	0.132E-02	0.111E-03	4.7	0.385E-01	-0.82E-02
240	1.180	995	2.56	0.139E-02	0.116E-03	4.7	0.337E-01	-0.72E-02
245	1.188	1018	2.60	0.146E-02	0.120E-03	4.7	0.288E-01	-0.61E-02
250	1.196	1041	2.65	0.153E-02	0.125E-03	4.8	0.236E-01	-0.49E-02
255	1.205	1064	2.69	0.161E-02	0.130E-03	4.8	0.183E-01	-0.38E-02
260	1.215	1087	2.74	0.168E-02	0.136E-03	4.8	0.127E-01	-0.26E-02
265	1.225	1110	2.79	0.175E-02	0.142E-03	4.8	0.699E-02	-0.14E-02
270	1.235	1133	2.83	0.183E-02	0.149E-03	4.9	0.101E-02	-0.21E-03
275	1.246	1156	2.87	0.190E-02	0.156E-03	4.9	-0.529E-02	0.11E-02
280	1.258	1180	2.92	0.198E-02	0.164E-03	4.9	-0.120E-01	0.24E-02
285	1.270	1203	2.96	0.206E-02	0.173E-03	4.9	-0.192E-01	0.39E-02
290	1.284	1227	3.01	0.215E-02	0.184E-03	5.0	-0.270E-01	0.54E-02
295	1.297	1251	3.05	0.224E-02	0.196E-03	5.0	-0.357E-01	0.71E-02
300	1.312	1275	3.10	0.235E-02	0.210E-03	5.1	-0.454E-01	0.89E-02
305	1.328	1300	3.14	0.246E-02	0.226E-03	5.2	-0.564E-01	0.11E-01
310	1.345	1325	3.18	0.260E-02	0.245E-03	5.3	-0.692E-01	0.13E-01
315	1.363	1351	3.23	0.275E-02	0.268E-03	5.4	-0.842E-01	0.16E-01
320	1.382	1377	3.28	0.293E-02	0.295E-03	5.5	-0.102E+00	0.18E-01
325	1.404	1404	3.32	0.315E-02	0.329E-03	5.7	-0.124E+00	0.22E-01
330	1.428	1432	3.37	0.341E-02	0.370E-03	5.9	-0.151E+00	0.25E-01
335	1.454	1462	3.42	0.376E-02	0.423E-03	6.2	-0.187E+00	0.30E-01
340	1.484	1493	3.48	0.422E-02	0.492E-03	6.6	-0.236E+00	0.36E-01
345	1.519	1526	3.53	0.482E-02	0.586E-03	7.0	-0.301E+00	0.43E-01
350	1.561	1561	3.59	0.568E-02	0.724E-03	7.6	-0.397E+00	0.52E-01

P 180

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.126	826	2.19	0.930E-03	0.775E-04	4.1	0.631E-01	-0.15E-01
205	1.131	845	2.24	0.959E-03	0.823E-04	4.2	0.612E-01	-0.15E-01
210	1.137	866	2.28	0.100E-02	0.870E-04	4.3	0.588E-01	-0.14E-01
215	1.143	886	2.33	0.105E-02	0.916E-04	4.4	0.558E-01	-0.13E-01
220	1.149	908	2.37	0.111E-02	0.961E-04	4.5	0.523E-01	-0.12E-01
225	1.155	929	2.42	0.117E-02	0.101E-03	4.6	0.484E-01	-0.11E-01
230	1.162	951	2.46	0.123E-02	0.105E-03	4.6	0.442E-01	-0.96E-02
235	1.169	973	2.51	0.130E-02	0.109E-03	4.7	0.398E-01	-0.86E-02
240	1.177	996	2.55	0.137E-02	0.114E-03	4.7	0.351E-01	-0.75E-02
245	1.185	1018	2.60	0.144E-02	0.118E-03	4.7	0.302E-01	-0.64E-02
250	1.193	1041	2.65	0.151E-02	0.123E-03	4.7	0.252E-01	-0.53E-02
255	1.202	1064	2.69	0.158E-02	0.128E-03	4.8	0.200E-01	-0.42E-02
260	1.211	1087	2.74	0.165E-02	0.133E-03	4.8	0.146E-01	-0.31E-02
265	1.221	1110	2.78	0.172E-02	0.139E-03	4.8	0.906E-02	-0.19E-02
270	1.232	1133	2.83	0.179E-02	0.146E-03	4.8	0.327E-02	-0.68E-03
275	1.242	1156	2.87	0.187E-02	0.152E-03	4.8	-0.279E-02	0.58E-03
280	1.254	1180	2.91	0.194E-02	0.160E-03	4.9	-0.920E-02	0.19E-02
285	1.266	1203	2.96	0.202E-02	0.169E-03	4.9	-0.161E-01	0.33E-02
290	1.279	1227	3.00	0.210E-02	0.179E-03	4.9	-0.235E-01	0.48E-02
295	1.292	1250	3.05	0.219E-02	0.190E-03	5.0	-0.316E-01	0.63E-02
300	1.307	1274	3.09	0.229E-02	0.203E-03	5.0	-0.407E-01	0.81E-02
305	1.322	1299	3.13	0.240E-02	0.218E-03	5.1	-0.510E-01	0.10E-01
310	1.338	1324	3.18	0.252E-02	0.236E-03	5.2	-0.628E-01	0.12E-01
315	1.355	1349	3.22	0.266E-02	0.257E-03	5.3	-0.766E-01	0.14E-01
320	1.374	1375	3.27	0.282E-02	0.282E-03	5.5	-0.928E-01	0.17E-01
325	1.395	1402	3.32	0.302E-02	0.312E-03	5.6	-0.112E+00	0.20E-01
330	1.417	1429	3.36	0.325E-02	0.348E-03	5.8	-0.136E+00	0.23E-01
335	1.442	1458	3.41	0.356E-02	0.394E-03	6.1	-0.168E+00	0.28E-01
340	1.470	1488	3.46	0.395E-02	0.453E-03	6.4	-0.209E+00	0.33E-01
345	1.502	1520	3.52	0.445E-02	0.530E-03	6.7	-0.263E+00	0.39E-01
350	1.540	1554	3.57	0.513E-02	0.639E-03	7.2	-0.338E+00	0.47E-01
355	1.581	1591	3.63	0.610E-02	0.797E-03	7.9	-0.447E+00	0.56E-01
360	1.633	1633	3.70	0.759E-02	0.105E-02	9.0	-0.622E+00	0.69E-01

P 200

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.124	827	2.19	0.917E-03	0.767E-04	4.1	0.637E-01	-0.16E-01
205	1.130	847	2.23	0.945E-03	0.814E-04	4.2	0.619E-01	-0.15E-01
210	1.135	867	2.28	0.984E-03	0.860E-04	4.3	0.595E-01	-0.14E-01
215	1.141	888	2.32	0.103E-02	0.905E-04	4.4	0.566E-01	-0.13E-01
220	1.147	909	2.37	0.109E-02	0.949E-04	4.5	0.532E-01	-0.12E-01
225	1.153	930	2.41	0.115E-02	0.992E-04	4.5	0.494E-01	-0.11E-01
230	1.160	952	2.46	0.121E-02	0.103E-03	4.6	0.453E-01	-0.99E-02
235	1.167	974	2.51	0.128E-02	0.108E-03	4.6	0.410E-01	-0.88E-02
240	1.174	996	2.55	0.134E-02	0.112E-03	4.7	0.364E-01	-0.78E-02
245	1.182	1019	2.60	0.141E-02	0.116E-03	4.7	0.317E-01	-0.67E-02
250	1.190	1042	2.64	0.148E-02	0.121E-03	4.7	0.267E-01	-0.57E-02
255	1.199	1064	2.69	0.155E-02	0.126E-03	4.7	0.217E-01	-0.46E-02
260	1.208	1087	2.73	0.162E-02	0.131E-03	4.8	0.164E-01	-0.34E-02
265	1.218	1110	2.78	0.169E-02	0.136E-03	4.8	0.110E-01	-0.23E-02
270	1.228	1133	2.82	0.176E-02	0.143E-03	4.8	0.543E-02	-0.11E-02
275	1.239	1156	2.87	0.183E-02	0.149E-03	4.8	-0.412E-03	0.86E-04
280	1.250	1179	2.91	0.190E-02	0.157E-03	4.8	-0.657E-02	0.14E-02
285	1.262	1203	2.95	0.198E-02	0.165E-03	4.9	-0.131E-01	0.27E-02
290	1.274	1226	3.00	0.206E-02	0.174E-03	4.9	-0.202E-01	0.41E-02
295	1.287	1250	3.04	0.214E-02	0.185E-03	5.0	-0.279E-01	0.56E-02
300	1.301	1274	3.08	0.223E-02	0.197E-03	5.0	-0.364E-01	0.73E-02
305	1.316	1298	3.13	0.233E-02	0.211E-03	5.1	-0.460E-01	0.91E-02
310	1.332	1322	3.17	0.245E-02	0.228E-03	5.2	-0.570E-01	0.11E-01
315	1.349	1347	3.22	0.258E-02	0.247E-03	5.3	-0.696E-01	0.13E-01
320	1.367	1373	3.26	0.273E-02	0.269E-03	5.4	-0.845E-01	0.16E-01
325	1.386	1399	3.31	0.290E-02	0.296E-03	5.5	-0.102E+00	0.18E-01
330	1.408	1427	3.35	0.311E-02	0.329E-03	5.7	-0.123E+00	0.22E-01
335	1.431	1455	3.40	0.338E-02	0.369E-03	5.9	-0.151E+00	0.25E-01
340	1.457	1484	3.45	0.372E-02	0.420E-03	6.2	-0.187E+00	0.30E-01
345	1.487	1515	3.50	0.414E-02	0.484E-03	6.5	-0.232E+00	0.36E-01
350	1.521	1548	3.56	0.470E-02	0.572E-03	6.9	-0.293E+00	0.42E-01
355	1.558	1583	3.62	0.545E-02	0.694E-03	7.5	-0.377E+00	0.50E-01
360	1.603	1621	3.68	0.652E-02	0.875E-03	8.2	-0.502E+00	0.61E-01
365	1.660	1664	3.75	0.822E-02	0.117E-02	9.4	-0.704E+00	0.75E-01

P 220

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.122	828	2.19	0.904E-03	0.759E-04	4.1	0.642E-01	-0.16E-01
205	1.128	848	2.23	0.931E-03	0.805E-04	4.2	0.626E-01	-0.15E-01
210	1.133	868	2.28	0.969E-03	0.850E-04	4.3	0.603E-01	-0.14E-01
215	1.139	889	2.32	0.102E-02	0.894E-04	4.4	0.574E-01	-0.13E-01
220	1.145	910	2.37	0.107E-02	0.937E-04	4.5	0.541E-01	-0.12E-01
225	1.151	931	2.41	0.113E-02	0.979E-04	4.5	0.504E-01	-0.11E-01
230	1.157	953	2.46	0.119E-02	0.102E-03	4.6	0.464E-01	-0.10E-01
235	1.164	975	2.50	0.126E-02	0.106E-03	4.6	0.421E-01	-0.91E-02
240	1.172	997	2.55	0.132E-02	0.110E-03	4.6	0.377E-01	-0.81E-02
245	1.179	1020	2.59	0.139E-02	0.115E-03	4.7	0.330E-01	-0.71E-02
250	1.187	1042	2.64	0.146E-02	0.119E-03	4.7	0.282E-01	-0.60E-02
255	1.196	1065	2.68	0.153E-02	0.124E-03	4.7	0.233E-01	-0.49E-02
260	1.205	1088	2.73	0.159E-02	0.129E-03	4.7	0.182E-01	-0.38E-02
265	1.214	1110	2.77	0.166E-02	0.134E-03	4.8	0.129E-01	-0.27E-02
270	1.224	1133	2.82	0.173E-02	0.140E-03	4.8	0.749E-02	-0.16E-02
275	1.235	1156	2.86	0.180E-02	0.146E-03	4.8	0.185E-02	-0.38E-03
280	1.246	1179	2.90	0.187E-02	0.153E-03	4.8	-0.408E-02	0.85E-03
285	1.257	1202	2.95	0.194E-02	0.161E-03	4.8	-0.104E-01	0.21E-02
290	1.270	1226	2.99	0.201E-02	0.170E-03	4.9	-0.171E-01	0.35E-02
295	1.283	1249	3.03	0.209E-02	0.180E-03	4.9	-0.244E-01	0.50E-02
300	1.296	1273	3.08	0.218E-02	0.191E-03	5.0	-0.324E-01	0.65E-02
305	1.310	1297	3.12	0.228E-02	0.205E-03	5.0	-0.414E-01	0.82E-02
310	1.326	1321	3.16	0.238E-02	0.220E-03	5.1	-0.516E-01	0.10E-01
315	1.342	1346	3.21	0.250E-02	0.237E-03	5.2	-0.633E-01	0.12E-01
320	1.359	1371	3.25	0.264E-02	0.258E-03	5.3	-0.769E-01	0.14E-01
325	1.378	1398	3.30	0.280E-02	0.283E-03	5.5	-0.929E-01	0.17E-01
330	1.399	1424	3.35	0.299E-02	0.312E-03	5.6	-0.112E+00	0.20E-01
335	1.421	1452	3.39	0.323E-02	0.348E-03	5.8	-0.137E+00	0.23E-01
340	1.446	1481	3.44	0.352E-02	0.391E-03	6.1	-0.168E+00	0.28E-01
345	1.473	1511	3.49	0.388E-02	0.446E-03	6.3	-0.206E+00	0.33E-01
350	1.505	1542	3.54	0.435E-02	0.519E-03	6.7	-0.257E+00	0.38E-01
355	1.538	1576	3.60	0.495E-02	0.615E-03	7.1	-0.324E+00	0.45E-01
360	1.578	1612	3.66	0.577E-02	0.750E-03	7.7	-0.418E+00	0.54E-01
365	1.626	1652	3.72	0.695E-02	0.954E-03	8.5	-0.558E+00	0.66E-01
370	1.689	1696	3.79	0.883E-02	0.130E-02	9.8	-0.790E+00	0.81E-01
375	1.777	1749	3.88	0.125E-01	0.199E-02	12.1	-0.126E+01	0.10E+00

P 240

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.121	830	2.19	0.892E-03	0.752E-04	4.1	0.648E-01	-0.16E-01
205	1.126	849	2.23	0.918E-03	0.797E-04	4.2	0.632E-01	-0.15E-01
210	1.131	869	2.27	0.954E-03	0.840E-04	4.3	0.610E-01	-0.14E-01
215	1.137	890	2.32	0.100E-02	0.883E-04	4.4	0.582E-01	-0.13E-01
220	1.143	911	2.36	0.105E-02	0.925E-04	4.4	0.550E-01	-0.12E-01
225	1.149	932	2.41	0.111E-02	0.966E-04	4.5	0.514E-01	-0.11E-01
230	1.155	954	2.45	0.117E-02	0.101E-03	4.6	0.474E-01	-0.10E-01
235	1.162	976	2.50	0.124E-02	0.105E-03	4.6	0.433E-01	-0.94E-02
240	1.169	998	2.55	0.130E-02	0.109E-03	4.6	0.389E-01	-0.84E-02
245	1.177	1020	2.59	0.137E-02	0.113E-03	4.7	0.343E-01	-0.74E-02
250	1.185	1043	2.64	0.143E-02	0.117E-03	4.7	0.296E-01	-0.63E-02
255	1.193	1065	2.68	0.150E-02	0.122E-03	4.7	0.248E-01	-0.53E-02
260	1.202	1088	2.72	0.157E-02	0.126E-03	4.7	0.198E-01	-0.42E-02
265	1.211	1111	2.77	0.163E-02	0.131E-03	4.7	0.147E-01	-0.31E-02
270	1.221	1133	2.81	0.170E-02	0.137E-03	4.8	0.945E-02	-0.20E-02
275	1.231	1156	2.86	0.177E-02	0.143E-03	4.8	0.399E-02	-0.84E-03
280	1.242	1179	2.90	0.183E-02	0.150E-03	4.8	-0.171E-02	0.36E-03
285	1.253	1202	2.94	0.190E-02	0.157E-03	4.8	-0.773E-02	0.16E-02
290	1.265	1225	2.99	0.197E-02	0.166E-03	4.8	-0.142E-01	0.29E-02
295	1.278	1249	3.03	0.205E-02	0.175E-03	4.9	-0.211E-01	0.43E-02
300	1.291	1272	3.07	0.213E-02	0.186E-03	4.9	-0.287E-01	0.58E-02
305	1.305	1296	3.12	0.222E-02	0.198E-03	5.0	-0.372E-01	0.74E-02
310	1.320	1320	3.16	0.232E-02	0.213E-03	5.1	-0.467E-01	0.92E-02
315	1.336	1345	3.20	0.243E-02	0.229E-03	5.2	-0.575E-01	0.11E-01
320	1.353	1370	3.25	0.256E-02	0.248E-03	5.3	-0.700E-01	0.13E-01
325	1.371	1396	3.29	0.270E-02	0.270E-03	5.4	-0.847E-01	0.16E-01
330	1.390	1422	3.34	0.287E-02	0.297E-03	5.6	-0.102E+00	0.18E-01
335	1.411	1449	3.38	0.309E-02	0.328E-03	5.7	-0.124E+00	0.22E-01
340	1.435	1477	3.43	0.335E-02	0.367E-03	5.9	-0.151E+00	0.25E-01
345	1.461	1507	3.48	0.367E-02	0.414E-03	6.2	-0.185E+00	0.30E-01
350	1.490	1538	3.53	0.406E-02	0.475E-03	6.5	-0.228E+00	0.35E-01
355	1.521	1570	3.59	0.456E-02	0.554E-03	6.9	-0.283E+00	0.41E-01
360	1.556	1605	3.64	0.520E-02	0.659E-03	7.3	-0.357E+00	0.49E-01
365	1.599	1642	3.70	0.608E-02	0.807E-03	7.9	-0.460E+00	0.58E-01
370	1.651	1682	3.77	0.735E-02	0.103E-02	8.8	-0.615E+00	0.70E-01
375	1.720	1728	3.84	0.939E-02	0.142E-02	10.1	-0.875E+00	0.87E-01
380	1.819	1782	3.92	0.133E-01	0.222E-02	12.6	-0.140E+01	0.11E+00

P 260

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.119	831	2.18	0.880E-03	0.745E-04	4.1	0.653E-01	-0.16E-01
205	1.124	850	2.23	0.904E-03	0.788E-04	4.2	0.638E-01	-0.15E-01
210	1.129	871	2.27	0.940E-03	0.831E-04	4.3	0.617E-01	-0.14E-01
215	1.135	891	2.32	0.984E-03	0.873E-04	4.4	0.590E-01	-0.14E-01
220	1.141	912	2.36	0.104E-02	0.914E-04	4.4	0.558E-01	-0.13E-01
225	1.147	933	2.41	0.109E-02	0.953E-04	4.5	0.523E-01	-0.12E-01
230	1.153	955	2.45	0.115E-02	0.993E-04	4.5	0.484E-01	-0.11E-01
235	1.160	977	2.50	0.122E-02	0.103E-03	4.6	0.444E-01	-0.97E-02
240	1.167	999	2.54	0.128E-02	0.107E-03	4.6	0.401E-01	-0.87E-02
245	1.174	1021	2.59	0.134E-02	0.111E-03	4.6	0.356E-01	-0.77E-02
250	1.182	1043	2.63	0.141E-02	0.115E-03	4.7	0.310E-01	-0.66E-02
255	1.190	1066	2.68	0.148E-02	0.119E-03	4.7	0.263E-01	-0.56E-02
260	1.199	1088	2.72	0.154E-02	0.124E-03	4.7	0.214E-01	-0.46E-02
265	1.208	1111	2.76	0.161E-02	0.129E-03	4.7	0.164E-01	-0.35E-02
270	1.218	1134	2.81	0.167E-02	0.134E-03	4.7	0.113E-01	-0.24E-02
275	1.228	1156	2.85	0.173E-02	0.140E-03	4.7	0.604E-02	-0.13E-02
280	1.238	1179	2.90	0.180E-02	0.147E-03	4.8	0.535E-03	-0.11E-03
285	1.249	1202	2.94	0.187E-02	0.154E-03	4.8	-0.525E-02	0.11E-02
290	1.261	1225	2.98	0.194E-02	0.162E-03	4.8	-0.114E-01	0.24E-02
295	1.273	1248	3.02	0.201E-02	0.171E-03	4.9	-0.180E-01	0.37E-02
300	1.286	1272	3.07	0.209E-02	0.181E-03	4.9	-0.252E-01	0.51E-02
305	1.300	1295	3.11	0.217E-02	0.192E-03	5.0	-0.332E-01	0.67E-02
310	1.314	1319	3.15	0.226E-02	0.206E-03	5.0	-0.421E-01	0.84E-02
315	1.330	1344	3.20	0.237E-02	0.221E-03	5.1	-0.522E-01	0.10E-01
320	1.346	1369	3.24	0.248E-02	0.239E-03	5.2	-0.638E-01	0.12E-01
325	1.363	1394	3.28	0.262E-02	0.259E-03	5.3	-0.772E-01	0.14E-01
330	1.382	1420	3.33	0.277E-02	0.283E-03	5.5	-0.929E-01	0.17E-01
335	1.402	1447	3.38	0.297E-02	0.311E-03	5.6	-0.113E+00	0.20E-01
340	1.425	1475	3.42	0.320E-02	0.345E-03	5.8	-0.137E+00	0.23E-01
345	1.449	1503	3.47	0.348E-02	0.387E-03	6.1	-0.167E+00	0.27E-01
350	1.476	1533	3.52	0.382E-02	0.439E-03	6.3	-0.204E+00	0.32E-01
355	1.505	1565	3.57	0.424E-02	0.504E-03	6.6	-0.250E+00	0.38E-01
360	1.537	1598	3.63	0.476E-02	0.588E-03	7.0	-0.310E+00	0.44E-01
365	1.575	1633	3.68	0.545E-02	0.701E-03	7.5	-0.390E+00	0.52E-01
370	1.621	1671	3.74	0.638E-02	0.863E-03	8.1	-0.503E+00	0.62E-01
375	1.678	1713	3.81	0.772E-02	0.111E-02	9.0	-0.671E+00	0.75E-01
380	1.752	1759	3.88	0.985E-02	0.153E-02	10.3	-0.952E+00	0.92E-01
385	1.861	1814	3.97	0.140E-01	0.240E-02	12.9	-0.152E+01	0.12E+00
390	2.063	1890	4.09	0.263E-01	0.520E-02	21.0	-0.340E+01	0.16E+00

P 280

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.117	832	2.18	0.868E-03	0.737E-04	4.1	0.659E-01	-0.16E-01
205	1.122	852	2.23	0.891E-03	0.780E-04	4.2	0.644E-01	-0.15E-01
210	1.128	872	2.27	0.926E-03	0.822E-04	4.3	0.623E-01	-0.15E-01
215	1.133	892	2.31	0.969E-03	0.863E-04	4.4	0.597E-01	-0.14E-01
220	1.139	913	2.36	0.102E-02	0.903E-04	4.4	0.566E-01	-0.13E-01
225	1.144	934	2.40	0.107E-02	0.941E-04	4.5	0.532E-01	-0.12E-01
230	1.151	956	2.45	0.113E-02	0.979E-04	4.5	0.494E-01	-0.11E-01
235	1.157	978	2.49	0.120E-02	0.102E-03	4.6	0.454E-01	-0.10E-01
240	1.164	1000	2.54	0.126E-02	0.106E-03	4.6	0.412E-01	-0.90E-02
245	1.171	1022	2.58	0.132E-02	0.109E-03	4.6	0.368E-01	-0.80E-02
250	1.179	1044	2.63	0.139E-02	0.113E-03	4.6	0.323E-01	-0.70E-02
255	1.187	1066	2.67	0.145E-02	0.118E-03	4.7	0.277E-01	-0.59E-02
260	1.196	1089	2.72	0.152E-02	0.122E-03	4.7	0.229E-01	-0.49E-02
265	1.205	1111	2.76	0.158E-02	0.127E-03	4.7	0.181E-01	-0.39E-02
270	1.214	1134	2.80	0.164E-02	0.132E-03	4.7	0.131E-01	-0.28E-02
275	1.224	1157	2.85	0.171E-02	0.137E-03	4.7	0.798E-02	-0.17E-02
280	1.235	1179	2.89	0.177E-02	0.143E-03	4.7	0.267E-02	-0.56E-03
285	1.246	1202	2.93	0.183E-02	0.150E-03	4.8	-0.290E-02	0.61E-03
290	1.257	1225	2.98	0.190E-02	0.158E-03	4.8	-0.878E-02	0.18E-02
295	1.269	1248	3.02	0.197E-02	0.166E-03	4.8	-0.151E-01	0.31E-02
300	1.282	1271	3.06	0.204E-02	0.176E-03	4.9	-0.219E-01	0.45E-02
305	1.295	1295	3.10	0.212E-02	0.187E-03	4.9	-0.295E-01	0.60E-02
310	1.309	1319	3.15	0.221E-02	0.199E-03	5.0	-0.378E-01	0.76E-02
315	1.324	1343	3.19	0.231E-02	0.214E-03	5.1	-0.473E-01	0.93E-02
320	1.340	1367	3.23	0.242E-02	0.230E-03	5.2	-0.580E-01	0.11E-01
325	1.356	1393	3.28	0.254E-02	0.249E-03	5.3	-0.704E-01	0.13E-01
330	1.374	1419	3.32	0.268E-02	0.271E-03	5.4	-0.848E-01	0.16E-01
335	1.394	1445	3.37	0.286E-02	0.296E-03	5.6	-0.103E+00	0.18E-01
340	1.415	1472	3.41	0.307E-02	0.326E-03	5.7	-0.125E+00	0.22E-01
345	1.438	1500	3.46	0.331E-02	0.363E-03	5.9	-0.151E+00	0.25E-01
350	1.464	1529	3.51	0.361E-02	0.408E-03	6.2	-0.183E+00	0.30E-01
355	1.490	1560	3.56	0.397E-02	0.462E-03	6.5	-0.223E+00	0.35E-01
360	1.521	1592	3.61	0.441E-02	0.531E-03	6.8	-0.273E+00	0.40E-01
365	1.555	1626	3.67	0.497E-02	0.621E-03	7.2	-0.337E+00	0.47E-01
370	1.596	1662	3.73	0.568E-02	0.742E-03	7.6	-0.424E+00	0.55E-01
375	1.645	1701	3.79	0.665E-02	0.915E-03	8.3	-0.544E+00	0.66E-01
380	1.705	1743	3.85	0.802E-02	0.118E-02	9.1	-0.723E+00	0.79E-01
385	1.785	1790	3.93	0.102E-01	0.162E-02	10.4	-0.102E+01	0.98E-01
390	1.900	1845	4.01	0.142E-01	0.252E-02	12.9	-0.160E+01	0.12E+00
395	2.102	1919	4.12	0.254E-01	0.519E-02	20.0	-0.335E+01	0.17E+00

P 300

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.116	834	2.18	0.856E-03	0.730E-04	4.1	0.664E-01	-0.16E-01
205	1.121	853	2.22	0.878E-03	0.772E-04	4.2	0.650E-01	-0.16E-01
210	1.126	873	2.27	0.912E-03	0.813E-04	4.3	0.630E-01	-0.15E-01
215	1.131	893	2.31	0.954E-03	0.853E-04	4.3	0.604E-01	-0.14E-01
220	1.136	914	2.36	0.100E-02	0.892E-04	4.4	0.574E-01	-0.13E-01
225	1.142	935	2.40	0.106E-02	0.930E-04	4.5	0.540E-01	-0.12E-01
230	1.148	957	2.45	0.112E-02	0.967E-04	4.5	0.504E-01	-0.11E-01
235	1.155	979	2.49	0.118E-02	0.100E-03	4.5	0.464E-01	-0.10E-01
240	1.162	1000	2.54	0.124E-02	0.104E-03	4.6	0.423E-01	-0.92E-02
245	1.169	1022	2.58	0.130E-02	0.108E-03	4.6	0.380E-01	-0.83E-02
250	1.176	1045	2.63	0.137E-02	0.112E-03	4.6	0.336E-01	-0.73E-02
255	1.184	1067	2.67	0.143E-02	0.116E-03	4.6	0.290E-01	-0.63E-02
260	1.193	1089	2.71	0.149E-02	0.120E-03	4.7	0.244E-01	-0.52E-02
265	1.202	1112	2.76	0.155E-02	0.124E-03	4.7	0.197E-01	-0.42E-02
270	1.211	1134	2.80	0.162E-02	0.129E-03	4.7	0.148E-01	-0.32E-02
275	1.221	1157	2.84	0.168E-02	0.135E-03	4.7	0.984E-02	-0.21E-02
280	1.231	1179	2.89	0.174E-02	0.141E-03	4.7	0.470E-02	-0.10E-02
285	1.242	1202	2.93	0.180E-02	0.147E-03	4.7	-0.662E-03	0.14E-03
290	1.253	1225	2.97	0.187E-02	0.154E-03	4.8	-0.631E-02	0.13E-02
295	1.265	1248	3.01	0.193E-02	0.162E-03	4.8	-0.123E-01	0.26E-02
300	1.277	1271	3.06	0.200E-02	0.172E-03	4.9	-0.189E-01	0.39E-02
305	1.290	1294	3.10	0.208E-02	0.182E-03	4.9	-0.260E-01	0.53E-02
310	1.304	1318	3.14	0.216E-02	0.193E-03	5.0	-0.339E-01	0.68E-02
315	1.318	1342	3.18	0.225E-02	0.207E-03	5.0	-0.427E-01	0.85E-02
320	1.334	1366	3.23	0.235E-02	0.222E-03	5.1	-0.528E-01	0.10E-01
325	1.350	1391	3.27	0.247E-02	0.239E-03	5.2	-0.642E-01	0.12E-01
330	1.367	1417	3.31	0.260E-02	0.259E-03	5.4	-0.775E-01	0.14E-01
335	1.386	1443	3.36	0.276E-02	0.282E-03	5.5	-0.940E-01	0.17E-01
340	1.406	1470	3.40	0.295E-02	0.310E-03	5.7	-0.114E+00	0.20E-01
345	1.428	1497	3.45	0.317E-02	0.342E-03	5.8	-0.137E+00	0.23E-01
350	1.452	1526	3.50	0.343E-02	0.381E-03	6.0	-0.166E+00	0.27E-01
355	1.477	1556	3.55	0.375E-02	0.428E-03	6.3	-0.200E+00	0.32E-01
360	1.505	1587	3.60	0.412E-02	0.485E-03	6.6	-0.243E+00	0.37E-01
365	1.537	1620	3.65	0.458E-02	0.558E-03	6.9	-0.296E+00	0.43E-01
370	1.574	1654	3.71	0.516E-02	0.653E-03	7.3	-0.365E+00	0.50E-01
375	1.617	1691	3.77	0.590E-02	0.781E-03	7.8	-0.456E+00	0.59E-01
380	1.669	1730	3.83	0.687E-02	0.963E-03	8.4	-0.583E+00	0.70E-01
385	1.734	1772	3.89	0.824E-02	0.124E-02	9.2	-0.767E+00	0.84E-01
390	1.818	1819	3.97	0.103E-01	0.169E-02	10.4	-0.106E+01	0.10E+00
395	1.934	1874	4.05	0.140E-01	0.257E-02	12.6	-0.162E+01	0.13E+00
400	2.114	1944	4.16	0.232E-01	0.491E-02	18.1	-0.309E+01	0.17E+00

P 320

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.114	835	2.18	0.844E-03	0.724E-04	4.1	0.669E-01	-0.16E-01
205	1.119	854	2.22	0.866E-03	0.765E-04	4.2	0.656E-01	-0.16E-01
210	1.124	874	2.27	0.898E-03	0.805E-04	4.3	0.636E-01	-0.15E-01
215	1.129	895	2.31	0.939E-03	0.844E-04	4.3	0.611E-01	-0.14E-01
220	1.134	915	2.35	0.987E-03	0.881E-04	4.4	0.582E-01	-0.13E-01
225	1.140	936	2.40	0.104E-02	0.918E-04	4.4	0.549E-01	-0.12E-01
230	1.146	958	2.44	0.110E-02	0.954E-04	4.5	0.513E-01	-0.11E-01
235	1.153	979	2.49	0.116E-02	0.990E-04	4.5	0.474E-01	-0.10E-01
240	1.159	1001	2.53	0.122E-02	0.103E-03	4.6	0.433E-01	-0.95E-02
245	1.166	1023	2.58	0.128E-02	0.106E-03	4.6	0.391E-01	-0.85E-02
250	1.174	1045	2.62	0.135E-02	0.110E-03	4.6	0.348E-01	-0.75E-02
255	1.182	1067	2.67	0.141E-02	0.114E-03	4.6	0.303E-01	-0.66E-02
260	1.190	1090	2.71	0.147E-02	0.118E-03	4.6	0.258E-01	-0.56E-02
265	1.199	1112	2.75	0.153E-02	0.122E-03	4.7	0.212E-01	-0.45E-02
270	1.208	1134	2.80	0.159E-02	0.127E-03	4.7	0.164E-01	-0.35E-02
275	1.217	1157	2.84	0.165E-02	0.132E-03	4.7	0.116E-01	-0.25E-02
280	1.228	1179	2.88	0.171E-02	0.138E-03	4.7	0.664E-02	-0.14E-02
285	1.238	1202	2.92	0.177E-02	0.144E-03	4.7	0.146E-02	-0.31E-03
290	1.249	1225	2.97	0.183E-02	0.151E-03	4.7	-0.397E-02	0.84E-03
295	1.261	1248	3.01	0.190E-02	0.159E-03	4.8	-0.975E-02	0.20E-02
300	1.273	1271	3.05	0.196E-02	0.167E-03	4.8	-0.160E-01	0.33E-02
305	1.285	1294	3.09	0.204E-02	0.177E-03	4.9	-0.227E-01	0.47E-02
310	1.299	1317	3.14	0.211E-02	0.188E-03	4.9	-0.302E-01	0.61E-02
315	1.313	1341	3.18	0.220E-02	0.200E-03	5.0	-0.385E-01	0.77E-02
320	1.328	1365	3.22	0.229E-02	0.214E-03	5.1	-0.479E-01	0.94E-02
325	1.343	1390	3.26	0.240E-02	0.230E-03	5.2	-0.586E-01	0.11E-01
330	1.360	1415	3.31	0.252E-02	0.249E-03	5.3	-0.708E-01	0.13E-01
335	1.378	1441	3.35	0.267E-02	0.270E-03	5.4	-0.860E-01	0.16E-01
340	1.398	1467	3.40	0.284E-02	0.294E-03	5.6	-0.104E+00	0.19E-01
345	1.418	1495	3.44	0.304E-02	0.323E-03	5.7	-0.125E+00	0.22E-01
350	1.441	1523	3.49	0.328E-02	0.358E-03	5.9	-0.150E+00	0.25E-01
355	1.465	1552	3.54	0.355E-02	0.398E-03	6.2	-0.181E+00	0.29E-01
360	1.492	1582	3.59	0.388E-02	0.447E-03	6.4	-0.217E+00	0.34E-01
365	1.521	1614	3.64	0.427E-02	0.507E-03	6.7	-0.263E+00	0.39E-01
370	1.555	1647	3.69	0.475E-02	0.583E-03	7.0	-0.319E+00	0.46E-01
375	1.594	1682	3.75	0.534E-02	0.682E-03	7.4	-0.392E+00	0.53E-01
380	1.640	1719	3.81	0.608E-02	0.817E-03	7.8	-0.488E+00	0.62E-01
385	1.695	1758	3.87	0.706E-02	0.101E-02	8.4	-0.617E+00	0.73E-01
390	1.762	1801	3.93	0.838E-02	0.129E-02	9.2	-0.803E+00	0.88E-01
395	1.848	1847	4.01	0.103E-01	0.174E-02	10.3	-0.109E+01	0.11E+00
400	1.960	1901	4.09	0.136E-01	0.257E-02	12.1	-0.159E+01	0.13E+00
405	2.130	1968	4.19	0.209E-01	0.462E-02	16.2	-0.281E+01	0.17E+00
410	2.403	2075	4.35	0.546E-01	0.144E-01	36.1	-0.872E+01	0.24E+00

P 340

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.112	836	2.18	0.833E-03	0.717E-04	4.1	0.674E-01	-0.17E-01
205	1.117	856	2.22	0.853E-03	0.757E-04	4.2	0.661E-01	-0.16E-01
210	1.122	876	2.26	0.885E-03	0.796E-04	4.2	0.642E-01	-0.15E-01
215	1.127	896	2.31	0.925E-03	0.834E-04	4.3	0.618E-01	-0.14E-01
220	1.133	917	2.35	0.972E-03	0.871E-04	4.4	0.590E-01	-0.13E-01
225	1.138	938	2.40	0.102E-02	0.907E-04	4.4	0.557E-01	-0.13E-01
230	1.144	959	2.44	0.108E-02	0.942E-04	4.5	0.522E-01	-0.12E-01
235	1.150	980	2.49	0.114E-02	0.977E-04	4.5	0.484E-01	-0.11E-01
240	1.157	1002	2.53	0.120E-02	0.101E-03	4.5	0.444E-01	-0.98E-02
245	1.164	1024	2.57	0.126E-02	0.105E-03	4.6	0.402E-01	-0.88E-02
250	1.171	1046	2.62	0.132E-02	0.108E-03	4.6	0.359E-01	-0.78E-02
255	1.179	1068	2.66	0.139E-02	0.112E-03	4.6	0.316E-01	-0.69E-02
260	1.187	1090	2.71	0.145E-02	0.116E-03	4.6	0.271E-01	-0.59E-02
265	1.196	1112	2.75	0.151E-02	0.120E-03	4.6	0.226E-01	-0.49E-02
270	1.205	1135	2.79	0.157E-02	0.125E-03	4.6	0.180E-01	-0.39E-02
275	1.214	1157	2.84	0.162E-02	0.130E-03	4.7	0.133E-01	-0.29E-02
280	1.224	1180	2.88	0.168E-02	0.135E-03	4.7	0.848E-02	-0.18E-02
285	1.234	1202	2.92	0.174E-02	0.141E-03	4.7	0.348E-02	-0.74E-03
290	1.245	1225	2.96	0.180E-02	0.148E-03	4.7	-0.175E-02	0.37E-03
295	1.257	1247	3.00	0.186E-02	0.155E-03	4.8	-0.729E-02	0.15E-02
300	1.268	1270	3.05	0.193E-02	0.163E-03	4.8	-0.132E-01	0.28E-02
305	1.281	1293	3.09	0.200E-02	0.172E-03	4.8	-0.197E-01	0.41E-02
310	1.294	1317	3.13	0.207E-02	0.183E-03	4.9	-0.267E-01	0.55E-02
315	1.308	1340	3.17	0.215E-02	0.194E-03	5.0	-0.346E-01	0.70E-02
320	1.322	1364	3.21	0.224E-02	0.207E-03	5.0	-0.434E-01	0.86E-02
325	1.337	1389	3.26	0.234E-02	0.222E-03	5.1	-0.534E-01	0.10E-01
330	1.354	1414	3.30	0.245E-02	0.239E-03	5.2	-0.648E-01	0.12E-01
335	1.371	1439	3.34	0.259E-02	0.259E-03	5.4	-0.787E-01	0.15E-01
340	1.389	1465	3.39	0.275E-02	0.281E-03	5.5	-0.950E-01	0.17E-01
345	1.409	1492	3.43	0.293E-02	0.306E-03	5.7	-0.114E+00	0.20E-01
350	1.431	1520	3.48	0.314E-02	0.337E-03	5.8	-0.137E+00	0.23E-01
355	1.454	1549	3.53	0.339E-02	0.373E-03	6.0	-0.164E+00	0.27E-01
360	1.479	1578	3.58	0.367E-02	0.414E-03	6.2	-0.196E+00	0.31E-01
365	1.507	1609	3.63	0.401E-02	0.465E-03	6.5	-0.235E+00	0.36E-01
370	1.538	1641	3.68	0.442E-02	0.528E-03	6.8	-0.283E+00	0.42E-01
375	1.574	1675	3.73	0.490E-02	0.607E-03	7.1	-0.343E+00	0.48E-01
380	1.615	1710	3.79	0.550E-02	0.711E-03	7.4	-0.419E+00	0.56E-01
385	1.663	1747	3.85	0.624E-02	0.850E-03	7.9	-0.517E+00	0.66E-01
390	1.721	1786	3.91	0.718E-02	0.104E-02	8.4	-0.647E+00	0.77E-01
395	1.790	1828	3.97	0.842E-02	0.133E-02	9.1	-0.828E+00	0.91E-01
400	1.875	1875	4.04	0.102E-01	0.177E-02	10.0	-0.110E+01	0.11E+00
405	1.994	1927	4.12	0.131E-01	0.260E-02	11.5	-0.157E+01	0.14E+00
410	2.148	1990	4.21	0.181E-01	0.415E-02	14.3	-0.245E+01	0.17E+00
415	2.364	2073	4.34	0.323E-01	0.862E-02	22.1	-0.502E+01	0.23E+00

P 360

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.111	838	2.18	0.822E-03	0.710E-04	4.1	0.679E-01	-0.17E-01
205	1.115	857	2.22	0.841E-03	0.750E-04	4.2	0.667E-01	-0.16E-01
210	1.120	877	2.26	0.872E-03	0.788E-04	4.2	0.648E-01	-0.15E-01
215	1.125	897	2.31	0.911E-03	0.825E-04	4.3	0.625E-01	-0.15E-01
220	1.131	918	2.35	0.957E-03	0.861E-04	4.4	0.597E-01	-0.14E-01
225	1.136	939	2.39	0.101E-02	0.896E-04	4.4	0.565E-01	-0.13E-01
230	1.142	960	2.44	0.106E-02	0.930E-04	4.5	0.530E-01	-0.12E-01
235	1.148	981	2.48	0.112E-02	0.964E-04	4.5	0.493E-01	-0.11E-01
240	1.155	1003	2.53	0.118E-02	0.998E-04	4.5	0.453E-01	-0.10E-01
245	1.161	1025	2.57	0.124E-02	0.103E-03	4.5	0.413E-01	-0.91E-02
250	1.169	1047	2.62	0.131E-02	0.107E-03	4.6	0.371E-01	-0.81E-02
255	1.176	1069	2.66	0.137E-02	0.110E-03	4.6	0.328E-01	-0.71E-02
260	1.184	1091	2.70	0.143E-02	0.114E-03	4.6	0.284E-01	-0.62E-02
265	1.193	1113	2.75	0.148E-02	0.118E-03	4.6	0.240E-01	-0.52E-02
270	1.202	1135	2.79	0.154E-02	0.123E-03	4.6	0.195E-01	-0.42E-02
275	1.211	1157	2.83	0.160E-02	0.127E-03	4.6	0.149E-01	-0.32E-02
280	1.221	1180	2.87	0.166E-02	0.133E-03	4.7	0.102E-01	-0.22E-02
285	1.231	1202	2.92	0.171E-02	0.138E-03	4.7	0.540E-02	-0.12E-02
290	1.242	1225	2.96	0.177E-02	0.145E-03	4.7	0.357E-03	-0.76E-04
295	1.253	1247	3.00	0.183E-02	0.152E-03	4.7	-0.496E-02	0.10E-02
300	1.264	1270	3.04	0.189E-02	0.159E-03	4.8	-0.106E-01	0.22E-02
305	1.276	1293	3.08	0.196E-02	0.168E-03	4.8	-0.168E-01	0.35E-02
310	1.289	1316	3.12	0.203E-02	0.178E-03	4.9	-0.235E-01	0.48E-02
315	1.303	1340	3.17	0.210E-02	0.189E-03	4.9	-0.309E-01	0.63E-02
320	1.317	1364	3.21	0.219E-02	0.201E-03	5.0	-0.392E-01	0.78E-02
325	1.332	1388	3.25	0.228E-02	0.215E-03	5.1	-0.486E-01	0.95E-02
330	1.347	1413	3.29	0.239E-02	0.230E-03	5.2	-0.592E-01	0.11E-01
335	1.364	1438	3.34	0.251E-02	0.248E-03	5.3	-0.721E-01	0.14E-01
340	1.382	1464	3.38	0.266E-02	0.269E-03	5.4	-0.871E-01	0.16E-01
345	1.401	1490	3.43	0.283E-02	0.292E-03	5.6	-0.105E+00	0.19E-01
350	1.422	1517	3.47	0.302E-02	0.319E-03	5.7	-0.125E+00	0.22E-01
355	1.444	1545	3.52	0.324E-02	0.350E-03	5.9	-0.149E+00	0.25E-01
360	1.467	1575	3.57	0.350E-02	0.387E-03	6.1	-0.178E+00	0.29E-01
365	1.494	1605	3.62	0.379E-02	0.430E-03	6.3	-0.212E+00	0.34E-01
370	1.523	1636	3.67	0.414E-02	0.482E-03	6.6	-0.254E+00	0.39E-01
375	1.556	1668	3.72	0.456E-02	0.547E-03	6.8	-0.304E+00	0.44E-01
380	1.593	1702	3.77	0.505E-02	0.630E-03	7.1	-0.366E+00	0.51E-01
385	1.636	1737	3.83	0.564E-02	0.738E-03	7.5	-0.443E+00	0.59E-01
390	1.687	1774	3.88	0.635E-02	0.882E-03	7.8	-0.542E+00	0.69E-01
395	1.746	1813	3.94	0.724E-02	0.108E-02	8.3	-0.671E+00	0.81E-01
400	1.816	1856	4.01	0.838E-02	0.137E-02	8.9	-0.843E+00	0.95E-01
405	1.910	1901	4.08	0.100E-01	0.184E-02	9.7	-0.110E+01	0.11E+00
410	2.023	1952	4.15	0.122E-01	0.253E-02	10.9	-0.148E+01	0.14E+00
415	2.162	2010	4.24	0.156E-01	0.366E-02	12.7	-0.211E+01	0.17E+00
420	2.345	2079	4.34	0.225E-01	0.605E-02	16.3	-0.342E+01	0.21E+00
425	2.625	2178	4.48	0.502E-01	0.162E-01	30.8	-0.893E+01	0.29E+00

P 380

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.109	839	2.17	0.811E-03	0.704E-04	4.1	0.683E-01	-0.17E-01
205	1.114	858	2.22	0.830E-03	0.742E-04	4.2	0.672E-01	-0.16E-01
210	1.119	878	2.26	0.859E-03	0.780E-04	4.2	0.654E-01	-0.15E-01
215	1.123	898	2.30	0.897E-03	0.816E-04	4.3	0.631E-01	-0.15E-01
220	1.129	919	2.35	0.943E-03	0.851E-04	4.4	0.604E-01	-0.14E-01
225	1.134	940	2.39	0.994E-03	0.886E-04	4.4	0.573E-01	-0.13E-01
230	1.140	961	2.44	0.105E-02	0.919E-04	4.4	0.538E-01	-0.12E-01
235	1.146	982	2.48	0.111E-02	0.952E-04	4.5	0.502E-01	-0.11E-01
240	1.152	1004	2.53	0.117E-02	0.985E-04	4.5	0.463E-01	-0.10E-01
245	1.159	1026	2.57	0.123E-02	0.102E-03	4.5	0.423E-01	-0.93E-02
250	1.166	1047	2.61	0.129E-02	0.105E-03	4.6	0.382E-01	-0.84E-02
255	1.174	1069	2.66	0.135E-02	0.109E-03	4.6	0.340E-01	-0.74E-02
260	1.182	1091	2.70	0.140E-02	0.112E-03	4.6	0.297E-01	-0.65E-02
265	1.190	1113	2.74	0.146E-02	0.116E-03	4.6	0.253E-01	-0.55E-02
270	1.199	1136	2.79	0.152E-02	0.121E-03	4.6	0.210E-01	-0.45E-02
275	1.208	1158	2.83	0.158E-02	0.125E-03	4.6	0.165E-01	-0.36E-02
280	1.218	1180	2.87	0.163E-02	0.130E-03	4.6	0.119E-01	-0.26E-02
285	1.228	1202	2.91	0.169E-02	0.136E-03	4.7	0.724E-02	-0.16E-02
290	1.238	1225	2.95	0.174E-02	0.142E-03	4.7	0.236E-02	-0.50E-03
295	1.249	1247	3.00	0.180E-02	0.148E-03	4.7	-0.275E-02	0.58E-03
300	1.260	1270	3.04	0.186E-02	0.156E-03	4.8	-0.820E-02	0.17E-02
305	1.272	1293	3.08	0.192E-02	0.164E-03	4.8	-0.141E-01	0.29E-02
310	1.285	1316	3.12	0.199E-02	0.173E-03	4.8	-0.204E-01	0.42E-02
315	1.298	1339	3.16	0.206E-02	0.183E-03	4.9	-0.275E-01	0.56E-02
320	1.311	1363	3.20	0.214E-02	0.195E-03	5.0	-0.353E-01	0.71E-02
325	1.326	1387	3.25	0.223E-02	0.208E-03	5.1	-0.441E-01	0.87E-02
330	1.341	1412	3.29	0.233E-02	0.222E-03	5.2	-0.541E-01	0.10E-01
335	1.357	1437	3.33	0.244E-02	0.239E-03	5.3	-0.661E-01	0.13E-01
340	1.375	1462	3.37	0.258E-02	0.257E-03	5.4	-0.799E-01	0.15E-01
345	1.393	1488	3.42	0.273E-02	0.278E-03	5.5	-0.960E-01	0.17E-01
350	1.413	1515	3.46	0.291E-02	0.303E-03	5.7	-0.115E+00	0.20E-01
355	1.434	1543	3.51	0.311E-02	0.331E-03	5.8	-0.137E+00	0.23E-01
360	1.457	1571	3.56	0.334E-02	0.363E-03	6.0	-0.162E+00	0.27E-01
365	1.481	1601	3.60	0.360E-02	0.400E-03	6.2	-0.193E+00	0.31E-01
370	1.509	1631	3.65	0.391E-02	0.445E-03	6.4	-0.229E+00	0.36E-01
375	1.540	1663	3.70	0.427E-02	0.499E-03	6.6	-0.272E+00	0.41E-01
380	1.574	1695	3.76	0.468E-02	0.567E-03	6.9	-0.324E+00	0.47E-01
385	1.614	1729	3.81	0.517E-02	0.653E-03	7.1	-0.388E+00	0.54E-01
390	1.659	1764	3.86	0.575E-02	0.765E-03	7.4	-0.466E+00	0.63E-01
395	1.711	1801	3.92	0.643E-02	0.914E-03	7.8	-0.564E+00	0.72E-01
400	1.771	1840	3.98	0.725E-02	0.112E-02	8.2	-0.687E+00	0.84E-01
405	1.849	1881	4.04	0.832E-02	0.144E-02	8.7	-0.858E+00	0.98E-01
410	1.940	1927	4.11	0.958E-02	0.185E-02	9.4	-0.108E+01	0.11E+00
415	2.046	1976	4.18	0.112E-01	0.240E-02	10.3	-0.138E+01	0.13E+00
420	2.173	2030	4.26	0.135E-01	0.321E-02	11.5	-0.182E+01	0.16E+00
425	2.333	2090	4.35	0.172E-01	0.462E-02	13.4	-0.257E+01	0.19E+00
430	2.551	2163	4.46	0.253E-01	0.795E-02	17.3	-0.428E+01	0.25E+00

P 400

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.107	840	2.17	0.801E-03	0.697E-04	4.1	0.688E-01	-0.17E-01
205	1.112	860	2.21	0.818E-03	0.735E-04	4.2	0.677E-01	-0.16E-01
210	1.117	879	2.26	0.846E-03	0.772E-04	4.2	0.660E-01	-0.16E-01
215	1.122	900	2.30	0.884E-03	0.808E-04	4.3	0.638E-01	-0.15E-01
220	1.127	920	2.35	0.929E-03	0.842E-04	4.3	0.611E-01	-0.14E-01
225	1.132	941	2.39	0.979E-03	0.875E-04	4.4	0.580E-01	-0.13E-01
230	1.138	962	2.43	0.103E-02	0.908E-04	4.4	0.546E-01	-0.12E-01
235	1.144	983	2.48	0.109E-02	0.940E-04	4.5	0.510E-01	-0.11E-01
240	1.150	1005	2.52	0.115E-02	0.972E-04	4.5	0.472E-01	-0.11E-01
245	1.157	1027	2.57	0.121E-02	0.100E-03	4.5	0.433E-01	-0.96E-02
250	1.164	1048	2.61	0.127E-02	0.104E-03	4.5	0.392E-01	-0.86E-02
255	1.171	1070	2.65	0.133E-02	0.107E-03	4.6	0.351E-01	-0.77E-02
260	1.179	1092	2.70	0.138E-02	0.111E-03	4.6	0.309E-01	-0.68E-02
265	1.187	1114	2.74	0.144E-02	0.114E-03	4.6	0.266E-01	-0.58E-02
270	1.196	1136	2.78	0.150E-02	0.119E-03	4.6	0.223E-01	-0.49E-02
275	1.205	1158	2.82	0.155E-02	0.123E-03	4.6	0.180E-01	-0.39E-02
280	1.214	1180	2.87	0.161E-02	0.128E-03	4.6	0.135E-01	-0.29E-02
285	1.224	1202	2.91	0.166E-02	0.133E-03	4.6	0.899E-02	-0.19E-02
290	1.234	1225	2.95	0.171E-02	0.139E-03	4.7	0.428E-02	-0.92E-03
295	1.245	1247	2.99	0.177E-02	0.145E-03	4.7	-0.658E-03	0.14E-03
300	1.256	1270	3.03	0.183E-02	0.152E-03	4.7	-0.588E-02	0.12E-02
305	1.268	1292	3.07	0.189E-02	0.160E-03	4.8	-0.115E-01	0.24E-02
310	1.280	1315	3.11	0.195E-02	0.169E-03	4.8	-0.176E-01	0.36E-02
315	1.293	1339	3.16	0.202E-02	0.178E-03	4.9	-0.243E-01	0.50E-02
320	1.306	1362	3.20	0.209E-02	0.189E-03	4.9	-0.317E-01	0.64E-02
325	1.320	1386	3.24	0.218E-02	0.201E-03	5.0	-0.400E-01	0.80E-02
330	1.335	1411	3.28	0.227E-02	0.215E-03	5.1	-0.494E-01	0.97E-02
335	1.351	1435	3.32	0.238E-02	0.230E-03	5.2	-0.605E-01	0.12E-01
340	1.368	1460	3.37	0.251E-02	0.247E-03	5.3	-0.734E-01	0.14E-01
345	1.385	1486	3.41	0.265E-02	0.266E-03	5.4	-0.882E-01	0.16E-01
350	1.405	1513	3.46	0.281E-02	0.289E-03	5.6	-0.105E+00	0.19E-01
355	1.425	1540	3.50	0.299E-02	0.313E-03	5.7	-0.125E+00	0.22E-01
360	1.446	1568	3.55	0.320E-02	0.341E-03	5.9	-0.149E+00	0.25E-01
365	1.470	1597	3.59	0.344E-02	0.374E-03	6.1	-0.176E+00	0.29E-01
370	1.496	1627	3.64	0.371E-02	0.413E-03	6.3	-0.208E+00	0.33E-01
375	1.525	1658	3.69	0.403E-02	0.459E-03	6.5	-0.245E+00	0.38E-01
380	1.557	1689	3.74	0.439E-02	0.516E-03	6.7	-0.290E+00	0.44E-01
385	1.593	1722	3.79	0.480E-02	0.587E-03	6.9	-0.344E+00	0.50E-01
390	1.634	1756	3.85	0.527E-02	0.677E-03	7.1	-0.408E+00	0.57E-01
395	1.681	1791	3.90	0.582E-02	0.794E-03	7.4	-0.486E+00	0.66E-01
400	1.734	1828	3.96	0.646E-02	0.949E-03	7.7	-0.580E+00	0.75E-01
405	1.801	1866	4.01	0.724E-02	0.119E-02	8.1	-0.704E+00	0.87E-01
410	1.878	1908	4.08	0.809E-02	0.147E-02	8.6	-0.851E+00	0.99E-01
415	1.964	1953	4.14	0.910E-02	0.181E-02	9.1	-0.103E+01	0.11E+00
420	2.064	2000	4.21	0.103E-01	0.224E-02	9.8	-0.127E+01	0.13E+00
425	2.181	2050	4.29	0.119E-01	0.283E-02	10.6	-0.159E+01	0.15E+00
430	2.323	2106	4.37	0.140E-01	0.373E-02	11.7	-0.205E+01	0.18E+00
435	2.503	2167	4.46	0.175E-01	0.534E-02	13.4	-0.285E+01	0.21E+00
440	2.750	2241	4.56	0.255E-01	0.946E-02	17.0	-0.473E+01	0.28E+00

P 420

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.106	842	2.17	0.790E-03	0.691E-04	4.1	0.692E-01	-0.17E-01
205	1.110	861	2.21	0.807E-03	0.728E-04	4.1	0.682E-01	-0.16E-01
210	1.115	881	2.26	0.834E-03	0.764E-04	4.2	0.666E-01	-0.16E-01
215	1.120	901	2.30	0.871E-03	0.799E-04	4.3	0.644E-01	-0.15E-01
220	1.125	921	2.34	0.915E-03	0.833E-04	4.3	0.618E-01	-0.14E-01
225	1.130	942	2.39	0.964E-03	0.865E-04	4.4	0.587E-01	-0.13E-01
230	1.136	963	2.43	0.102E-02	0.897E-04	4.4	0.554E-01	-0.13E-01
235	1.142	984	2.48	0.107E-02	0.928E-04	4.4	0.519E-01	-0.12E-01
240	1.148	1006	2.52	0.113E-02	0.959E-04	4.5	0.481E-01	-0.11E-01
245	1.154	1027	2.56	0.119E-02	0.990E-04	4.5	0.442E-01	-0.98E-02
250	1.161	1049	2.61	0.125E-02	0.102E-03	4.5	0.402E-01	-0.89E-02
255	1.169	1071	2.65	0.131E-02	0.106E-03	4.5	0.362E-01	-0.80E-02
260	1.176	1093	2.69	0.136E-02	0.109E-03	4.5	0.320E-01	-0.70E-02
265	1.185	1115	2.74	0.142E-02	0.113E-03	4.6	0.279E-01	-0.61E-02
270	1.193	1136	2.78	0.148E-02	0.117E-03	4.6	0.237E-01	-0.52E-02
275	1.202	1158	2.82	0.153E-02	0.121E-03	4.6	0.194E-01	-0.42E-02
280	1.211	1180	2.86	0.158E-02	0.125E-03	4.6	0.151E-01	-0.33E-02
285	1.221	1203	2.90	0.164E-02	0.130E-03	4.6	0.107E-01	-0.23E-02
290	1.231	1225	2.95	0.169E-02	0.136E-03	4.6	0.610E-02	-0.13E-02
295	1.242	1247	2.99	0.174E-02	0.142E-03	4.7	0.134E-02	-0.29E-03
300	1.253	1270	3.03	0.180E-02	0.149E-03	4.7	-0.369E-02	0.78E-03
305	1.264	1292	3.07	0.185E-02	0.156E-03	4.7	-0.906E-02	0.19E-02
310	1.276	1315	3.11	0.191E-02	0.165E-03	4.8	-0.149E-01	0.31E-02
315	1.288	1338	3.15	0.198E-02	0.174E-03	4.8	-0.212E-01	0.44E-02
320	1.301	1362	3.19	0.205E-02	0.184E-03	4.9	-0.283E-01	0.58E-02
325	1.315	1385	3.23	0.213E-02	0.195E-03	5.0	-0.362E-01	0.73E-02
330	1.330	1410	3.28	0.222E-02	0.208E-03	5.1	-0.451E-01	0.89E-02
335	1.345	1434	3.32	0.232E-02	0.222E-03	5.2	-0.555E-01	0.11E-01
340	1.361	1459	3.36	0.244E-02	0.238E-03	5.3	-0.674E-01	0.13E-01
345	1.378	1485	3.40	0.257E-02	0.255E-03	5.4	-0.812E-01	0.15E-01
350	1.397	1511	3.45	0.272E-02	0.276E-03	5.5	-0.970E-01	0.18E-01
355	1.416	1538	3.49	0.289E-02	0.298E-03	5.6	-0.115E+00	0.20E-01
360	1.437	1565	3.54	0.308E-02	0.323E-03	5.8	-0.136E+00	0.24E-01
365	1.460	1594	3.58	0.330E-02	0.351E-03	6.0	-0.161E+00	0.27E-01
370	1.484	1623	3.63	0.354E-02	0.385E-03	6.1	-0.190E+00	0.31E-01
375	1.512	1653	3.68	0.382E-02	0.425E-03	6.3	-0.223E+00	0.35E-01
380	1.542	1684	3.73	0.413E-02	0.473E-03	6.5	-0.262E+00	0.40E-01
385	1.575	1715	3.78	0.449E-02	0.533E-03	6.7	-0.308E+00	0.46E-01
390	1.613	1748	3.83	0.490E-02	0.608E-03	6.9	-0.362E+00	0.53E-01
395	1.655	1782	3.88	0.535E-02	0.704E-03	7.1	-0.426E+00	0.60E-01
400	1.703	1817	3.94	0.586E-02	0.827E-03	7.3	-0.502E+00	0.68E-01
405	1.762	1853	3.99	0.647E-02	0.102E-02	7.6	-0.597E+00	0.78E-01
410	1.828	1893	4.05	0.711E-02	0.123E-02	8.0	-0.705E+00	0.88E-01
415	1.901	1934	4.11	0.782E-02	0.147E-02	8.4	-0.833E+00	0.99E-01
420	1.984	1978	4.17	0.862E-02	0.175E-02	8.9	-0.987E+00	0.11E+00
425	2.078	2023	4.24	0.953E-02	0.208E-02	9.4	-0.117E+01	0.13E+00
430	2.186	2072	4.31	0.106E-01	0.252E-02	10.0	-0.141E+01	0.14E+00
435	2.314	2124	4.39	0.119E-01	0.312E-02	10.8	-0.172E+01	0.16E+00
440	2.469	2179	4.47	0.137E-01	0.407E-02	11.8	-0.217E+01	0.18E+00
445	2.661	2240	4.56	0.166E-01	0.581E-02	13.2	-0.291E+01	0.22E+00

P 440

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.104	843	2.17	0.780E-03	0.685E-04	4.1	0.697E-01	-0.17E-01
205	1.109	862	2.21	0.795E-03	0.722E-04	4.1	0.687E-01	-0.17E-01
210	1.113	882	2.25	0.822E-03	0.757E-04	4.2	0.671E-01	-0.16E-01
215	1.118	902	2.30	0.858E-03	0.791E-04	4.3	0.650E-01	-0.15E-01
220	1.123	923	2.34	0.901E-03	0.824E-04	4.3	0.624E-01	-0.14E-01
225	1.128	943	2.39	0.950E-03	0.855E-04	4.4	0.594E-01	-0.14E-01
230	1.134	964	2.43	0.100E-02	0.886E-04	4.4	0.562E-01	-0.13E-01
235	1.139	986	2.47	0.106E-02	0.917E-04	4.4	0.527E-01	-0.12E-01
240	1.146	1007	2.52	0.112E-02	0.947E-04	4.5	0.490E-01	-0.11E-01
245	1.152	1028	2.56	0.117E-02	0.977E-04	4.5	0.452E-01	-0.10E-01
250	1.159	1050	2.60	0.123E-02	0.101E-03	4.5	0.412E-01	-0.92E-02
255	1.166	1072	2.65	0.129E-02	0.104E-03	4.5	0.372E-01	-0.82E-02
260	1.174	1093	2.69	0.135E-02	0.107E-03	4.5	0.332E-01	-0.73E-02
265	1.182	1115	2.73	0.140E-02	0.111E-03	4.5	0.291E-01	-0.64E-02
270	1.190	1137	2.77	0.146E-02	0.115E-03	4.6	0.249E-01	-0.55E-02
275	1.199	1159	2.82	0.151E-02	0.119E-03	4.6	0.208E-01	-0.45E-02
280	1.208	1181	2.86	0.156E-02	0.123E-03	4.6	0.166E-01	-0.36E-02
285	1.218	1203	2.90	0.161E-02	0.128E-03	4.6	0.123E-01	-0.27E-02
290	1.228	1225	2.94	0.166E-02	0.133E-03	4.6	0.784E-02	-0.17E-02
295	1.238	1247	2.98	0.171E-02	0.139E-03	4.7	0.324E-02	-0.69E-03
300	1.249	1270	3.02	0.177E-02	0.146E-03	4.7	-0.161E-02	0.34E-03
305	1.260	1292	3.06	0.182E-02	0.153E-03	4.7	-0.677E-02	0.14E-02
310	1.272	1315	3.10	0.188E-02	0.161E-03	4.8	-0.123E-01	0.26E-02
315	1.284	1338	3.15	0.194E-02	0.169E-03	4.8	-0.184E-01	0.38E-02
320	1.297	1361	3.19	0.201E-02	0.179E-03	4.9	-0.251E-01	0.51E-02
325	1.310	1385	3.23	0.209E-02	0.189E-03	5.0	-0.326E-01	0.66E-02
330	1.324	1409	3.27	0.217E-02	0.201E-03	5.0	-0.410E-01	0.81E-02
335	1.339	1433	3.31	0.227E-02	0.214E-03	5.1	-0.508E-01	0.99E-02
340	1.355	1458	3.35	0.238E-02	0.229E-03	5.2	-0.619E-01	0.12E-01
345	1.371	1483	3.40	0.250E-02	0.245E-03	5.3	-0.747E-01	0.14E-01
350	1.389	1509	3.44	0.264E-02	0.264E-03	5.4	-0.894E-01	0.16E-01
355	1.408	1535	3.48	0.279E-02	0.284E-03	5.6	-0.106E+00	0.19E-01
360	1.428	1563	3.53	0.297E-02	0.306E-03	5.7	-0.126E+00	0.22E-01
365	1.450	1591	3.57	0.317E-02	0.332E-03	5.9	-0.148E+00	0.25E-01
370	1.474	1619	3.62	0.339E-02	0.361E-03	6.0	-0.174E+00	0.29E-01
375	1.499	1649	3.67	0.364E-02	0.396E-03	6.2	-0.204E+00	0.33E-01
380	1.528	1679	3.72	0.392E-02	0.438E-03	6.3	-0.238E+00	0.38E-01
385	1.559	1709	3.76	0.423E-02	0.489E-03	6.5	-0.278E+00	0.43E-01
390	1.594	1741	3.81	0.458E-02	0.553E-03	6.6	-0.325E+00	0.49E-01
395	1.633	1774	3.86	0.497E-02	0.633E-03	6.8	-0.379E+00	0.56E-01
400	1.676	1808	3.92	0.540E-02	0.734E-03	7.0	-0.442E+00	0.63E-01
405	1.728	1842	3.97	0.589E-02	0.891E-03	7.2	-0.517E+00	0.71E-01
410	1.786	1880	4.02	0.639E-02	0.106E-02	7.6	-0.601E+00	0.80E-01
415	1.850	1919	4.08	0.694E-02	0.124E-02	7.9	-0.699E+00	0.89E-01
420	1.920	1960	4.14	0.753E-02	0.144E-02	8.2	-0.811E+00	0.98E-01
425	1.999	2002	4.21	0.817E-02	0.167E-02	8.7	-0.941E+00	0.11E+00
430	2.088	2047	4.27	0.887E-02	0.193E-02	9.1	-0.109E+01	0.12E+00
435	2.190	2094	4.34	0.964E-02	0.226E-02	9.7	-0.128E+01	0.13E+00
440	2.306	2143	4.41	0.105E-01	0.270E-02	10.3	-0.150E+01	0.15E+00
445	2.441	2195	4.49	0.116E-01	0.332E-02	11.1	-0.179E+01	0.16E+00
450	2.599	2250	4.56	0.130E-01	0.430E-02	12.1	-0.218E+01	0.18E+00
455	2.787	2308	4.65	0.151E-01	0.607E-02	13.4	-0.279E+01	0.21E+00

P 460

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.103	845	2.17	0.770E-03	0.679E-04	4.1	0.701E-01	-0.17E-01
205	1.107	864	2.21	0.784E-03	0.715E-04	4.1	0.692E-01	-0.17E-01
210	1.112	884	2.25	0.810E-03	0.749E-04	4.2	0.677E-01	-0.16E-01
215	1.116	904	2.30	0.845E-03	0.783E-04	4.3	0.656E-01	-0.15E-01
220	1.121	924	2.34	0.888E-03	0.815E-04	4.3	0.630E-01	-0.15E-01
225	1.126	945	2.38	0.936E-03	0.846E-04	4.4	0.601E-01	-0.14E-01
230	1.132	965	2.43	0.988E-03	0.876E-04	4.4	0.569E-01	-0.13E-01
235	1.137	987	2.47	0.104E-02	0.906E-04	4.4	0.535E-01	-0.12E-01
240	1.143	1008	2.51	0.110E-02	0.935E-04	4.4	0.498E-01	-0.11E-01
245	1.150	1029	2.56	0.116E-02	0.965E-04	4.5	0.460E-01	-0.10E-01
250	1.157	1051	2.60	0.121E-02	0.995E-04	4.5	0.422E-01	-0.94E-02
255	1.164	1072	2.64	0.127E-02	0.103E-03	4.5	0.382E-01	-0.85E-02
260	1.171	1094	2.69	0.133E-02	0.106E-03	4.5	0.342E-01	-0.76E-02
265	1.179	1116	2.73	0.138E-02	0.109E-03	4.5	0.302E-01	-0.67E-02
270	1.187	1137	2.77	0.144E-02	0.113E-03	4.5	0.262E-01	-0.58E-02
275	1.196	1159	2.81	0.149E-02	0.117E-03	4.6	0.221E-01	-0.49E-02
280	1.205	1181	2.85	0.154E-02	0.121E-03	4.6	0.180E-01	-0.39E-02
285	1.215	1203	2.90	0.159E-02	0.126E-03	4.6	0.138E-01	-0.30E-02
290	1.224	1225	2.94	0.164E-02	0.131E-03	4.6	0.950E-02	-0.21E-02
295	1.235	1247	2.98	0.169E-02	0.136E-03	4.6	0.505E-02	-0.11E-02
300	1.245	1269	3.02	0.174E-02	0.143E-03	4.7	0.374E-03	-0.80E-04
305	1.256	1292	3.06	0.179E-02	0.149E-03	4.7	-0.459E-02	0.98E-03
310	1.268	1315	3.10	0.185E-02	0.157E-03	4.7	-0.993E-02	0.21E-02
315	1.280	1337	3.14	0.191E-02	0.165E-03	4.8	-0.157E-01	0.33E-02
320	1.292	1361	3.18	0.197E-02	0.174E-03	4.9	-0.221E-01	0.46E-02
325	1.305	1384	3.22	0.205E-02	0.184E-03	4.9	-0.293E-01	0.59E-02
330	1.319	1408	3.26	0.213E-02	0.195E-03	5.0	-0.373E-01	0.74E-02
335	1.333	1432	3.31	0.222E-02	0.207E-03	5.1	-0.464E-01	0.91E-02
340	1.349	1457	3.35	0.232E-02	0.221E-03	5.2	-0.569E-01	0.11E-01
345	1.365	1482	3.39	0.243E-02	0.236E-03	5.3	-0.688E-01	0.13E-01
350	1.382	1507	3.43	0.256E-02	0.253E-03	5.4	-0.825E-01	0.15E-01
355	1.400	1533	3.48	0.271E-02	0.271E-03	5.5	-0.981E-01	0.18E-01
360	1.420	1560	3.52	0.287E-02	0.291E-03	5.6	-0.116E+00	0.21E-01
365	1.441	1588	3.57	0.305E-02	0.314E-03	5.8	-0.136E+00	0.24E-01
370	1.463	1616	3.61	0.325E-02	0.340E-03	5.9	-0.160E+00	0.27E-01
375	1.488	1645	3.66	0.348E-02	0.371E-03	6.0	-0.187E+00	0.31E-01
380	1.515	1674	3.70	0.373E-02	0.408E-03	6.2	-0.218E+00	0.35E-01
385	1.545	1704	3.75	0.401E-02	0.452E-03	6.3	-0.253E+00	0.40E-01
390	1.577	1735	3.80	0.432E-02	0.507E-03	6.5	-0.294E+00	0.46E-01
395	1.613	1766	3.85	0.465E-02	0.575E-03	6.6	-0.340E+00	0.52E-01
400	1.653	1799	3.90	0.502E-02	0.661E-03	6.8	-0.393E+00	0.58E-01
405	1.699	1832	3.95	0.543E-02	0.795E-03	7.0	-0.455E+00	0.65E-01
410	1.750	1868	4.00	0.585E-02	0.935E-03	7.2	-0.524E+00	0.73E-01
415	1.806	1906	4.06	0.629E-02	0.108E-02	7.5	-0.602E+00	0.80E-01
420	1.868	1945	4.12	0.677E-02	0.123E-02	7.8	-0.689E+00	0.88E-01
425	1.936	1985	4.18	0.726E-02	0.140E-02	8.1	-0.788E+00	0.97E-01
430	2.012	2027	4.24	0.779E-02	0.158E-02	8.5	-0.900E+00	0.11E+00
435	2.096	2071	4.30	0.834E-02	0.180E-02	9.0	-0.103E+01	0.11E+00
440	2.191	2117	4.37	0.892E-02	0.206E-02	9.5	-0.117E+01	0.12E+00
445	2.298	2164	4.44	0.955E-02	0.239E-02	10.2	-0.135E+01	0.13E+00
450	2.418	2213	4.51	0.102E-01	0.283E-02	11.0	-0.155E+01	0.14E+00
455	2.553	2264	4.58	0.110E-01	0.347E-02	12.1	-0.179E+01	0.15E+00
460	2.705	2316	4.65	0.120E-01	0.442E-02	13.5	-0.210E+01	0.16E+00
465	2.874	2371	4.73	0.131E-01	0.600E-02	15.4	-0.250E+01	0.16E+00

P 480

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.101	846	2.16	0.760E-03	0.673E-04	4.1	0.705E-01	-0.17E-01
205	1.106	865	2.21	0.774E-03	0.708E-04	4.1	0.697E-01	-0.17E-01
210	1.110	885	2.25	0.799E-03	0.742E-04	4.2	0.682E-01	-0.16E-01
215	1.115	905	2.29	0.833E-03	0.775E-04	4.3	0.661E-01	-0.16E-01
220	1.119	925	2.34	0.875E-03	0.806E-04	4.3	0.637E-01	-0.15E-01
225	1.124	946	2.38	0.922E-03	0.837E-04	4.3	0.608E-01	-0.14E-01
230	1.130	967	2.43	0.973E-03	0.866E-04	4.4	0.576E-01	-0.13E-01
235	1.135	988	2.47	0.103E-02	0.895E-04	4.4	0.542E-01	-0.12E-01
240	1.141	1009	2.51	0.108E-02	0.924E-04	4.4	0.506E-01	-0.11E-01
245	1.148	1030	2.56	0.114E-02	0.952E-04	4.5	0.469E-01	-0.11E-01
250	1.154	1052	2.60	0.120E-02	0.982E-04	4.5	0.431E-01	-0.96E-02
255	1.161	1073	2.64	0.125E-02	0.101E-03	4.5	0.392E-01	-0.87E-02
260	1.169	1095	2.68	0.131E-02	0.104E-03	4.5	0.353E-01	-0.78E-02
265	1.177	1116	2.73	0.136E-02	0.108E-03	4.5	0.313E-01	-0.69E-02
270	1.185	1138	2.77	0.142E-02	0.111E-03	4.5	0.274E-01	-0.60E-02
275	1.193	1160	2.81	0.147E-02	0.115E-03	4.5	0.234E-01	-0.51E-02
280	1.202	1182	2.85	0.152E-02	0.119E-03	4.6	0.193E-01	-0.42E-02
285	1.211	1203	2.89	0.157E-02	0.124E-03	4.6	0.153E-01	-0.33E-02
290	1.221	1225	2.93	0.161E-02	0.128E-03	4.6	0.111E-01	-0.24E-02
295	1.231	1247	2.97	0.166E-02	0.134E-03	4.6	0.677E-02	-0.15E-02
300	1.242	1270	3.01	0.171E-02	0.140E-03	4.7	0.226E-02	-0.49E-03
305	1.252	1292	3.05	0.176E-02	0.146E-03	4.7	-0.252E-02	0.54E-03
310	1.264	1314	3.10	0.182E-02	0.153E-03	4.7	-0.765E-02	0.16E-02
315	1.275	1337	3.14	0.188E-02	0.161E-03	4.8	-0.132E-01	0.28E-02
320	1.288	1360	3.18	0.194E-02	0.170E-03	4.8	-0.194E-01	0.40E-02
325	1.300	1384	3.22	0.201E-02	0.179E-03	4.9	-0.262E-01	0.53E-02
330	1.314	1407	3.26	0.208E-02	0.189E-03	5.0	-0.338E-01	0.68E-02
335	1.328	1431	3.30	0.217E-02	0.201E-03	5.0	-0.424E-01	0.84E-02
340	1.343	1455	3.34	0.227E-02	0.213E-03	5.1	-0.522E-01	0.10E-01
345	1.358	1480	3.38	0.237E-02	0.227E-03	5.2	-0.634E-01	0.12E-01
350	1.375	1505	3.43	0.249E-02	0.243E-03	5.3	-0.761E-01	0.14E-01
355	1.393	1531	3.47	0.263E-02	0.260E-03	5.4	-0.907E-01	0.17E-01
360	1.412	1558	3.51	0.278E-02	0.278E-03	5.6	-0.107E+00	0.19E-01
365	1.432	1585	3.56	0.295E-02	0.298E-03	5.7	-0.126E+00	0.22E-01
370	1.454	1613	3.60	0.313E-02	0.322E-03	5.8	-0.148E+00	0.25E-01
375	1.477	1641	3.65	0.334E-02	0.349E-03	5.9	-0.172E+00	0.29E-01
380	1.503	1670	3.69	0.357E-02	0.382E-03	6.1	-0.200E+00	0.33E-01
385	1.531	1699	3.74	0.382E-02	0.421E-03	6.2	-0.232E+00	0.38E-01
390	1.562	1729	3.79	0.409E-02	0.469E-03	6.3	-0.267E+00	0.42E-01
395	1.595	1760	3.83	0.439E-02	0.528E-03	6.4	-0.308E+00	0.48E-01
400	1.632	1792	3.88	0.471E-02	0.602E-03	6.6	-0.354E+00	0.54E-01
405	1.673	1823	3.93	0.505E-02	0.718E-03	6.7	-0.406E+00	0.60E-01
410	1.719	1859	3.98	0.541E-02	0.838E-03	6.9	-0.463E+00	0.67E-01
415	1.769	1895	4.04	0.579E-02	0.958E-03	7.2	-0.528E+00	0.73E-01
420	1.823	1932	4.09	0.619E-02	0.108E-02	7.5	-0.600E+00	0.80E-01
425	1.883	1970	4.15	0.660E-02	0.121E-02	7.8	-0.679E+00	0.88E-01
430	1.949	2011	4.21	0.703E-02	0.135E-02	8.1	-0.768E+00	0.95E-01
435	2.022	2052	4.27	0.746E-02	0.150E-02	8.5	-0.866E+00	0.10E+00
440	2.102	2096	4.33	0.791E-02	0.168E-02	9.0	-0.976E+00	0.11E+00
445	2.191	2140	4.40	0.838E-02	0.189E-02	9.6	-0.110E+01	0.11E+00
450	2.289	2186	4.46	0.885E-02	0.216E-02	10.3	-0.124E+01	0.12E+00
455	2.398	2232	4.53	0.934E-02	0.250E-02	11.3	-0.139E+01	0.12E+00
460	2.517	2280	4.60	0.984E-02	0.295E-02	12.7	-0.156E+01	0.12E+00
465	2.647	2330	4.67	0.103E-01	0.354E-02	14.7	-0.176E+01	0.12E+00
470	2.788	2386	4.74	0.108E-01	0.435E-02	17.5	-0.196E+01	0.11E+00

P 500

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.100	847	2.16	0.750E-03	0.667E-04	4.1	0.709E-01	-0.17E-01
205	1.104	867	2.21	0.763E-03	0.702E-04	4.1	0.701E-01	-0.17E-01
210	1.108	886	2.25	0.787E-03	0.735E-04	4.2	0.687E-01	-0.16E-01
215	1.113	906	2.29	0.821E-03	0.767E-04	4.2	0.667E-01	-0.16E-01
220	1.118	927	2.34	0.862E-03	0.798E-04	4.3	0.643E-01	-0.15E-01
225	1.123	947	2.38	0.909E-03	0.827E-04	4.3	0.615E-01	-0.14E-01
230	1.128	968	2.42	0.959E-03	0.856E-04	4.4	0.583E-01	-0.13E-01
235	1.133	989	2.47	0.101E-02	0.884E-04	4.4	0.550E-01	-0.13E-01
240	1.139	1010	2.51	0.107E-02	0.912E-04	4.4	0.514E-01	-0.12E-01
245	1.145	1031	2.55	0.113E-02	0.940E-04	4.4	0.478E-01	-0.11E-01
250	1.152	1052	2.60	0.118E-02	0.969E-04	4.5	0.440E-01	-0.99E-02
255	1.159	1074	2.64	0.124E-02	0.998E-04	4.5	0.401E-01	-0.90E-02
260	1.166	1095	2.68	0.129E-02	0.103E-03	4.5	0.363E-01	-0.81E-02
265	1.174	1117	2.72	0.135E-02	0.106E-03	4.5	0.324E-01	-0.72E-02
270	1.182	1139	2.76	0.140E-02	0.109E-03	4.5	0.285E-01	-0.63E-02
275	1.191	1160	2.81	0.145E-02	0.113E-03	4.5	0.246E-01	-0.54E-02
280	1.199	1182	2.85	0.150E-02	0.117E-03	4.5	0.207E-01	-0.46E-02
285	1.208	1204	2.89	0.154E-02	0.121E-03	4.6	0.167E-01	-0.37E-02
290	1.218	1226	2.93	0.159E-02	0.126E-03	4.6	0.126E-01	-0.28E-02
295	1.228	1248	2.97	0.164E-02	0.131E-03	4.6	0.842E-02	-0.18E-02
300	1.238	1270	3.01	0.169E-02	0.137E-03	4.6	0.405E-02	-0.87E-03
305	1.249	1292	3.05	0.174E-02	0.143E-03	4.7	-0.559E-03	0.12E-03
310	1.260	1314	3.09	0.179E-02	0.150E-03	4.7	-0.550E-02	0.12E-02
315	1.271	1337	3.13	0.185E-02	0.157E-03	4.8	-0.108E-01	0.23E-02
320	1.283	1360	3.17	0.191E-02	0.165E-03	4.8	-0.167E-01	0.35E-02
325	1.296	1383	3.21	0.197E-02	0.174E-03	4.9	-0.232E-01	0.48E-02
330	1.309	1407	3.25	0.204E-02	0.184E-03	4.9	-0.305E-01	0.62E-02
335	1.323	1430	3.29	0.213E-02	0.195E-03	5.0	-0.387E-01	0.77E-02
340	1.337	1454	3.34	0.222E-02	0.206E-03	5.1	-0.479E-01	0.94E-02
345	1.352	1479	3.38	0.232E-02	0.219E-03	5.2	-0.584E-01	0.11E-01
350	1.369	1504	3.42	0.243E-02	0.234E-03	5.3	-0.703E-01	0.13E-01
355	1.386	1530	3.46	0.256E-02	0.249E-03	5.4	-0.839E-01	0.16E-01
360	1.404	1556	3.50	0.270E-02	0.266E-03	5.5	-0.993E-01	0.18E-01
365	1.424	1583	3.55	0.285E-02	0.284E-03	5.6	-0.117E+00	0.21E-01
370	1.445	1610	3.59	0.302E-02	0.305E-03	5.7	-0.137E+00	0.24E-01
375	1.467	1638	3.64	0.321E-02	0.330E-03	5.8	-0.159E+00	0.27E-01
380	1.492	1666	3.68	0.342E-02	0.359E-03	5.9	-0.184E+00	0.31E-01
385	1.518	1695	3.73	0.365E-02	0.394E-03	6.0	-0.213E+00	0.35E-01
390	1.547	1724	3.77	0.389E-02	0.436E-03	6.1	-0.245E+00	0.40E-01
395	1.579	1754	3.82	0.415E-02	0.488E-03	6.3	-0.280E+00	0.45E-01
400	1.613	1785	3.87	0.444E-02	0.554E-03	6.4	-0.320E+00	0.50E-01
405	1.650	1816	3.91	0.474E-02	0.656E-03	6.5	-0.365E+00	0.56E-01
410	1.691	1850	3.97	0.505E-02	0.760E-03	6.7	-0.414E+00	0.62E-01
415	1.736	1885	4.02	0.538E-02	0.863E-03	6.9	-0.469E+00	0.68E-01
420	1.784	1921	4.07	0.573E-02	0.966E-03	7.2	-0.530E+00	0.74E-01
425	1.838	1958	4.13	0.608E-02	0.107E-02	7.4	-0.597E+00	0.80E-01
430	1.896	1996	4.18	0.645E-02	0.118E-02	7.8	-0.670E+00	0.86E-01
435	1.960	2036	4.24	0.682E-02	0.130E-02	8.1	-0.751E+00	0.92E-01
440	2.030	2078	4.30	0.720E-02	0.143E-02	8.6	-0.840E+00	0.98E-01
445	2.106	2120	4.36	0.758E-02	0.158E-02	9.1	-0.937E+00	0.10E+00
450	2.190	2163	4.43	0.796E-02	0.177E-02	9.9	-0.104E+01	0.11E+00
455	2.282	2207	4.49	0.834E-02	0.198E-02	10.8	-0.116E+01	0.11E+00
460	2.381	2252	4.55	0.871E-02	0.226E-02	12.1	-0.128E+01	0.11E+00
465	2.489	2299	4.62	0.907E-02	0.259E-02	14.1	-0.142E+01	0.10E+00
470	2.607	2351	4.69	0.942E-02	0.299E-02	16.9	-0.156E+01	0.93E-01

P 520

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.098	849	2.16	0.740E-03	0.662E-04	4.1	0.714E-01	-0.18E-01
205	1.102	868	2.20	0.753E-03	0.696E-04	4.1	0.706E-01	-0.17E-01
210	1.107	888	2.25	0.776E-03	0.728E-04	4.2	0.692E-01	-0.17E-01
215	1.111	908	2.29	0.809E-03	0.760E-04	4.2	0.672E-01	-0.16E-01
220	1.116	928	2.33	0.849E-03	0.790E-04	4.3	0.649E-01	-0.15E-01
225	1.121	948	2.38	0.895E-03	0.819E-04	4.3	0.621E-01	-0.14E-01
230	1.126	969	2.42	0.946E-03	0.847E-04	4.3	0.590E-01	-0.14E-01
235	1.131	990	2.46	0.999E-03	0.874E-04	4.4	0.557E-01	-0.13E-01
240	1.137	1011	2.51	0.105E-02	0.901E-04	4.4	0.522E-01	-0.12E-01
245	1.143	1032	2.55	0.111E-02	0.929E-04	4.4	0.486E-01	-0.11E-01
250	1.150	1053	2.59	0.117E-02	0.956E-04	4.4	0.448E-01	-0.10E-01
255	1.157	1075	2.64	0.122E-02	0.985E-04	4.5	0.411E-01	-0.92E-02
260	1.164	1096	2.68	0.128E-02	0.101E-03	4.5	0.373E-01	-0.83E-02
265	1.172	1118	2.72	0.133E-02	0.105E-03	4.5	0.334E-01	-0.75E-02
270	1.180	1139	2.76	0.138E-02	0.108E-03	4.5	0.296E-01	-0.66E-02
275	1.188	1161	2.80	0.143E-02	0.111E-03	4.5	0.258E-01	-0.57E-02
280	1.196	1182	2.84	0.148E-02	0.115E-03	4.5	0.219E-01	-0.48E-02
285	1.206	1204	2.88	0.152E-02	0.119E-03	4.5	0.180E-01	-0.40E-02
290	1.215	1226	2.93	0.157E-02	0.124E-03	4.6	0.141E-01	-0.31E-02
295	1.225	1248	2.97	0.162E-02	0.129E-03	4.6	0.100E-01	-0.22E-02
300	1.235	1270	3.01	0.166E-02	0.134E-03	4.6	0.577E-02	-0.12E-02
305	1.245	1292	3.05	0.171E-02	0.140E-03	4.6	0.131E-02	-0.28E-03
310	1.256	1314	3.09	0.176E-02	0.147E-03	4.7	-0.345E-02	0.74E-03
315	1.267	1337	3.13	0.182E-02	0.154E-03	4.7	-0.860E-02	0.18E-02
320	1.279	1359	3.17	0.187E-02	0.161E-03	4.8	-0.142E-01	0.30E-02
325	1.291	1383	3.21	0.194E-02	0.170E-03	4.8	-0.205E-01	0.42E-02
330	1.304	1406	3.25	0.201E-02	0.179E-03	4.9	-0.274E-01	0.56E-02
335	1.318	1430	3.29	0.208E-02	0.189E-03	5.0	-0.352E-01	0.71E-02
340	1.332	1454	3.33	0.217E-02	0.200E-03	5.1	-0.439E-01	0.87E-02
345	1.347	1478	3.37	0.226E-02	0.212E-03	5.1	-0.538E-01	0.10E-01
350	1.362	1503	3.41	0.237E-02	0.225E-03	5.2	-0.650E-01	0.12E-01
355	1.379	1528	3.45	0.249E-02	0.239E-03	5.3	-0.777E-01	0.15E-01
360	1.397	1554	3.50	0.262E-02	0.255E-03	5.4	-0.920E-01	0.17E-01
365	1.416	1580	3.54	0.277E-02	0.271E-03	5.5	-0.108E+00	0.20E-01
370	1.436	1607	3.58	0.293E-02	0.291E-03	5.6	-0.127E+00	0.22E-01
375	1.458	1635	3.63	0.310E-02	0.313E-03	5.7	-0.147E+00	0.26E-01
380	1.482	1663	3.67	0.329E-02	0.339E-03	5.8	-0.170E+00	0.29E-01
385	1.507	1691	3.72	0.350E-02	0.370E-03	5.9	-0.196E+00	0.33E-01
390	1.534	1719	3.76	0.372E-02	0.408E-03	6.0	-0.225E+00	0.37E-01
395	1.564	1749	3.81	0.395E-02	0.455E-03	6.1	-0.257E+00	0.42E-01
400	1.596	1779	3.85	0.420E-02	0.513E-03	6.2	-0.292E+00	0.47E-01
405	1.629	1809	3.90	0.446E-02	0.605E-03	6.3	-0.330E+00	0.52E-01
410	1.666	1842	3.95	0.475E-02	0.697E-03	6.5	-0.374E+00	0.57E-01
415	1.706	1876	4.00	0.504E-02	0.787E-03	6.7	-0.421E+00	0.63E-01
420	1.750	1911	4.05	0.535E-02	0.875E-03	6.9	-0.474E+00	0.68E-01
425	1.798	1947	4.10	0.567E-02	0.964E-03	7.2	-0.532E+00	0.74E-01
430	1.850	1984	4.16	0.599E-02	0.105E-02	7.5	-0.595E+00	0.80E-01
435	1.907	2022	4.22	0.633E-02	0.115E-02	7.8	-0.664E+00	0.85E-01
440	1.969	2062	4.27	0.666E-02	0.125E-02	8.2	-0.738E+00	0.90E-01
445	2.036	2103	4.33	0.700E-02	0.137E-02	8.8	-0.819E+00	0.93E-01
450	2.109	2144	4.39	0.732E-02	0.150E-02	9.5	-0.906E+00	0.96E-01
455	2.189	2186	4.45	0.764E-02	0.166E-02	10.4	-0.999E+00	0.96E-01
460	2.275	2228	4.51	0.796E-02	0.185E-02	11.7	-0.110E+01	0.94E-01
465	2.369	2273	4.58	0.826E-02	0.207E-02	13.5	-0.121E+01	0.89E-01
470	2.471	2323	4.65	0.858E-02	0.233E-02	16.3	-0.133E+01	0.82E-01

P 540

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.097	850	2.16	0.731E-03	0.656E-04	4.1	0.717E-01	-0.18E-01
205	1.101	869	2.20	0.742E-03	0.689E-04	4.1	0.710E-01	-0.17E-01
210	1.105	889	2.25	0.765E-03	0.721E-04	4.2	0.697E-01	-0.17E-01
215	1.110	909	2.29	0.797E-03	0.752E-04	4.2	0.678E-01	-0.16E-01
220	1.114	929	2.33	0.837E-03	0.782E-04	4.3	0.654E-01	-0.15E-01
225	1.119	950	2.38	0.883E-03	0.810E-04	4.3	0.627E-01	-0.15E-01
230	1.124	970	2.42	0.932E-03	0.837E-04	4.3	0.597E-01	-0.14E-01
235	1.129	991	2.46	0.985E-03	0.864E-04	4.4	0.564E-01	-0.13E-01
240	1.135	1012	2.50	0.104E-02	0.891E-04	4.4	0.529E-01	-0.12E-01
245	1.141	1033	2.55	0.110E-02	0.917E-04	4.4	0.494E-01	-0.11E-01
250	1.148	1054	2.59	0.115E-02	0.944E-04	4.4	0.457E-01	-0.10E-01
255	1.154	1076	2.63	0.121E-02	0.972E-04	4.4	0.419E-01	-0.94E-02
260	1.162	1097	2.67	0.126E-02	0.100E-03	4.5	0.382E-01	-0.86E-02
265	1.169	1118	2.72	0.131E-02	0.103E-03	4.5	0.344E-01	-0.77E-02
270	1.177	1140	2.76	0.136E-02	0.106E-03	4.5	0.307E-01	-0.68E-02
275	1.185	1161	2.80	0.141E-02	0.110E-03	4.5	0.269E-01	-0.60E-02
280	1.194	1183	2.84	0.146E-02	0.113E-03	4.5	0.231E-01	-0.51E-02
285	1.203	1204	2.88	0.150E-02	0.117E-03	4.5	0.193E-01	-0.43E-02
290	1.212	1226	2.92	0.155E-02	0.122E-03	4.5	0.155E-01	-0.34E-02
295	1.221	1248	2.96	0.159E-02	0.127E-03	4.6	0.115E-01	-0.25E-02
300	1.231	1270	3.00	0.164E-02	0.132E-03	4.6	0.740E-02	-0.16E-02
305	1.242	1292	3.04	0.169E-02	0.137E-03	4.6	0.309E-02	-0.67E-03
310	1.252	1314	3.08	0.174E-02	0.144E-03	4.7	-0.151E-02	0.32E-03
315	1.264	1337	3.12	0.179E-02	0.150E-03	4.7	-0.647E-02	0.14E-02
320	1.275	1359	3.16	0.184E-02	0.158E-03	4.8	-0.119E-01	0.25E-02
325	1.287	1382	3.20	0.190E-02	0.166E-03	4.8	-0.179E-01	0.37E-02
330	1.300	1406	3.24	0.197E-02	0.174E-03	4.9	-0.246E-01	0.50E-02
335	1.313	1429	3.28	0.204E-02	0.184E-03	4.9	-0.319E-01	0.65E-02
340	1.326	1453	3.32	0.213E-02	0.194E-03	5.0	-0.402E-01	0.80E-02
345	1.341	1477	3.36	0.222E-02	0.205E-03	5.1	-0.495E-01	0.97E-02
350	1.356	1501	3.41	0.232E-02	0.218E-03	5.2	-0.600E-01	0.12E-01
355	1.373	1527	3.45	0.243E-02	0.230E-03	5.3	-0.720E-01	0.14E-01
360	1.390	1552	3.49	0.255E-02	0.244E-03	5.4	-0.854E-01	0.16E-01
365	1.408	1578	3.53	0.269E-02	0.260E-03	5.5	-0.101E+00	0.18E-01
370	1.428	1605	3.58	0.284E-02	0.277E-03	5.6	-0.118E+00	0.21E-01
375	1.449	1632	3.62	0.300E-02	0.297E-03	5.7	-0.137E+00	0.24E-01
380	1.472	1659	3.66	0.317E-02	0.321E-03	5.7	-0.158E+00	0.27E-01
385	1.496	1687	3.71	0.336E-02	0.349E-03	5.8	-0.181E+00	0.31E-01
390	1.522	1715	3.75	0.356E-02	0.383E-03	5.9	-0.207E+00	0.35E-01
395	1.550	1744	3.80	0.377E-02	0.426E-03	6.0	-0.236E+00	0.39E-01
400	1.580	1773	3.84	0.400E-02	0.478E-03	6.1	-0.267E+00	0.44E-01
405	1.610	1802	3.89	0.423E-02	0.562E-03	6.2	-0.301E+00	0.49E-01
410	1.643	1835	3.93	0.449E-02	0.645E-03	6.4	-0.339E+00	0.53E-01
415	1.680	1868	3.98	0.475E-02	0.724E-03	6.5	-0.381E+00	0.58E-01
420	1.719	1902	4.03	0.503E-02	0.802E-03	6.7	-0.428E+00	0.63E-01
425	1.762	1936	4.09	0.532E-02	0.878E-03	7.0	-0.478E+00	0.69E-01
430	1.809	1973	4.14	0.562E-02	0.955E-03	7.2	-0.534E+00	0.74E-01
435	1.860	2010	4.19	0.592E-02	0.103E-02	7.6	-0.594E+00	0.79E-01
440	1.916	2048	4.25	0.623E-02	0.112E-02	8.0	-0.659E+00	0.83E-01
445	1.976	2087	4.31	0.653E-02	0.121E-02	8.5	-0.729E+00	0.86E-01
450	2.041	2127	4.36	0.683E-02	0.132E-02	9.1	-0.803E+00	0.88E-01
455	2.111	2167	4.42	0.711E-02	0.144E-02	10.0	-0.883E+00	0.88E-01
460	2.188	2208	4.48	0.739E-02	0.158E-02	11.2	-0.967E+00	0.86E-01
465	2.271	2251	4.54	0.768E-02	0.175E-02	13.0	-0.106E+01	0.81E-01
470	2.361	2298	4.61	0.798E-02	0.193E-02	15.7	-0.116E+01	0.74E-01

P 560

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.095	852	2.16	0.722E-03	0.651E-04	4.1	0.721E-01	-0.18E-01
205	1.099	871	2.20	0.732E-03	0.683E-04	4.1	0.714E-01	-0.17E-01
210	1.104	890	2.24	0.754E-03	0.715E-04	4.2	0.701E-01	-0.17E-01
215	1.108	910	2.29	0.786E-03	0.745E-04	4.2	0.683E-01	-0.16E-01
220	1.112	930	2.33	0.825E-03	0.774E-04	4.3	0.660E-01	-0.15E-01
225	1.117	951	2.37	0.870E-03	0.801E-04	4.3	0.633E-01	-0.15E-01
230	1.122	971	2.42	0.919E-03	0.828E-04	4.3	0.603E-01	-0.14E-01
235	1.127	992	2.46	0.972E-03	0.854E-04	4.4	0.571E-01	-0.13E-01
240	1.133	1013	2.50	0.103E-02	0.880E-04	4.4	0.537E-01	-0.12E-01
245	1.139	1034	2.55	0.108E-02	0.906E-04	4.4	0.501E-01	-0.11E-01
250	1.145	1055	2.59	0.114E-02	0.932E-04	4.4	0.465E-01	-0.11E-01
255	1.152	1076	2.63	0.119E-02	0.959E-04	4.4	0.428E-01	-0.97E-02
260	1.159	1098	2.67	0.124E-02	0.987E-04	4.4	0.391E-01	-0.88E-02
265	1.167	1119	2.71	0.129E-02	0.102E-03	4.5	0.354E-01	-0.79E-02
270	1.174	1140	2.75	0.134E-02	0.105E-03	4.5	0.317E-01	-0.71E-02
275	1.183	1162	2.80	0.139E-02	0.108E-03	4.5	0.280E-01	-0.62E-02
280	1.191	1183	2.84	0.144E-02	0.112E-03	4.5	0.243E-01	-0.54E-02
285	1.200	1205	2.88	0.148E-02	0.116E-03	4.5	0.206E-01	-0.46E-02
290	1.209	1226	2.92	0.153E-02	0.120E-03	4.5	0.168E-01	-0.37E-02
295	1.218	1248	2.96	0.157E-02	0.124E-03	4.6	0.129E-01	-0.28E-02
300	1.228	1270	3.00	0.162E-02	0.129E-03	4.6	0.896E-02	-0.20E-02
305	1.238	1292	3.04	0.166E-02	0.135E-03	4.6	0.479E-02	-0.10E-02
310	1.249	1314	3.08	0.171E-02	0.141E-03	4.6	0.344E-03	-0.74E-04
315	1.260	1336	3.12	0.176E-02	0.147E-03	4.7	-0.444E-02	0.95E-03
320	1.271	1359	3.16	0.181E-02	0.154E-03	4.7	-0.967E-02	0.20E-02
325	1.283	1382	3.20	0.187E-02	0.162E-03	4.8	-0.154E-01	0.32E-02
330	1.295	1405	3.24	0.194E-02	0.170E-03	4.9	-0.219E-01	0.45E-02
335	1.308	1428	3.28	0.201E-02	0.179E-03	4.9	-0.289E-01	0.59E-02
340	1.321	1452	3.32	0.208E-02	0.188E-03	5.0	-0.367E-01	0.74E-02
345	1.336	1476	3.36	0.217E-02	0.199E-03	5.1	-0.455E-01	0.90E-02
350	1.350	1500	3.40	0.226E-02	0.210E-03	5.1	-0.554E-01	0.11E-01
355	1.366	1525	3.44	0.237E-02	0.222E-03	5.2	-0.667E-01	0.13E-01
360	1.383	1551	3.48	0.249E-02	0.235E-03	5.3	-0.793E-01	0.15E-01
365	1.401	1576	3.53	0.261E-02	0.249E-03	5.4	-0.935E-01	0.17E-01
370	1.420	1603	3.57	0.275E-02	0.265E-03	5.5	-0.109E+00	0.20E-01
375	1.441	1629	3.61	0.290E-02	0.283E-03	5.6	-0.127E+00	0.23E-01
380	1.463	1656	3.65	0.306E-02	0.305E-03	5.7	-0.146E+00	0.26E-01
385	1.486	1684	3.70	0.324E-02	0.331E-03	5.7	-0.168E+00	0.29E-01
390	1.511	1711	3.74	0.342E-02	0.362E-03	5.8	-0.191E+00	0.33E-01
395	1.537	1739	3.78	0.361E-02	0.400E-03	5.9	-0.217E+00	0.37E-01
400	1.565	1768	3.83	0.382E-02	0.448E-03	6.0	-0.245E+00	0.41E-01
405	1.592	1797	3.87	0.402E-02	0.525E-03	6.1	-0.275E+00	0.45E-01
410	1.622	1828	3.92	0.426E-02	0.600E-03	6.2	-0.310E+00	0.50E-01
415	1.655	1861	3.97	0.450E-02	0.672E-03	6.4	-0.347E+00	0.54E-01
420	1.691	1893	4.02	0.476E-02	0.741E-03	6.6	-0.389E+00	0.59E-01
425	1.730	1927	4.07	0.503E-02	0.808E-03	6.8	-0.434E+00	0.64E-01
430	1.773	1962	4.12	0.530E-02	0.874E-03	7.0	-0.483E+00	0.69E-01
435	1.819	1999	4.17	0.558E-02	0.943E-03	7.3	-0.537E+00	0.73E-01
440	1.869	2036	4.23	0.587E-02	0.101E-02	7.7	-0.595E+00	0.77E-01
445	1.923	2073	4.28	0.615E-02	0.109E-02	8.2	-0.657E+00	0.80E-01
450	1.982	2112	4.34	0.642E-02	0.118E-02	8.8	-0.722E+00	0.82E-01
455	2.045	2151	4.39	0.669E-02	0.128E-02	9.6	-0.791E+00	0.82E-01
460	2.114	2190	4.45	0.695E-02	0.139E-02	10.8	-0.865E+00	0.80E-01
465	2.188	2231	4.51	0.721E-02	0.152E-02	12.5	-0.946E+00	0.75E-01
470	2.271	2276	4.57	0.750E-02	0.166E-02	15.1	-0.104E+01	0.69E-01

P 580

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.094	853	2.16	0.713E-03	0.645E-04	4.1	0.725E-01	-0.18E-01
205	1.098	872	2.20	0.722E-03	0.677E-04	4.1	0.719E-01	-0.17E-01
210	1.102	892	2.24	0.744E-03	0.708E-04	4.2	0.706E-01	-0.17E-01
215	1.106	912	2.29	0.775E-03	0.738E-04	4.2	0.688E-01	-0.16E-01
220	1.111	932	2.33	0.813E-03	0.766E-04	4.2	0.665E-01	-0.16E-01
225	1.115	952	2.37	0.858E-03	0.793E-04	4.3	0.639E-01	-0.15E-01
230	1.120	973	2.41	0.906E-03	0.819E-04	4.3	0.609E-01	-0.14E-01
235	1.126	993	2.46	0.958E-03	0.845E-04	4.3	0.577E-01	-0.13E-01
240	1.131	1014	2.50	0.101E-02	0.870E-04	4.4	0.544E-01	-0.12E-01
245	1.137	1035	2.54	0.107E-02	0.895E-04	4.4	0.509E-01	-0.12E-01
250	1.143	1056	2.59	0.112E-02	0.921E-04	4.4	0.473E-01	-0.11E-01
255	1.150	1077	2.63	0.117E-02	0.947E-04	4.4	0.436E-01	-0.99E-02
260	1.157	1098	2.67	0.123E-02	0.974E-04	4.4	0.400E-01	-0.90E-02
265	1.164	1120	2.71	0.128E-02	0.100E-03	4.4	0.363E-01	-0.82E-02
270	1.172	1141	2.75	0.133E-02	0.103E-03	4.4	0.327E-01	-0.73E-02
275	1.180	1162	2.79	0.138E-02	0.107E-03	4.5	0.290E-01	-0.65E-02
280	1.188	1184	2.83	0.142E-02	0.110E-03	4.5	0.254E-01	-0.57E-02
285	1.197	1205	2.87	0.147E-02	0.114E-03	4.5	0.218E-01	-0.48E-02
290	1.206	1227	2.91	0.151E-02	0.118E-03	4.5	0.181E-01	-0.40E-02
295	1.215	1248	2.95	0.155E-02	0.122E-03	4.5	0.143E-01	-0.32E-02
300	1.225	1270	2.99	0.160E-02	0.127E-03	4.6	0.105E-01	-0.23E-02
305	1.235	1292	3.03	0.164E-02	0.132E-03	4.6	0.641E-02	-0.14E-02
310	1.245	1314	3.07	0.169E-02	0.138E-03	4.6	0.211E-02	-0.45E-03
315	1.256	1336	3.11	0.173E-02	0.144E-03	4.7	-0.252E-02	0.54E-03
320	1.267	1359	3.15	0.179E-02	0.151E-03	4.7	-0.757E-02	0.16E-02
325	1.279	1382	3.19	0.184E-02	0.158E-03	4.8	-0.131E-01	0.28E-02
330	1.291	1405	3.23	0.191E-02	0.166E-03	4.8	-0.193E-01	0.40E-02
335	1.303	1428	3.27	0.197E-02	0.174E-03	4.9	-0.260E-01	0.53E-02
340	1.317	1451	3.31	0.205E-02	0.183E-03	5.0	-0.334E-01	0.68E-02
345	1.330	1475	3.35	0.213E-02	0.193E-03	5.0	-0.418E-01	0.83E-02
350	1.345	1499	3.39	0.222E-02	0.204E-03	5.1	-0.512E-01	0.10E-01
355	1.360	1524	3.43	0.232E-02	0.215E-03	5.2	-0.618E-01	0.12E-01
360	1.377	1549	3.48	0.243E-02	0.227E-03	5.3	-0.737E-01	0.14E-01
365	1.394	1575	3.52	0.255E-02	0.240E-03	5.3	-0.871E-01	0.16E-01
370	1.413	1601	3.56	0.268E-02	0.254E-03	5.4	-0.102E+00	0.19E-01
375	1.433	1627	3.60	0.282E-02	0.271E-03	5.5	-0.118E+00	0.21E-01
380	1.454	1653	3.65	0.297E-02	0.291E-03	5.6	-0.136E+00	0.24E-01
385	1.476	1680	3.69	0.312E-02	0.314E-03	5.6	-0.156E+00	0.28E-01
390	1.500	1707	3.73	0.329E-02	0.343E-03	5.7	-0.177E+00	0.31E-01
395	1.525	1735	3.77	0.347E-02	0.378E-03	5.8	-0.201E+00	0.35E-01
400	1.552	1763	3.82	0.365E-02	0.421E-03	5.9	-0.226E+00	0.39E-01
405	1.576	1791	3.86	0.384E-02	0.493E-03	5.9	-0.252E+00	0.43E-01
410	1.603	1822	3.91	0.405E-02	0.562E-03	6.1	-0.284E+00	0.47E-01
415	1.633	1854	3.95	0.428E-02	0.627E-03	6.2	-0.318E+00	0.51E-01
420	1.665	1886	4.00	0.452E-02	0.689E-03	6.4	-0.355E+00	0.55E-01
425	1.701	1919	4.05	0.477E-02	0.749E-03	6.6	-0.396E+00	0.60E-01
430	1.739	1953	4.10	0.502E-02	0.808E-03	6.8	-0.441E+00	0.64E-01
435	1.782	1988	4.15	0.529E-02	0.868E-03	7.1	-0.489E+00	0.69E-01
440	1.827	2024	4.21	0.556E-02	0.930E-03	7.5	-0.541E+00	0.72E-01
445	1.876	2061	4.26	0.582E-02	0.997E-03	7.9	-0.597E+00	0.75E-01
450	1.930	2098	4.31	0.608E-02	0.107E-02	8.5	-0.655E+00	0.77E-01
455	1.987	2136	4.37	0.633E-02	0.115E-02	9.3	-0.717E+00	0.77E-01
460	2.049	2173	4.42	0.657E-02	0.125E-02	10.4	-0.782E+00	0.75E-01
465	2.117	2213	4.48	0.682E-02	0.135E-02	12.1	-0.854E+00	0.71E-01
470	2.193	2257	4.54	0.711E-02	0.147E-02	14.5	-0.939E+00	0.65E-01

P 600

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.092	855	2.16	0.704E-03	0.640E-04	4.1	0.729E-01	-0.18E-01
205	1.096	874	2.20	0.713E-03	0.672E-04	4.1	0.723E-01	-0.18E-01
210	1.100	893	2.24	0.733E-03	0.702E-04	4.2	0.710E-01	-0.17E-01
215	1.105	913	2.28	0.764E-03	0.731E-04	4.2	0.693E-01	-0.17E-01
220	1.109	933	2.33	0.802E-03	0.758E-04	4.2	0.671E-01	-0.16E-01
225	1.114	953	2.37	0.846E-03	0.785E-04	4.3	0.645E-01	-0.15E-01
230	1.118	974	2.41	0.894E-03	0.811E-04	4.3	0.615E-01	-0.14E-01
235	1.124	994	2.46	0.945E-03	0.836E-04	4.3	0.584E-01	-0.13E-01
240	1.129	1015	2.50	0.999E-03	0.860E-04	4.3	0.551E-01	-0.13E-01
245	1.135	1036	2.54	0.105E-02	0.885E-04	4.4	0.516E-01	-0.12E-01
250	1.141	1057	2.58	0.111E-02	0.910E-04	4.4	0.480E-01	-0.11E-01
255	1.148	1078	2.62	0.116E-02	0.935E-04	4.4	0.444E-01	-0.10E-01
260	1.155	1099	2.67	0.121E-02	0.961E-04	4.4	0.408E-01	-0.93E-02
265	1.162	1120	2.71	0.126E-02	0.989E-04	4.4	0.372E-01	-0.84E-02
270	1.170	1142	2.75	0.131E-02	0.102E-03	4.4	0.336E-01	-0.76E-02
275	1.177	1163	2.79	0.136E-02	0.105E-03	4.4	0.300E-01	-0.68E-02
280	1.186	1184	2.83	0.140E-02	0.108E-03	4.5	0.265E-01	-0.59E-02
285	1.194	1206	2.87	0.145E-02	0.112E-03	4.5	0.229E-01	-0.51E-02
290	1.203	1227	2.91	0.149E-02	0.116E-03	4.5	0.193E-01	-0.43E-02
295	1.212	1249	2.95	0.153E-02	0.120E-03	4.5	0.157E-01	-0.35E-02
300	1.222	1270	2.99	0.157E-02	0.125E-03	4.6	0.119E-01	-0.26E-02
305	1.232	1292	3.03	0.162E-02	0.130E-03	4.6	0.795E-02	-0.17E-02
310	1.242	1314	3.07	0.166E-02	0.135E-03	4.6	0.378E-02	-0.82E-03
315	1.252	1336	3.11	0.171E-02	0.141E-03	4.6	-0.696E-03	0.15E-03
320	1.263	1359	3.15	0.176E-02	0.147E-03	4.7	-0.558E-02	0.12E-02
325	1.275	1381	3.19	0.182E-02	0.154E-03	4.7	-0.110E-01	0.23E-02
330	1.287	1404	3.23	0.188E-02	0.161E-03	4.8	-0.170E-01	0.35E-02
335	1.299	1427	3.27	0.194E-02	0.169E-03	4.9	-0.233E-01	0.48E-02
340	1.312	1451	3.31	0.201E-02	0.178E-03	4.9	-0.304E-01	0.62E-02
345	1.325	1474	3.35	0.209E-02	0.187E-03	5.0	-0.383E-01	0.77E-02
350	1.339	1498	3.39	0.217E-02	0.197E-03	5.1	-0.472E-01	0.93E-02
355	1.355	1523	3.43	0.226E-02	0.208E-03	5.1	-0.572E-01	0.11E-01
360	1.371	1548	3.47	0.237E-02	0.219E-03	5.2	-0.685E-01	0.13E-01
365	1.388	1573	3.51	0.248E-02	0.231E-03	5.3	-0.811E-01	0.15E-01
370	1.406	1599	3.55	0.261E-02	0.244E-03	5.4	-0.950E-01	0.18E-01
375	1.425	1625	3.60	0.274E-02	0.260E-03	5.4	-0.110E+00	0.20E-01
380	1.446	1651	3.64	0.287E-02	0.278E-03	5.5	-0.127E+00	0.23E-01
385	1.467	1677	3.68	0.302E-02	0.299E-03	5.6	-0.145E+00	0.26E-01
390	1.490	1704	3.72	0.317E-02	0.326E-03	5.6	-0.164E+00	0.29E-01
395	1.514	1731	3.76	0.333E-02	0.358E-03	5.7	-0.186E+00	0.33E-01
400	1.539	1759	3.81	0.350E-02	0.398E-03	5.8	-0.209E+00	0.36E-01
405	1.566	1787	3.85	0.366E-02	0.463E-03	5.8	-0.232E+00	0.40E-01
410	1.597	1817	3.89	0.384E-02	0.525E-03	6.0	-0.260E+00	0.44E-01
415	1.630	1848	3.94	0.404E-02	0.582E-03	6.1	-0.290E+00	0.47E-01
420	1.664	1879	3.99	0.425E-02	0.637E-03	6.3	-0.324E+00	0.52E-01
425	1.700	1912	4.03	0.447E-02	0.689E-03	6.5	-0.361E+00	0.56E-01
430	1.739	1945	4.08	0.470E-02	0.740E-03	6.7	-0.401E+00	0.60E-01
435	1.780	1979	4.13	0.494E-02	0.791E-03	7.0	-0.445E+00	0.64E-01
440	1.822	2014	4.19	0.519E-02	0.845E-03	7.3	-0.492E+00	0.68E-01
445	1.868	2050	4.24	0.544E-02	0.902E-03	7.7	-0.542E+00	0.70E-01
450	1.915	2086	4.29	0.568E-02	0.966E-03	8.3	-0.595E+00	0.72E-01
455	1.966	2122	4.34	0.592E-02	0.104E-02	9.0	-0.651E+00	0.72E-01
460	2.019	2159	4.39	0.616E-02	0.112E-02	10.1	-0.710E+00	0.70E-01
465	2.075	2197	4.45	0.641E-02	0.121E-02	11.7	-0.775E+00	0.66E-01
470	2.134	2239	4.51	0.673E-02	0.131E-02	14.0	-0.854E+00	0.61E-01

P 620

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.091	856	2.15	0.695E-03	0.635E-04	4.1	0.732E-01	-0.18E-01
205	1.095	875	2.20	0.703E-03	0.666E-04	4.1	0.727E-01	-0.18E-01
210	1.099	895	2.24	0.723E-03	0.696E-04	4.1	0.715E-01	-0.17E-01
215	1.103	914	2.28	0.753E-03	0.724E-04	4.2	0.698E-01	-0.17E-01
220	1.107	934	2.32	0.790E-03	0.751E-04	4.2	0.676E-01	-0.16E-01
225	1.112	955	2.37	0.834E-03	0.777E-04	4.3	0.650E-01	-0.15E-01
230	1.117	975	2.41	0.882E-03	0.802E-04	4.3	0.621E-01	-0.14E-01
235	1.122	996	2.45	0.933E-03	0.827E-04	4.3	0.590E-01	-0.14E-01
240	1.127	1016	2.50	0.985E-03	0.851E-04	4.3	0.557E-01	-0.13E-01
245	1.133	1037	2.54	0.104E-02	0.875E-04	4.4	0.523E-01	-0.12E-01
250	1.139	1058	2.58	0.109E-02	0.899E-04	4.4	0.488E-01	-0.11E-01
255	1.146	1079	2.62	0.115E-02	0.924E-04	4.4	0.452E-01	-0.10E-01
260	1.152	1100	2.66	0.120E-02	0.949E-04	4.4	0.417E-01	-0.95E-02
265	1.160	1121	2.70	0.125E-02	0.976E-04	4.4	0.381E-01	-0.86E-02
270	1.167	1142	2.75	0.130E-02	0.100E-03	4.4	0.345E-01	-0.78E-02
275	1.175	1164	2.79	0.134E-02	0.103E-03	4.4	0.310E-01	-0.70E-02
280	1.183	1185	2.83	0.139E-02	0.107E-03	4.4	0.275E-01	-0.62E-02
285	1.192	1206	2.87	0.143E-02	0.110E-03	4.5	0.240E-01	-0.54E-02
290	1.200	1228	2.91	0.147E-02	0.114E-03	4.5	0.205E-01	-0.46E-02
295	1.209	1249	2.95	0.151E-02	0.118E-03	4.5	0.169E-01	-0.38E-02
300	1.219	1271	2.99	0.155E-02	0.122E-03	4.5	0.133E-01	-0.29E-02
305	1.229	1292	3.03	0.160E-02	0.127E-03	4.6	0.943E-02	-0.21E-02
310	1.239	1314	3.07	0.164E-02	0.132E-03	4.6	0.539E-02	-0.12E-02
315	1.249	1336	3.10	0.169E-02	0.138E-03	4.6	0.104E-02	-0.23E-03
320	1.260	1359	3.14	0.174E-02	0.144E-03	4.7	-0.368E-02	0.79E-03
325	1.271	1381	3.18	0.179E-02	0.151E-03	4.7	-0.889E-02	0.19E-02
330	1.282	1404	3.22	0.185E-02	0.158E-03	4.8	-0.147E-01	0.31E-02
335	1.295	1427	3.26	0.191E-02	0.165E-03	4.8	-0.208E-01	0.43E-02
340	1.307	1450	3.30	0.197E-02	0.173E-03	4.9	-0.275E-01	0.56E-02
345	1.320	1474	3.34	0.205E-02	0.182E-03	5.0	-0.351E-01	0.71E-02
350	1.334	1497	3.38	0.213E-02	0.191E-03	5.0	-0.435E-01	0.87E-02
355	1.349	1522	3.42	0.222E-02	0.201E-03	5.1	-0.530E-01	0.10E-01
360	1.365	1546	3.46	0.232E-02	0.211E-03	5.2	-0.637E-01	0.12E-01
365	1.382	1571	3.50	0.242E-02	0.222E-03	5.2	-0.756E-01	0.14E-01
370	1.399	1597	3.55	0.254E-02	0.235E-03	5.3	-0.886E-01	0.17E-01
375	1.418	1622	3.59	0.266E-02	0.249E-03	5.4	-0.103E+00	0.19E-01
380	1.438	1648	3.63	0.279E-02	0.266E-03	5.4	-0.118E+00	0.22E-01
385	1.458	1674	3.67	0.293E-02	0.286E-03	5.5	-0.135E+00	0.25E-01
390	1.480	1701	3.71	0.307E-02	0.310E-03	5.5	-0.153E+00	0.28E-01
395	1.503	1728	3.75	0.321E-02	0.341E-03	5.6	-0.172E+00	0.31E-01
400	1.527	1755	3.80	0.337E-02	0.378E-03	5.7	-0.193E+00	0.34E-01
405	1.553	1782	3.84	0.350E-02	0.438E-03	5.7	-0.214E+00	0.37E-01
410	1.582	1812	3.88	0.368E-02	0.495E-03	5.9	-0.239E+00	0.41E-01
415	1.613	1842	3.93	0.386E-02	0.548E-03	6.0	-0.267E+00	0.44E-01
420	1.645	1873	3.97	0.405E-02	0.598E-03	6.2	-0.298E+00	0.48E-01
425	1.680	1905	4.02	0.426E-02	0.645E-03	6.3	-0.331E+00	0.52E-01
430	1.716	1937	4.07	0.447E-02	0.691E-03	6.5	-0.368E+00	0.56E-01
435	1.754	1971	4.12	0.470E-02	0.737E-03	6.8	-0.408E+00	0.60E-01
440	1.794	2005	4.17	0.493E-02	0.784E-03	7.1	-0.452E+00	0.64E-01
445	1.836	2039	4.22	0.517E-02	0.835E-03	7.5	-0.498E+00	0.66E-01
450	1.881	2075	4.27	0.540E-02	0.891E-03	8.0	-0.546E+00	0.68E-01
455	1.928	2110	4.32	0.562E-02	0.953E-03	8.7	-0.596E+00	0.68E-01
460	1.978	2145	4.37	0.584E-02	0.102E-02	9.8	-0.649E+00	0.67E-01
465	2.031	2182	4.42	0.608E-02	0.110E-02	11.3	-0.708E+00	0.63E-01
470	2.084	2223	4.48	0.638E-02	0.119E-02	13.5	-0.780E+00	0.58E-01

P 640

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.090	857	2.15	0.686E-03	0.630E-04	4.0	0.736E-01	-0.18E-01
205	1.093	877	2.19	0.694E-03	0.660E-04	4.1	0.731E-01	-0.18E-01
210	1.097	896	2.24	0.713E-03	0.689E-04	4.1	0.719E-01	-0.17E-01
215	1.101	916	2.28	0.742E-03	0.717E-04	4.2	0.702E-01	-0.17E-01
220	1.106	936	2.32	0.779E-03	0.744E-04	4.2	0.681E-01	-0.16E-01
225	1.110	956	2.37	0.822E-03	0.769E-04	4.2	0.656E-01	-0.15E-01
230	1.115	976	2.41	0.870E-03	0.794E-04	4.3	0.627E-01	-0.15E-01
235	1.120	997	2.45	0.920E-03	0.818E-04	4.3	0.596E-01	-0.14E-01
240	1.125	1017	2.49	0.973E-03	0.841E-04	4.3	0.564E-01	-0.13E-01
245	1.131	1038	2.54	0.103E-02	0.865E-04	4.3	0.530E-01	-0.12E-01
250	1.137	1059	2.58	0.108E-02	0.888E-04	4.4	0.495E-01	-0.11E-01
255	1.144	1080	2.62	0.113E-02	0.912E-04	4.4	0.460E-01	-0.11E-01
260	1.150	1101	2.66	0.118E-02	0.937E-04	4.4	0.425E-01	-0.97E-02
265	1.157	1122	2.70	0.123E-02	0.963E-04	4.4	0.389E-01	-0.89E-02
270	1.165	1143	2.74	0.128E-02	0.991E-04	4.4	0.354E-01	-0.80E-02
275	1.172	1164	2.78	0.133E-02	0.102E-03	4.4	0.320E-01	-0.72E-02
280	1.181	1185	2.82	0.137E-02	0.105E-03	4.4	0.285E-01	-0.64E-02
285	1.189	1207	2.86	0.141E-02	0.109E-03	4.5	0.251E-01	-0.56E-02
290	1.198	1228	2.90	0.145E-02	0.112E-03	4.5	0.217E-01	-0.48E-02
295	1.207	1249	2.94	0.150E-02	0.116E-03	4.5	0.182E-01	-0.40E-02
300	1.216	1271	2.98	0.154E-02	0.120E-03	4.5	0.146E-01	-0.32E-02
305	1.225	1293	3.02	0.158E-02	0.125E-03	4.5	0.109E-01	-0.24E-02
310	1.235	1314	3.06	0.162E-02	0.130E-03	4.6	0.692E-02	-0.15E-02
315	1.246	1336	3.10	0.166E-02	0.135E-03	4.6	0.270E-02	-0.59E-03
320	1.256	1359	3.14	0.171E-02	0.141E-03	4.7	-0.188E-02	0.40E-03
325	1.267	1381	3.18	0.176E-02	0.147E-03	4.7	-0.694E-02	0.15E-02
330	1.278	1404	3.22	0.182E-02	0.154E-03	4.8	-0.126E-01	0.26E-02
335	1.290	1427	3.26	0.188E-02	0.161E-03	4.8	-0.184E-01	0.38E-02
340	1.303	1450	3.30	0.194E-02	0.169E-03	4.9	-0.248E-01	0.51E-02
345	1.316	1473	3.34	0.201E-02	0.177E-03	4.9	-0.320E-01	0.65E-02
350	1.329	1496	3.38	0.209E-02	0.186E-03	5.0	-0.400E-01	0.80E-02
355	1.344	1521	3.42	0.217E-02	0.195E-03	5.0	-0.491E-01	0.97E-02
360	1.359	1545	3.46	0.227E-02	0.204E-03	5.1	-0.592E-01	0.12E-01
365	1.376	1570	3.50	0.237E-02	0.215E-03	5.2	-0.704E-01	0.14E-01
370	1.393	1595	3.54	0.248E-02	0.226E-03	5.3	-0.827E-01	0.16E-01
375	1.411	1620	3.58	0.259E-02	0.240E-03	5.3	-0.960E-01	0.18E-01
380	1.430	1646	3.62	0.271E-02	0.255E-03	5.4	-0.110E+00	0.21E-01
385	1.450	1672	3.66	0.284E-02	0.274E-03	5.4	-0.126E+00	0.23E-01
390	1.471	1698	3.70	0.297E-02	0.297E-03	5.5	-0.142E+00	0.26E-01
395	1.493	1724	3.74	0.310E-02	0.325E-03	5.5	-0.160E+00	0.29E-01
400	1.516	1751	3.79	0.324E-02	0.359E-03	5.6	-0.179E+00	0.32E-01
405	1.540	1778	3.83	0.336E-02	0.416E-03	5.6	-0.197E+00	0.35E-01
410	1.568	1807	3.87	0.352E-02	0.469E-03	5.8	-0.221E+00	0.38E-01
415	1.597	1837	3.91	0.369E-02	0.518E-03	5.9	-0.246E+00	0.42E-01
420	1.628	1867	3.96	0.387E-02	0.564E-03	6.0	-0.274E+00	0.45E-01
425	1.660	1898	4.01	0.407E-02	0.607E-03	6.2	-0.305E+00	0.49E-01
430	1.694	1930	4.05	0.427E-02	0.649E-03	6.4	-0.339E+00	0.53E-01
435	1.730	1963	4.10	0.448E-02	0.690E-03	6.6	-0.376E+00	0.57E-01
440	1.768	1996	4.15	0.470E-02	0.733E-03	6.9	-0.416E+00	0.60E-01
445	1.808	2030	4.20	0.492E-02	0.778E-03	7.3	-0.458E+00	0.63E-01
450	1.850	2064	4.25	0.514E-02	0.827E-03	7.8	-0.503E+00	0.64E-01
455	1.895	2098	4.30	0.535E-02	0.883E-03	8.5	-0.548E+00	0.65E-01
460	1.942	2133	4.35	0.555E-02	0.945E-03	9.4	-0.597E+00	0.63E-01
465	1.991	2169	4.40	0.578E-02	0.101E-02	10.9	-0.650E+00	0.60E-01
470	2.041	2209	4.45	0.607E-02	0.109E-02	12.9	-0.716E+00	0.55E-01

P 660

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.088	859	2.15	0.677E-03	0.625E-04	4.0	0.739E-01	-0.18E-01
205	1.092	878	2.19	0.685E-03	0.655E-04	4.1	0.735E-01	-0.18E-01
210	1.096	898	2.24	0.703E-03	0.683E-04	4.1	0.723E-01	-0.17E-01
215	1.100	917	2.28	0.732E-03	0.711E-04	4.2	0.707E-01	-0.17E-01
220	1.104	937	2.32	0.768E-03	0.737E-04	4.2	0.686E-01	-0.16E-01
225	1.108	957	2.36	0.811E-03	0.762E-04	4.2	0.661E-01	-0.16E-01
230	1.113	978	2.41	0.858E-03	0.786E-04	4.3	0.633E-01	-0.15E-01
235	1.118	998	2.45	0.908E-03	0.809E-04	4.3	0.602E-01	-0.14E-01
240	1.123	1019	2.49	0.960E-03	0.832E-04	4.3	0.570E-01	-0.13E-01
245	1.129	1039	2.53	0.101E-02	0.855E-04	4.3	0.536E-01	-0.12E-01
250	1.135	1060	2.58	0.107E-02	0.878E-04	4.3	0.502E-01	-0.12E-01
255	1.141	1081	2.62	0.112E-02	0.901E-04	4.4	0.467E-01	-0.11E-01
260	1.148	1102	2.66	0.117E-02	0.926E-04	4.4	0.432E-01	-0.99E-02
265	1.155	1123	2.70	0.122E-02	0.951E-04	4.4	0.398E-01	-0.91E-02
270	1.162	1144	2.74	0.127E-02	0.978E-04	4.4	0.363E-01	-0.83E-02
275	1.170	1165	2.78	0.131E-02	0.101E-03	4.4	0.329E-01	-0.75E-02
280	1.178	1186	2.82	0.136E-02	0.104E-03	4.4	0.295E-01	-0.67E-02
285	1.186	1207	2.86	0.140E-02	0.107E-03	4.4	0.261E-01	-0.59E-02
290	1.19[illegible]	1228	2.90	0.144E-02	0.110E-03	4.5	0.228E-01	-0.51E-02
295	1.204	1250	2.94	0.148E-02	0.114E-03	4.5	0.193E-01	-0.43E-02
300	1.213	1271	2.98	0.152E-02	0.118E-03	4.5	0.158E-01	-0.35E-02
305	1.222	1293	3.02	0.156E-02	0.123E-03	4.5	0.122E-01	-0.27E-02
310	1.232	1315	3.06	0.160E-02	0.128E-03	4.6	0.838E-02	-0.18E-02
315	1.242	1336	3.10	0.164E-02	0.133E-03	4.6	0.428E-02	-0.93E-03
320	1.253	1359	3.14	0.169E-02	0.138E-03	4.6	-0.170E-03	0.37E-04
325	1.263	1381	3.17	0.174E-02	0.144E-03	4.7	-0.508E-02	0.11E-02
330	1.275	1404	3.21	0.180E-02	0.151E-03	4.7	-0.105E-01	0.22E-02
335	1.286	1426	3.25	0.185E-02	0.157E-03	4.8	-0.161E-01	0.34E-02
340	1.298	1449	3.29	0.191E-02	0.164E-03	4.8	-0.222E-01	0.46E-02
345	1.311	1472	3.33	0.198E-02	0.172E-03	4.9	-0.291E-01	0.60E-02
350	1.324	1496	3.37	0.205E-02	0.181E-03	4.9	-0.367E-01	0.74E-02
355	1.339	1520	3.41	0.213E-02	0.189E-03	5.0	-0.454E-01	0.90E-02
360	1.354	1544	3.45	0.222E-02	0.198E-03	5.1	-0.550E-01	0.11E-01
365	1.370	1569	3.49	0.232E-02	0.208E-03	5.1	-0.656E-01	0.13E-01
370	1.387	1593	3.53	0.242E-02	0.218E-03	5.2	-0.772E-01	0.15E-01
375	1.405	1619	3.57	0.253E-02	0.231E-03	5.3	-0.897E-01	0.17E-01
380	1.423	1644	3.61	0.264E-02	0.245E-03	5.3	-0.103E+00	0.19E-01
385	1.442	1669	3.65	0.275E-02	0.263E-03	5.4	-0.117E+00	0.22E-01
390	1.463	1695	3.69	0.287E-02	0.284E-03	5.4	-0.132E+00	0.24E-01
395	1.483	1721	3.73	0.300E-02	0.310E-03	5.5	-0.149E+00	0.27E-01
400	1.505	1748	3.78	0.313E-02	0.343E-03	5.5	-0.166E+00	0.30E-01
405	1.528	1774	3.82	0.323E-02	0.396E-03	5.6	-0.182E+00	0.33E-01
410	1.555	1803	3.86	0.339E-02	0.446E-03	5.7	-0.204E+00	0.36E-01
415	1.583	1832	3.90	0.354E-02	0.492E-03	5.8	-0.228E+00	0.39E-01
420	1.612	1862	3.95	0.371E-02	0.534E-03	5.9	-0.253E+00	0.43E-01
425	1.642	1892	3.99	0.389E-02	0.574E-03	6.1	-0.282E+00	0.46E-01
430	1.674	1924	4.04	0.408E-02	0.612E-03	6.3	-0.313E+00	0.50E-01
435	1.708	1955	4.09	0.429E-02	0.649E-03	6.5	-0.348E+00	0.53E-01
440	1.744	1988	4.13	0.449E-02	0.688E-03	6.8	-0.385E+00	0.57E-01
445	1.782	2021	4.18	0.470E-02	0.729E-03	7.1	-0.423E+00	0.59E-01
450	1.822	2055	4.23	0.490E-02	0.773E-03	7.6	-0.464E+00	0.61E-01
455	1.864	2088	4.28	0.510E-02	0.823E-03	8.2	-0.506E+00	0.61E-01
460	1.909	2122	4.33	0.529E-02	0.878E-03	9.1	-0.550E+00	0.60E-01
465	1.955	2157	4.38	0.550E-02	0.940E-03	10.5	-0.598E+00	0.57E-01
470	2.002	2195	4.43	0.578E-02	0.101E-02	12.4	-0.660E+00	0.53E-01

P 680

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.087	860	2.15	0.669E-03	0.620E-04	4.0	0.743E-01	-0.18E-01
205	1.091	880	2.19	0.675E-03	0.649E-04	4.1	0.738E-01	-0.18E-01
210	1.094	899	2.23	0.694E-03	0.677E-04	4.1	0.728E-01	-0.18E-01
215	1.098	919	2.28	0.722E-03	0.704E-04	4.2	0.711E-01	-0.17E-01
220	1.102	939	2.32	0.758E-03	0.730E-04	4.2	0.691E-01	-0.16E-01
225	1.107	959	2.36	0.800E-03	0.754E-04	4.2	0.666E-01	-0.16E-01
230	1.111	979	2.40	0.846E-03	0.778E-04	4.3	0.638E-01	-0.15E-01
235	1.116	999	2.45	0.896E-03	0.801E-04	4.3	0.608E-01	-0.14E-01
240	1.122	1020	2.49	0.948E-03	0.823E-04	4.3	0.576E-01	-0.13E-01
245	1.127	1040	2.53	0.100E-02	0.845E-04	4.3	0.543E-01	-0.13E-01
250	1.133	1061	2.57	0.105E-02	0.868E-04	4.3	0.509E-01	-0.12E-01
255	1.139	1082	2.61	0.111E-02	0.891E-04	4.3	0.474E-01	-0.11E-01
260	1.146	1103	2.66	0.116E-02	0.914E-04	4.4	0.440E-01	-0.10E-01
265	1.153	1123	2.70	0.120E-02	0.939E-04	4.4	0.405E-01	-0.93E-02
270	1.160	1144	2.74	0.125E-02	0.965E-04	4.4	0.371E-01	-0.85E-02
275	1.168	1165	2.78	0.130E-02	0.993E-04	4.4	0.338E-01	-0.77E-02
280	1.176	1187	2.82	0.134E-02	0.102E-03	4.4	0.304E-01	-0.69E-02
285	1.184	1208	2.86	0.138E-02	0.105E-03	4.4	0.271E-01	-0.61E-02
290	1.192	1229	2.90	0.142E-02	0.109E-03	4.4	0.238E-01	-0.54E-02
295	1.201	1250	2.94	0.146E-02	0.112E-03	4.5	0.205E-01	-0.46E-02
300	1.210	1272	2.98	0.150E-02	0.116E-03	4.5	0.171E-01	-0.38E-02
305	1.219	1293	3.01	0.154E-02	0.121E-03	4.5	0.135E-01	-0.30E-02
310	1.229	1315	3.05	0.158E-02	0.125E-03	4.5	0.978E-02	-0.22E-02
315	1.239	1337	3.09	0.162E-02	0.130E-03	4.6	0.579E-02	-0.13E-02
320	1.249	1359	3.13	0.167E-02	0.135E-03	4.6	0.146E-02	-0.32E-03
325	1.260	1381	3.17	0.172E-02	0.141E-03	4.7	-0.331E-02	0.71E-03
330	1.271	1403	3.21	0.177E-02	0.147E-03	4.7	-0.863E-02	0.18E-02
335	1.282	1426	3.25	0.182E-02	0.154E-03	4.8	-0.140E-01	0.29E-02
340	1.294	1449	3.29	0.188E-02	0.160E-03	4.8	-0.198E-01	0.41E-02
345	1.307	1472	3.33	0.194E-02	0.168E-03	4.9	-0.264E-01	0.54E-02
350	1.320	1495	3.37	0.201E-02	0.176E-03	4.9	-0.337E-01	0.68E-02
355	1.334	1519	3.41	0.209E-02	0.184E-03	5.0	-0.419E-01	0.84E-02
360	1.349	1543	3.45	0.218E-02	0.192E-03	5.0	-0.510E-01	0.10E-01
365	1.364	1567	3.49	0.227E-02	0.201E-03	5.1	-0.611E-01	0.12E-01
370	1.381	1592	3.53	0.237E-02	0.211E-03	5.2	-0.721E-01	0.14E-01
375	1.398	1617	3.57	0.247E-02	0.223E-03	5.2	-0.838E-01	0.16E-01
380	1.416	1642	3.61	0.257E-02	0.236E-03	5.3	-0.963E-01	0.18E-01
385	1.435	1667	3.65	0.268E-02	0.252E-03	5.3	-0.109E+00	0.21E-01
390	1.454	1693	3.69	0.279E-02	0.272E-03	5.4	-0.123E+00	0.23E-01
395	1.474	1718	3.73	0.290E-02	0.297E-03	5.4	-0.138E+00	0.26E-01
400	1.495	1745	3.77	0.302E-02	0.328E-03	5.4	-0.154E+00	0.28E-01
405	1.517	1771	3.81	0.311E-02	0.378E-03	5.5	-0.169E+00	0.31E-01
410	1.542	1799	3.85	0.326E-02	0.425E-03	5.6	-0.189E+00	0.34E-01
415	1.569	1828	3.89	0.340E-02	0.468E-03	5.7	-0.211E+00	0.37E-01
420	1.596	1857	3.94	0.356E-02	0.507E-03	5.9	-0.235E+00	0.40E-01
425	1.625	1887	3.98	0.373E-02	0.544E-03	6.0	-0.261E+00	0.44E-01
430	1.656	1917	4.03	0.391E-02	0.579E-03	6.2	-0.290E+00	0.47E-01
435	1.688	1949	4.07	0.410E-02	0.614E-03	6.4	-0.322E+00	0.50E-01
440	1.722	1981	4.12	0.430E-02	0.649E-03	6.6	-0.356E+00	0.54E-01
445	1.758	2013	4.17	0.450E-02	0.686E-03	7.0	-0.392E+00	0.56E-01
450	1.797	2046	4.21	0.469E-02	0.727E-03	7.4	-0.429E+00	0.58E-01
455	1.837	2078	4.26	0.487E-02	0.771E-03	8.0	-0.468E+00	0.58E-01
460	1.879	2111	4.31	0.505E-02	0.821E-03	8.9	-0.507E+00	0.57E-01
465	1.923	2145	4.36	0.524E-02	0.878E-03	10.1	-0.552E+00	0.55E-01
470	1.967	2183	4.41	0.551E-02	0.942E-03	12.0	-0.608E+00	0.51E-01

P 700

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.086	862	2.15	0.661E-03	0.615E-04	4.0	0.746E-01	-0.18E-01
205	1.089	881	2.19	0.667E-03	0.644E-04	4.1	0.742E-01	-0.18E-01
210	1.093	901	2.23	0.684E-03	0.672E-04	4.1	0.732E-01	-0.18E-01
215	1.097	920	2.28	0.712E-03	0.698E-04	4.2	0.716E-01	-0.17E-01
220	1.101	940	2.32	0.747E-03	0.723E-04	4.2	0.695E-01	-0.17E-01
225	1.105	960	2.36	0.789E-03	0.747E-04	4.2	0.671E-01	-0.16E-01
230	1.110	980	2.40	0.835E-03	0.770E-04	4.2	0.644E-01	-0.15E-01
235	1.115	1000	2.45	0.884E-03	0.792E-04	4.3	0.614E-01	-0.14E-01
240	1.120	1021	2.49	0.936E-03	0.814E-04	4.3	0.582E-01	-0.14E-01
245	1.125	1041	2.53	0.988E-03	0.836E-04	4.3	0.549E-01	-0.13E-01
250	1.131	1062	2.57	0.104E-02	0.858E-04	4.3	0.515E-01	-0.12E-01
255	1.137	1083	2.61	0.109E-02	0.880E-04	4.3	0.481E-01	-0.11E-01
260	1.144	1103	2.65	0.114E-02	0.903E-04	4.3	0.447E-01	-0.10E-01
265	1.151	1124	2.69	0.119E-02	0.927E-04	4.4	0.413E-01	-0.95E-02
270	1.158	1145	2.73	0.124E-02	0.953E-04	4.4	0.379E-01	-0.87E-02
275	1.165	1166	2.77	0.128E-02	0.979E-04	4.4	0.346E-01	-0.79E-02
280	1.173	1187	2.81	0.132E-02	0.101E-03	4.4	0.313E-01	-0.71E-02
285	1.181	1208	2.85	0.137E-02	0.104E-03	4.4	0.281E-01	-0.64E-02
290	1.190	1229	2.89	0.141E-02	0.107E-03	4.4	0.248E-01	-0.56E-02
295	1.198	1251	2.93	0.144E-02	0.111E-03	4.5	0.216E-01	-0.48E-02
300	1.207	1272	2.97	0.148E-02	0.115E-03	4.5	0.182E-01	-0.41E-02
305	1.216	1293	3.01	0.152E-02	0.119E-03	4.5	0.148E-01	-0.33E-02
310	1.226	1315	3.05	0.156E-02	0.123E-03	4.5	0.111E-01	-0.25E-02
315	1.236	1337	3.09	0.160E-02	0.128E-03	4.6	0.724E-02	-0.16E-02
320	1.246	1359	3.13	0.165E-02	0.133E-03	4.6	0.302E-02	-0.66E-03
325	1.256	1381	3.17	0.169E-02	0.138E-03	4.6	-0.162E-02	0.35E-03
330	1.267	1403	3.21	0.175E-02	0.144E-03	4.7	-0.681E-02	0.15E-02
335	1.278	1426	3.24	0.180E-02	0.150E-03	4.7	-0.119E-01	0.25E-02
340	1.290	1448	3.28	0.185E-02	0.157E-03	4.8	-0.175E-01	0.37E-02
345	1.302	1471	3.32	0.191E-02	0.163E-03	4.8	-0.238E-01	0.49E-02
350	1.315	1494	3.36	0.198E-02	0.171E-03	4.9	-0.308E-01	0.63E-02
355	1.329	1518	3.40	0.205E-02	0.179E-03	4.9	-0.386E-01	0.78E-02
360	1.344	1542	3.44	0.214E-02	0.186E-03	5.0	-0.473E-01	0.95E-02
365	1.359	1566	3.48	0.222E-02	0.195E-03	5.1	-0.569E-01	0.11E-01
370	1.375	1591	3.52	0.232E-02	0.204E-03	5.1	-0.673E-01	0.13E-01
375	1.392	1615	3.56	0.241E-02	0.215E-03	5.2	-0.783E-01	0.15E-01
380	1.410	1640	3.60	0.251E-02	0.228E-03	5.2	-0.900E-01	0.17E-01
385	1.428	1665	3.64	0.261E-02	0.243E-03	5.3	-0.102E+00	0.19E-01
390	1.447	1690	3.68	0.271E-02	0.262E-03	5.3	-0.115E+00	0.22E-01
395	1.466	1716	3.72	0.281E-02	0.285E-03	5.3	-0.128E+00	0.24E-01
400	1.485	1742	3.76	0.292E-02	0.314E-03	5.4	-0.143E+00	0.27E-01
405	1.506	1767	3.80	0.300E-02	0.362E-03	5.4	-0.156E+00	0.29E-01
410	1.530	1796	3.84	0.314E-02	0.406E-03	5.5	-0.175E+00	0.32E-01
415	1.555	1824	3.88	0.328E-02	0.446E-03	5.6	-0.195E+00	0.35E-01
420	1.582	1853	3.92	0.342E-02	0.483E-03	5.8	-0.217E+00	0.38E-01
425	1.609	1882	3.97	0.358E-02	0.518E-03	5.9	-0.242E+00	0.41E-01
430	1.638	1912	4.01	0.376E-02	0.551E-03	6.1	-0.269E+00	0.44E-01
435	1.669	1943	4.06	0.394E-02	0.583E-03	6.3	-0.298E+00	0.48E-01
440	1.702	1974	4.10	0.412E-02	0.615E-03	6.5	-0.330E+00	0.51E-01
445	1.736	2006	4.15	0.431E-02	0.649E-03	6.8	-0.363E+00	0.53E-01
450	1.773	2038	4.20	0.449E-02	0.686E-03	7.2	-0.398E+00	0.55E-01
455	1.812	2070	4.24	0.465E-02	0.727E-03	7.8	-0.433E+00	0.56E-01
460	1.852	2102	4.29	0.482E-02	0.772E-03	8.6	-0.469E+00	0.55E-01
465	1.894	2135	4.34	0.500E-02	0.824E-03	9.8	-0.510E+00	0.52E-01
470	1.935	2171	4.39	0.525E-02	0.883E-03	11.5	-0.562E+00	0.49E-01

P 720

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.084	863	2.15	0.652E-03	0.610E-04	4.0	0.749E-01	-0.19E-01
205	1.088	883	2.19	0.658E-03	0.639E-04	4.1	0.746E-01	-0.18E-01
210	1.091	902	2.23	0.675E-03	0.666E-04	4.1	0.736E-01	-0.18E-01
215	1.095	922	2.27	0.702E-03	0.692E-04	4.2	0.720E-01	-0.17E-01
220	1.099	941	2.32	0.737E-03	0.716E-04	4.2	0.700E-01	-0.17E-01
225	1.104	961	2.36	0.778E-03	0.740E-04	4.2	0.676E-01	-0.16E-01
230	1.108	981	2.40	0.824E-03	0.762E-04	4.2	0.649E-01	-0.15E-01
235	1.113	1002	2.44	0.873E-03	0.784E-04	4.3	0.619E-01	-0.15E-01
240	1.118	1022	2.48	0.924E-03	0.806E-04	4.3	0.588E-01	-0.14E-01
245	1.123	1043	2.53	0.976E-03	0.827E-04	4.3	0.555E-01	-0.13E-01
250	1.129	1063	2.57	0.103E-02	0.848E-04	4.3	0.522E-01	-0.12E-01
255	1.135	1084	2.61	0.108E-02	0.870E-04	4.3	0.488E-01	-0.11E-01
260	1.142	1104	2.65	0.113E-02	0.893E-04	4.3	0.454E-01	-0.10E-01
265	1.149	1125	2.69	0.118E-02	0.916E-04	4.3	0.421E-01	-0.97E-02
270	1.156	1146	2.73	0.122E-02	0.940E-04	4.4	0.387E-01	-0.89E-02
275	1.163	1167	2.77	0.127E-02	0.967E-04	4.4	0.355E-01	-0.81E-02
280	1.171	1188	2.81	0.131E-02	0.994E-04	4.4	0.322E-01	-0.73E-02
285	1.179	1209	2.85	0.135E-02	0.102E-03	4.4	0.290E-01	-0.66E-02
290	1.187	1230	2.89	0.139E-02	0.106E-03	4.4	0.258E-01	-0.58E-02
295	1.196	1251	2.93	0.143E-02	0.109E-03	4.4	0.226E-01	-0.51E-02
300	1.204	1272	2.97	0.146E-02	0.113E-03	4.5	0.193E-01	-0.43E-02
305	1.214	1294	3.01	0.150E-02	0.117E-03	4.5	0.160E-01	-0.36E-02
310	1.223	1315	3.05	0.154E-02	0.121E-03	4.5	0.124E-01	-0.27E-02
315	1.233	1337	3.08	0.158E-02	0.125E-03	4.5	0.862E-02	-0.19E-02
320	1.243	1359	3.12	0.162E-02	0.130E-03	4.6	0.451E-02	-0.98E-03
325	1.253	1381	3.16	0.167E-02	0.136E-03	4.6	-0.214E-04	0.46E-05
330	1.263	1403	3.20	0.172E-02	0.141E-03	4.7	-0.508E-02	0.11E-02
335	1.275	1425	3.24	0.177E-02	0.147E-03	4.7	-0.999E-02	0.21E-02
340	1.286	1448	3.28	0.183E-02	0.153E-03	4.8	-0.154E-01	0.32E-02
345	1.298	1471	3.32	0.188E-02	0.159E-03	4.8	-0.214E-01	0.44E-02
350	1.311	1494	3.36	0.195E-02	0.167E-03	4.9	-0.280E-01	0.58E-02
355	1.324	1517	3.39	0.202E-02	0.174E-03	4.9	-0.355E-01	0.72E-02
360	1.339	1541	3.43	0.210E-02	0.181E-03	5.0	-0.439E-01	0.88E-02
365	1.354	1565	3.47	0.218E-02	0.189E-03	5.0	-0.530E-01	0.11E-01
370	1.370	1589	3.51	0.227E-02	0.198E-03	5.1	-0.628E-01	0.12E-01
375	1.386	1614	3.55	0.236E-02	0.208E-03	5.1	-0.732E-01	0.14E-01
380	1.403	1638	3.59	0.245E-02	0.220E-03	5.2	-0.840E-01	0.16E-01
385	1.421	1663	3.63	0.254E-02	0.234E-03	5.2	-0.953E-01	0.18E-01
390	1.439	1688	3.67	0.263E-02	0.252E-03	5.2	-0.107E+00	0.20E-01
395	1.457	1713	3.71	0.272E-02	0.274E-03	5.3	-0.119E+00	0.23E-01
400	1.476	1739	3.75	0.282E-02	0.302E-03	5.3	-0.133E+00	0.25E-01
405	1.495	1764	3.79	0.290E-02	0.347E-03	5.4	-0.144E+00	0.27E-01
410	1.519	1792	3.83	0.303E-02	0.389E-03	5.5	-0.162E+00	0.30E-01
415	1.543	1820	3.87	0.316E-02	0.427E-03	5.6	-0.181E+00	0.32E-01
420	1.568	1848	3.91	0.330E-02	0.462E-03	5.7	-0.201E+00	0.35E-01
425	1.594	1877	3.96	0.345E-02	0.494E-03	5.8	-0.224E+00	0.38E-01
430	1.622	1907	4.00	0.361E-02	0.525E-03	6.0	-0.249E+00	0.42E-01
435	1.652	1937	4.05	0.378E-02	0.555E-03	6.2	-0.277E+00	0.45E-01
440	1.683	1968	4.09	0.395E-02	0.585E-03	6.4	-0.306E+00	0.48E-01
445	1.716	1999	4.14	0.413E-02	0.616E-03	6.7	-0.337E+00	0.50E-01
450	1.751	2030	4.18	0.430E-02	0.650E-03	7.1	-0.369E+00	0.52E-01
455	1.788	2061	4.23	0.445E-02	0.687E-03	7.6	-0.401E+00	0.53E-01
460	1.827	2093	4.27	0.461E-02	0.729E-03	8.3	-0.434E+00	0.52E-01
465	1.867	2125	4.32	0.477E-02	0.777E-03	9.4	-0.471E+00	0.50E-01
470	1.905	2160	4.37	0.501E-02	0.831E-03	11.0	-0.519E+00	0.47E-01

P 740

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.083	865	2.14	0.644E-03	0.606E-04	4.0	0.753E-01	-0.19E-01
205	1.086	884	2.19	0.649E-03	0.634E-04	4.1	0.749E-01	-0.18E-01
210	1.090	903	2.23	0.666E-03	0.660E-04	4.1	0.739E-01	-0.18E-01
215	1.094	923	2.27	0.692E-03	0.686E-04	4.1	0.724E-01	-0.17E-01
220	1.098	943	2.31	0.727E-03	0.710E-04	4.2	0.704E-01	-0.17E-01
225	1.102	963	2.36	0.767E-03	0.733E-04	4.2	0.681E-01	-0.16E-01
230	1.106	983	2.40	0.813E-03	0.755E-04	4.2	0.654E-01	-0.15E-01
235	1.111	1003	2.44	0.862E-03	0.776E-04	4.2	0.625E-01	-0.15E-01
240	1.116	1023	2.48	0.913E-03	0.797E-04	4.3	0.594E-01	-0.14E-01
245	1.122	1044	2.52	0.964E-03	0.818E-04	4.3	0.561E-01	-0.13E-01
250	1.127	1064	2.57	0.102E-02	0.839E-04	4.3	0.528E-01	-0.12E-01
255	1.133	1085	2.61	0.107E-02	0.860E-04	4.3	0.495E-01	-0.11E-01
260	1.140	1105	2.65	0.112E-02	0.882E-04	4.3	0.461E-01	-0.11E-01
265	1.146	1126	2.69	0.116E-02	0.905E-04	4.3	0.428E-01	-0.99E-02
270	1.153	1147	2.73	0.121E-02	0.929E-04	4.3	0.395E-01	-0.91E-02
275	1.161	1168	2.77	0.125E-02	0.954E-04	4.4	0.363E-01	-0.83E-02
280	1.168	1188	2.81	0.130E-02	0.981E-04	4.4	0.331E-01	-0.76E-02
285	1.176	1209	2.85	0.134E-02	0.101E-03	4.4	0.299E-01	-0.68E-02
290	1.185	1230	2.89	0.137E-02	0.104E-03	4.4	0.268E-01	-0.61E-02
295	1.193	1251	2.93	0.141E-02	0.107E-03	4.4	0.236E-01	-0.53E-02
300	1.202	1273	2.96	0.145E-02	0.111E-03	4.5	0.204E-01	-0.46E-02
305	1.211	1294	3.00	0.149E-02	0.115E-03	4.5	0.171E-01	-0.38E-02
310	1.220	1315	3.04	0.152E-02	0.119E-03	4.5	0.136E-01	-0.30E-02
315	1.229	1337	3.08	0.156E-02	0.123E-03	4.5	0.994E-02	-0.22E-02
320	1.239	1359	3.12	0.161E-02	0.128E-03	4.6	0.593E-02	-0.13E-02
325	1.249	1381	3.16	0.165E-02	0.133E-03	4.6	0.151E-02	-0.33E-03
330	1.260	1403	3.20	0.170E-02	0.138E-03	4.6	-0.343E-02	0.74E-03
335	1.271	1425	3.23	0.175E-02	0.144E-03	4.7	-0.815E-02	0.17E-02
340	1.282	1448	3.27	0.180E-02	0.150E-03	4.7	-0.133E-01	0.28E-02
345	1.294	1470	3.31	0.186E-02	0.156E-03	4.8	-0.191E-01	0.40E-02
350	1.306	1493	3.35	0.192E-02	0.163E-03	4.8	-0.254E-01	0.53E-02
355	1.320	1517	3.39	0.199E-02	0.169E-03	4.9	-0.326E-01	0.67E-02
360	1.334	1540	3.43	0.206E-02	0.176E-03	4.9	-0.406E-01	0.82E-02
365	1.349	1564	3.47	0.214E-02	0.184E-03	5.0	-0.492E-01	0.99E-02
370	1.364	1588	3.51	0.222E-02	0.192E-03	5.0	-0.585E-01	0.12E-01
375	1.381	1612	3.55	0.231E-02	0.201E-03	5.1	-0.683E-01	0.13E-01
380	1.397	1637	3.58	0.239E-02	0.213E-03	5.1	-0.785E-01	0.15E-01
385	1.415	1661	3.62	0.247E-02	0.226E-03	5.2	-0.889E-01	0.17E-01
390	1.432	1686	3.66	0.256E-02	0.243E-03	5.2	-0.996E-01	0.19E-01
395	1.450	1711	3.70	0.264E-02	0.264E-03	5.2	-0.111E+00	0.21E-01
400	1.467	1736	3.74	0.274E-02	0.290E-03	5.3	-0.123E+00	0.23E-01
405	1.485	1762	3.78	0.280E-02	0.334E-03	5.3	-0.133E+00	0.25E-01
410	1.508	1789	3.82	0.292E-02	0.373E-03	5.4	-0.150E+00	0.28E-01
415	1.531	1817	3.86	0.304E-02	0.410E-03	5.5	-0.168E+00	0.30E-01
420	1.555	1844	3.90	0.318E-02	0.443E-03	5.6	-0.187E+00	0.33E-01
425	1.580	1873	3.95	0.332E-02	0.473E-03	5.7	-0.208E+00	0.36E-01
430	1.606	1902	3.99	0.347E-02	0.502E-03	5.9	-0.231E+00	0.39E-01
435	1.635	1932	4.03	0.363E-02	0.529E-03	6.1	-0.257E+00	0.42E-01
440	1.665	1962	4.08	0.380E-02	0.557E-03	6.3	-0.285E+00	0.45E-01
445	1.697	1992	4.12	0.396E-02	0.587E-03	6.6	-0.313E+00	0.48E-01
450	1.731	2023	4.17	0.412E-02	0.618E-03	6.9	-0.343E+00	0.50E-01
455	1.766	2054	4.21	0.427E-02	0.653E-03	7.4	-0.372E+00	0.50E-01
460	1.804	2085	4.26	0.440E-02	0.692E-03	8.1	-0.402E+00	0.50E-01
465	1.842	2116	4.30	0.456E-02	0.736E-03	9.1	-0.436E+00	0.48E-01
470	1.878	2151	4.35	0.478E-02	0.786E-03	10.6	-0.480E+00	0.45E-01

P 760

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.082	866	2.14	0.636E-03	0.601E-04	4.0	0.756E-01	-0.19E-01
205	1.085	886	2.19	0.641E-03	0.629E-04	4.1	0.753E-01	-0.18E-01
210	1.089	905	2.23	0.657E-03	0.655E-04	4.1	0.743E-01	-0.18E-01
215	1.092	925	2.27	0.683E-03	0.680E-04	4.1	0.728E-01	-0.18E-01
220	1.096	944	2.31	0.717E-03	0.703E-04	4.2	0.709E-01	-0.17E-01
225	1.100	964	2.36	0.757E-03	0.726E-04	4.2	0.685E-01	-0.16E-01
230	1.105	984	2.40	0.802E-03	0.748E-04	4.2	0.659E-01	-0.16E-01
235	1.109	1004	2.44	0.851E-03	0.769E-04	4.2	0.630E-01	-0.15E-01
240	1.114	1024	2.48	0.901E-03	0.789E-04	4.2	0.599E-01	-0.14E-01
245	1.120	1045	2.52	0.953E-03	0.809E-04	4.3	0.567E-01	-0.13E-01
250	1.125	1065	2.56	0.100E-02	0.830E-04	4.3	0.534E-01	-0.12E-01
255	1.131	1086	2.60	0.106E-02	0.851E-04	4.3	0.501E-01	-0.12E-01
260	1.138	1106	2.64	0.110E-02	0.872E-04	4.3	0.468E-01	-0.11E-01
265	1.144	1127	2.69	0.115E-02	0.894E-04	4.3	0.435E-01	-0.10E-01
270	1.151	1148	2.73	0.120E-02	0.917E-04	4.3	0.402E-01	-0.93E-02
275	1.159	1168	2.77	0.124E-02	0.942E-04	4.3	0.370E-01	-0.85E-02
280	1.166	1189	2.80	0.128E-02	0.968E-04	4.4	0.339E-01	-0.78E-02
285	1.174	1210	2.84	0.132E-02	0.996E-04	4.4	0.308E-01	-0.70E-02
290	1.182	1231	2.88	0.136E-02	0.103E-03	4.4	0.277E-01	-0.63E-02
295	1.190	1252	2.92	0.140E-02	0.106E-03	4.4	0.246E-01	-0.56E-02
300	1.199	1273	2.96	0.143E-02	0.109E-03	4.4	0.215E-01	-0.48E-02
305	1.208	1294	3.00	0.147E-02	0.113E-03	4.5	0.182E-01	-0.41E-02
310	1.217	1316	3.04	0.151E-02	0.117E-03	4.5	0.148E-01	-0.33E-02
315	1.226	1337	3.08	0.154E-02	0.121E-03	4.5	0.112E-01	-0.25E-02
320	1.236	1359	3.12	0.159E-02	0.126E-03	4.6	0.729E-02	-0.16E-02
325	1.246	1381	3.15	0.163E-02	0.130E-03	4.6	0.297E-02	-0.65E-03
330	1.257	1403	3.19	0.168E-02	0.135E-03	4.6	-0.186E-02	0.40E-03
335	1.267	1425	3.23	0.173E-02	0.141E-03	4.7	-0.641E-02	0.14E-02
340	1.278	1447	3.27	0.178E-02	0.146E-03	4.7	-0.114E-01	0.24E-02
345	1.290	1470	3.31	0.183E-02	0.152E-03	4.8	-0.169E-01	0.36E-02
350	1.302	1493	3.35	0.189E-02	0.159E-03	4.8	-0.230E-01	0.48E-02
355	1.315	1516	3.38	0.195E-02	0.165E-03	4.9	-0.298E-01	0.62E-02
360	1.329	1539	3.42	0.202E-02	0.171E-03	4.9	-0.375E-01	0.76E-02
365	1.344	1563	3.46	0.210E-02	0.179E-03	5.0	-0.457E-01	0.92E-02
370	1.359	1587	3.50	0.218E-02	0.186E-03	5.0	-0.546E-01	0.11E-01
375	1.375	1611	3.54	0.226E-02	0.195E-03	5.0	-0.638E-01	0.13E-01
380	1.392	1635	3.58	0.234E-02	0.206E-03	5.1	-0.732E-01	0.14E-01
385	1.408	1660	3.62	0.241E-02	0.219E-03	5.1	-0.829E-01	0.16E-01
390	1.425	1684	3.66	0.249E-02	0.235E-03	5.2	-0.927E-01	0.18E-01
395	1.442	1709	3.69	0.257E-02	0.255E-03	5.2	-0.103E+00	0.20E-01
400	1.459	1734	3.73	0.265E-02	0.280E-03	5.2	-0.115E+00	0.22E-01
405	1.476	1759	3.77	0.271E-02	0.321E-03	5.3	-0.123E+00	0.23E-01
410	1.497	1786	3.81	0.282E-02	0.359E-03	5.4	-0.139E+00	0.26E-01
415	1.519	1813	3.85	0.294E-02	0.394E-03	5.5	-0.155E+00	0.28E-01
420	1.542	1841	3.89	0.306E-02	0.425E-03	5.6	-0.173E+00	0.31E-01
425	1.566	1869	3.94	0.320E-02	0.454E-03	5.7	-0.193E+00	0.34E-01
430	1.592	1897	3.98	0.334E-02	0.481E-03	5.8	-0.215E+00	0.37E-01
435	1.619	1927	4.02	0.349E-02	0.507E-03	6.0	-0.239E+00	0.40E-01
440	1.648	1956	4.07	0.365E-02	0.533E-03	6.2	-0.264E+00	0.43E-01
445	1.679	1986	4.11	0.381E-02	0.560E-03	6.4	-0.291E+00	0.45E-01
450	1.711	2016	4.15	0.395E-02	0.589E-03	6.8	-0.318E+00	0.47E-01
455	1.746	2047	4.20	0.409E-02	0.622E-03	7.2	-0.345E+00	0.48E-01
460	1.782	2077	4.24	0.421E-02	0.658E-03	7.8	-0.372E+00	0.47E-01
465	1.819	2108	4.28	0.435E-02	0.699E-03	8.8	-0.403E+00	0.46E-01
470	1.853	2142	4.33	0.457E-02	0.747E-03	10.2	-0.443E+00	0.44E-01

P 780

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.080	868	2.14	0.629E-03	0.597E-04	4.0	0.759E-01	-0.19E-01
205	1.084	887	2.18	0.632E-03	0.624E-04	4.1	0.756E-01	-0.19E-01
210	1.087	906	2.23	0.648E-03	0.650E-04	4.1	0.747E-01	-0.18E-01
215	1.091	926	2.27	0.673E-03	0.674E-04	4.1	0.732E-01	-0.18E-01
220	1.095	946	2.31	0.707E-03	0.697E-04	4.2	0.713E-01	-0.17E-01
225	1.099	965	2.35	0.747E-03	0.719E-04	4.2	0.690E-01	-0.17E-01
230	1.103	985	2.40	0.792E-03	0.741E-04	4.2	0.664E-01	-0.16E-01
235	1.108	1006	2.44	0.840E-03	0.761E-04	4.2	0.635E-01	-0.15E-01
240	1.113	1026	2.48	0.890E-03	0.781E-04	4.2	0.604E-01	-0.14E-01
245	1.118	1046	2.52	0.941E-03	0.801E-04	4.2	0.573E-01	-0.13E-01
250	1.124	1066	2.56	0.993E-03	0.821E-04	4.3	0.540E-01	-0.13E-01
255	1.130	1087	2.60	0.104E-02	0.841E-04	4.3	0.507E-01	-0.12E-01
260	1.136	1107	2.64	0.109E-02	0.862E-04	4.3	0.474E-01	-0.11E-01
265	1.142	1128	2.68	0.114E-02	0.884E-04	4.3	0.442E-01	-0.10E-01
270	1.149	1148	2.72	0.119E-02	0.906E-04	4.3	0.409E-01	-0.95E-02
275	1.156	1169	2.76	0.123E-02	0.930E-04	4.3	0.378E-01	-0.87E-02
280	1.164	1190	2.80	0.127E-02	0.956E-04	4.3	0.347E-01	-0.80E-02
285	1.172	1211	2.84	0.131E-02	0.983E-04	4.4	0.316E-01	-0.72E-02
290	1.180	1231	2.88	0.135E-02	0.101E-03	4.4	0.286E-01	-0.65E-02
295	1.188	1252	2.92	0.138E-02	0.104E-03	4.4	0.255E-01	-0.58E-02
300	1.196	1273	2.96	0.142E-02	0.108E-03	4.4	0.225E-01	-0.51E-02
305	1.205	1295	3.00	0.145E-02	0.111E-03	4.4	0.193E-01	-0.43E-02
310	1.214	1316	3.03	0.149E-02	0.115E-03	4.5	0.160E-01	-0.36E-02
315	1.224	1337	3.07	0.153E-02	0.119E-03	4.5	0.124E-01	-0.28E-02
320	1.233	1359	3.11	0.157E-02	0.123E-03	4.5	0.859E-02	-0.19E-02
325	1.243	1381	3.15	0.161E-02	0.128E-03	4.6	0.436E-02	-0.95E-03
330	1.253	1403	3.19	0.166E-02	0.133E-03	4.6	-0.368E-03	0.80E-04
335	1.264	1425	3.23	0.171E-02	0.138E-03	4.6	-0.475E-02	0.10E-02
340	1.275	1447	3.26	0.175E-02	0.143E-03	4.7	-0.952E-02	0.20E-02
345	1.286	1470	3.30	0.180E-02	0.149E-03	4.7	-0.148E-01	0.31E-02
350	1.298	1492	3.34	0.186E-02	0.155E-03	4.8	-0.206E-01	0.43E-02
355	1.311	1515	3.38	0.192E-02	0.161E-03	4.8	-0.272E-01	0.56E-02
360	1.325	1539	3.42	0.199E-02	0.167E-03	4.9	-0.345E-01	0.71E-02
365	1.339	1562	3.46	0.206E-02	0.174E-03	4.9	-0.424E-01	0.86E-02
370	1.354	1586	3.49	0.214E-02	0.181E-03	5.0	-0.508E-01	0.10E-01
375	1.370	1610	3.53	0.221E-02	0.190E-03	5.0	-0.595E-01	0.12E-01
380	1.386	1634	3.57	0.229E-02	0.200E-03	5.0	-0.683E-01	0.14E-01
385	1.402	1658	3.61	0.236E-02	0.212E-03	5.1	-0.772E-01	0.15E-01
390	1.418	1682	3.65	0.242E-02	0.227E-03	5.1	-0.862E-01	0.17E-01
395	1.435	1707	3.69	0.249E-02	0.246E-03	5.1	-0.957E-01	0.19E-01
400	1.451	1732	3.73	0.257E-02	0.270E-03	5.2	-0.106E+00	0.20E-01
405	1.467	1757	3.76	0.262E-02	0.310E-03	5.2	-0.114E+00	0.22E-01
410	1.487	1783	3.80	0.273E-02	0.346E-03	5.3	-0.129E+00	0.24E-01
415	1.508	1810	3.84	0.284E-02	0.379E-03	5.4	-0.144E+00	0.27E-01
420	1.530	1837	3.89	0.296E-02	0.409E-03	5.5	-0.161E+00	0.29E-01
425	1.553	1865	3.93	0.308E-02	0.436E-03	5.6	-0.179E+00	0.32E-01
430	1.578	1893	3.97	0.322E-02	0.461E-03	5.7	-0.199E+00	0.35E-01
435	1.604	1922	4.01	0.336E-02	0.486E-03	5.9	-0.222E+00	0.38E-01
440	1.632	1951	4.05	0.351E-02	0.511E-03	6.1	-0.246E+00	0.40E-01
445	1.662	1981	4.10	0.366E-02	0.536E-03	6.3	-0.270E+00	0.43E-01
450	1.693	2010	4.14	0.379E-02	0.564E-03	6.6	-0.295E+00	0.45E-01
455	1.727	2040	4.18	0.392E-02	0.594E-03	7.0	-0.320E+00	0.45E-01
460	1.762	2070	4.23	0.403E-02	0.628E-03	7.6	-0.344E+00	0.45E-01
465	1.797	2101	4.27	0.416E-02	0.666E-03	8.5	-0.372E+00	0.44E-01
470	1.829	2133	4.31	0.436E-02	0.711E-03	9.8	-0.409E+00	0.42E-01

P 800

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.079	869	2.14	0.621E-03	0.592E-04	4.0	0.762E-01	-0.19E-01
205	1.082	889	2.18	0.624E-03	0.619E-04	4.1	0.759E-01	-0.19E-01
210	1.086	908	2.23	0.639E-03	0.644E-04	4.1	0.751E-01	-0.18E-01
215	1.089	927	2.27	0.664E-03	0.668E-04	4.1	0.736E-01	-0.18E-01
220	1.093	947	2.31	0.697E-03	0.691E-04	4.1	0.717E-01	-0.17E-01
225	1.097	967	2.35	0.737E-03	0.713E-04	4.2	0.694E-01	-0.17E-01
230	1.101	987	2.39	0.781E-03	0.734E-04	4.2	0.668E-01	-0.16E-01
235	1.106	1007	2.44	0.829E-03	0.754E-04	4.2	0.640E-01	-0.15E-01
240	1.111	1027	2.48	0.879E-03	0.773E-04	4.2	0.610E-01	-0.14E-01
245	1.116	1047	2.52	0.930E-03	0.793E-04	4.2	0.578E-01	-0.14E-01
250	1.122	1067	2.56	0.981E-03	0.812E-04	4.3	0.546E-01	-0.13E-01
255	1.128	1088	2.60	0.103E-02	0.832E-04	4.3	0.513E-01	-0.12E-01
260	1.134	1108	2.64	0.108E-02	0.852E-04	4.3	0.481E-01	-0.11E-01
265	1.140	1129	2.68	0.113E-02	0.873E-04	4.3	0.448E-01	-0.10E-01
270	1.147	1149	2.72	0.117E-02	0.895E-04	4.3	0.416E-01	-0.97E-02
275	1.154	1170	2.76	0.122E-02	0.919E-04	4.3	0.385E-01	-0.89E-02
280	1.162	1190	2.80	0.126E-02	0.943E-04	4.3	0.354E-01	-0.82E-02
285	1.169	1211	2.84	0.129E-02	0.970E-04	4.4	0.324E-01	-0.74E-02
290	1.177	1232	2.88	0.133E-02	0.998E-04	4.4	0.294E-01	-0.67E-02
295	1.185	1253	2.92	0.137E-02	0.103E-03	4.4	0.264E-01	-0.60E-02
300	1.194	1274	2.95	0.140E-02	0.106E-03	4.4	0.234E-01	-0.53E-02
305	1.203	1295	2.99	0.144E-02	0.109E-03	4.4	0.203E-01	-0.46E-02
310	1.211	1316	3.03	0.147E-02	0.113E-03	4.5	0.171E-01	-0.38E-02
315	1.221	1338	3.07	0.151E-02	0.117E-03	4.5	0.136E-01	-0.30E-02
320	1.230	1359	3.11	0.155E-02	0.121E-03	4.5	0.984E-02	-0.22E-02
325	1.240	1381	3.15	0.159E-02	0.126E-03	4.6	0.570E-02	-0.13E-02
330	1.250	1403	3.18	0.164E-02	0.130E-03	4.6	0.106E-02	-0.23E-03
335	1.260	1425	3.22	0.169E-02	0.135E-03	4.6	-0.316E-02	0.68E-03
340	1.271	1447	3.26	0.173E-02	0.140E-03	4.7	-0.775E-02	0.17E-02
345	1.282	1469	3.30	0.178E-02	0.145E-03	4.7	-0.129E-01	0.27E-02
350	1.294	1492	3.34	0.183E-02	0.151E-03	4.8	-0.184E-01	0.39E-02
355	1.307	1515	3.37	0.189E-02	0.157E-03	4.8	-0.248E-01	0.52E-02
360	1.321	1538	3.41	0.196E-02	0.163E-03	4.8	-0.317E-01	0.66E-02
365	1.335	1561	3.45	0.203E-02	0.169E-03	4.9	-0.393E-01	0.80E-02
370	1.350	1585	3.49	0.210E-02	0.176E-03	4.9	-0.472E-01	0.96E-02
375	1.365	1609	3.53	0.217E-02	0.184E-03	5.0	-0.554E-01	0.11E-01
380	1.380	1632	3.57	0.224E-02	0.194E-03	5.0	-0.636E-01	0.13E-01
385	1.396	1656	3.60	0.230E-02	0.206E-03	5.0	-0.719E-01	0.14E-01
390	1.412	1681	3.64	0.236E-02	0.220E-03	5.1	-0.801E-01	0.16E-01
395	1.428	1705	3.68	0.243E-02	0.238E-03	5.1	-0.887E-01	0.17E-01
400	1.443	1730	3.72	0.250E-02	0.261E-03	5.1	-0.983E-01	0.19E-01
405	1.458	1754	3.76	0.254E-02	0.299E-03	5.2	-0.105E+00	0.20E-01
410	1.478	1781	3.80	0.264E-02	0.334E-03	5.3	-0.119E+00	0.23E-01
415	1.498	1807	3.84	0.275E-02	0.365E-03	5.4	-0.133E+00	0.25E-01
420	1.519	1834	3.88	0.286E-02	0.394E-03	5.5	-0.149E+00	0.27E-01
425	1.541	1862	3.92	0.297E-02	0.420E-03	5.6	-0.166E+00	0.30E-01
430	1.564	1889	3.96	0.310E-02	0.444E-03	5.7	-0.185E+00	0.33E-01
435	1.590	1918	4.00	0.324E-02	0.467E-03	5.8	-0.206E+00	0.35E-01
440	1.617	1946	4.04	0.338E-02	0.491E-03	6.0	-0.228E+00	0.38E-01
445	1.646	1976	4.08	0.352E-02	0.515E-03	6.2	-0.251E+00	0.40E-01
450	1.676	2005	4.13	0.364E-02	0.540E-03	6.5	-0.274E+00	0.42E-01
455	1.709	2034	4.17	0.375E-02	0.569E-03	6.9	-0.296E+00	0.43E-01
460	1.743	2064	4.21	0.386E-02	0.601E-03	7.4	-0.318E+00	0.43E-01
465	1.776	2094	4.25	0.397E-02	0.637E-03	8.2	-0.343E+00	0.42E-01
470	1.807	2126	4.30	0.416E-02	0.680E-03	9.3	-0.378E+00	0.40E-01

P 820

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.078	871	2.14	0.613E-03	0.588E-04	4.0	0.765E-01	-0.19E-01
205	1.081	890	2.18	0.616E-03	0.614E-04	4.1	0.763E-01	-0.19E-01
210	1.084	909	2.22	0.630E-03	0.639E-04	4.1	0.754E-01	-0.18E-01
215	1.088	929	2.27	0.655E-03	0.663E-04	4.1	0.740E-01	-0.18E-01
220	1.092	949	2.31	0.688E-03	0.685E-04	4.1	0.721E-01	-0.17E-01
225	1.096	968	2.35	0.727E-03	0.706E-04	4.2	0.699E-01	-0.17E-01
230	1.100	988	2.39	0.771E-03	0.727E-04	4.2	0.673E-01	-0.16E-01
235	1.104	1008	2.43	0.819E-03	0.746E-04	4.2	0.645E-01	-0.15E-01
240	1.109	1028	2.48	0.869E-03	0.766E-04	4.2	0.615E-01	-0.15E-01
245	1.114	1048	2.52	0.920E-03	0.785E-04	4.2	0.583E-01	-0.14E-01
250	1.120	1068	2.56	0.970E-03	0.804E-04	4.2	0.551E-01	-0.13E-01
255	1.126	1089	2.60	0.102E-02	0.823E-04	4.3	0.519E-01	-0.12E-01
260	1.132	1109	2.64	0.107E-02	0.843E-04	4.3	0.487E-01	-0.11E-01
265	1.138	1130	2.68	0.112E-02	0.863E-04	4.3	0.455E-01	-0.11E-01
270	1.145	1150	2.72	0.116E-02	0.885E-04	4.3	0.423E-01	-0.99E-02
275	1.152	1171	2.76	0.120E-02	0.907E-04	4.3	0.392E-01	-0.91E-02
280	1.159	1191	2.80	0.124E-02	0.931E-04	4.3	0.362E-01	-0.84E-02
285	1.167	1212	2.83	0.128E-02	0.957E-04	4.3	0.332E-01	-0.76E-02
290	1.175	1233	2.87	0.132E-02	0.984E-04	4.4	0.303E-01	-0.69E-02
295	1.183	1253	2.91	0.135E-02	0.101E-03	4.4	0.273E-01	-0.62E-02
300	1.191	1274	2.95	0.139E-02	0.104E-03	4.4	0.243E-01	-0.55E-02
305	1.200	1295	2.99	0.142E-02	0.108E-03	4.4	0.213E-01	-0.48E-02
310	1.209	1317	3.03	0.146E-02	0.111E-03	4.4	0.181E-01	-0.41E-02
315	1.218	1338	3.07	0.149E-02	0.115E-03	4.5	0.147E-01	-0.33E-02
320	1.227	1359	3.10	0.153E-02	0.119E-03	4.5	0.110E-01	-0.24E-02
325	1.237	1381	3.14	0.158E-02	0.123E-03	4.5	0.698E-02	-0.15E-02
330	1.247	1403	3.18	0.163E-02	0.128E-03	4.6	0.242E-02	-0.53E-03
335	1.257	1425	3.22	0.167E-02	0.133E-03	4.6	-0.165E-02	0.36E-03
340	1.268	1447	3.26	0.171E-02	0.137E-03	4.6	-0.606E-02	0.13E-02
345	1.279	1469	3.29	0.176E-02	0.142E-03	4.7	-0.110E-01	0.23E-02
350	1.290	1492	3.33	0.181E-02	0.148E-03	4.7	-0.163E-01	0.35E-02
355	1.303	1514	3.37	0.187E-02	0.153E-03	4.8	-0.224E-01	0.47E-02
360	1.316	1537	3.41	0.193E-02	0.159E-03	4.8	-0.291E-01	0.60E-02
365	1.330	1561	3.45	0.199E-02	0.165E-03	4.9	-0.363E-01	0.75E-02
370	1.345	1584	3.48	0.206E-02	0.171E-03	4.9	-0.438E-01	0.89E-02
375	1.360	1608	3.52	0.213E-02	0.179E-03	4.9	-0.515E-01	0.10E-01
380	1.375	1631	3.56	0.219E-02	0.188E-03	5.0	-0.592E-01	0.12E-01
385	1.391	1655	3.60	0.225E-02	0.199E-03	5.0	-0.668E-01	0.13E-01
390	1.406	1679	3.64	0.230E-02	0.213E-03	5.0	-0.743E-01	0.15E-01
395	1.421	1703	3.67	0.236E-02	0.231E-03	5.1	-0.821E-01	0.16E-01
400	1.436	1728	3.71	0.243E-02	0.253E-03	5.1	-0.909E-01	0.18E-01
405	1.450	1752	3.75	0.246E-02	0.289E-03	5.2	-0.968E-01	0.19E-01
410	1.469	1779	3.79	0.256E-02	0.323E-03	5.2	-0.110E+00	0.21E-01
415	1.488	1805	3.83	0.266E-02	0.353E-03	5.3	-0.123E+00	0.23E-01
420	1.508	1831	3.87	0.276E-02	0.380E-03	5.4	-0.138E+00	0.25E-01
425	1.529	1858	3.91	0.287E-02	0.405E-03	5.5	-0.154E+00	0.28E-01
430	1.552	1886	3.95	0.299E-02	0.428E-03	5.6	-0.171E+00	0.31E-01
435	1.576	1914	3.99	0.312E-02	0.450E-03	5.8	-0.191E+00	0.33E-01
440	1.602	1942	4.03	0.325E-02	0.472E-03	5.9	-0.212E+00	0.36E-01
445	1.630	1971	4.07	0.338E-02	0.495E-03	6.1	-0.233E+00	0.38E-01
450	1.660	2000	4.12	0.350E-02	0.519E-03	6.4	-0.254E+00	0.40E-01
455	1.692	2029	4.16	0.360E-02	0.546E-03	6.7	-0.274E+00	0.41E-01
460	1.725	2058	4.20	0.369E-02	0.576E-03	7.2	-0.294E+00	0.41E-01
465	1.757	2087	4.24	0.379E-02	0.610E-03	7.9	-0.316E+00	0.40E-01
470	1.786	2119	4.28	0.396E-02	0.651E-03	9.0	-0.348E+00	0.39E-01

P 840

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.076	872	2.14	0.606E-03	0.584E-04	4.0	0.768E-01	-0.19E-01
205	1.080	892	2.18	0.608E-03	0.609E-04	4.1	0.766E-01	-0.19E-01
210	1.083	911	2.22	0.622E-03	0.634E-04	4.1	0.758E-01	-0.19E-01
215	1.086	930	2.27	0.646E-03	0.657E-04	4.1	0.744E-01	-0.18E-01
220	1.090	950	2.31	0.679E-03	0.679E-04	4.1	0.725E-01	-0.18E-01
225	1.094	970	2.35	0.718E-03	0.700E-04	4.1	0.703E-01	-0.17E-01
230	1.098	989	2.39	0.761E-03	0.720E-04	4.2	0.678E-01	-0.16E-01
235	1.103	1009	2.43	0.809E-03	0.739E-04	4.2	0.650E-01	-0.16E-01
240	1.108	1029	2.47	0.858E-03	0.758E-04	4.2	0.620E-01	-0.15E-01
245	1.113	1049	2.51	0.909E-03	0.777E-04	4.2	0.589E-01	-0.14E-01
250	1.118	1070	2.55	0.960E-03	0.795E-04	4.2	0.557E-01	-0.13E-01
255	1.124	1090	2.59	0.101E-02	0.814E-04	4.2	0.525E-01	-0.12E-01
260	1.130	1110	2.64	0.106E-02	0.833E-04	4.3	0.493E-01	-0.12E-01
265	1.136	1130	2.67	0.110E-02	0.854E-04	4.3	0.461E-01	-0.11E-01
270	1.143	1151	2.71	0.115E-02	0.874E-04	4.3	0.430E-01	-0.10E-01
275	1.150	1171	2.75	0.119E-02	0.897E-04	4.3	0.399E-01	-0.93E-02
280	1.157	1192	2.79	0.123E-02	0.920E-04	4.3	0.369E-01	-0.86E-02
285	1.165	1213	2.83	0.127E-02	0.945E-04	4.3	0.340E-01	-0.78E-02
290	1.173	1233	2.87	0.131E-02	0.971E-04	4.3	0.311E-01	-0.71E-02
295	1.181	1254	2.91	0.134E-02	0.100E-03	4.4	0.282E-01	-0.64E-02
300	1.189	1275	2.95	0.137E-02	0.103E-03	4.4	0.252E-01	-0.58E-02
305	1.197	1296	2.99	0.141E-02	0.106E-03	4.4	0.223E-01	-0.50E-02
310	1.206	1317	3.02	0.144E-02	0.110E-03	4.4	0.191E-01	-0.43E-02
315	1.215	1338	3.06	0.148E-02	0.113E-03	4.5	0.158E-01	-0.35E-02
320	1.224	1360	3.10	0.152E-02	0.117E-03	4.5	0.122E-01	-0.27E-02
325	1.234	1381	3.14	0.156E-02	0.121E-03	4.5	0.820E-02	-0.18E-02
330	1.243	1403	3.18	0.161E-02	0.126E-03	4.6	0.373E-02	-0.82E-03
335	1.254	1425	3.21	0.165E-02	0.130E-03	4.6	-0.207E-03	0.45E-04
340	1.264	1447	3.25	0.169E-02	0.135E-03	4.6	-0.446E-02	0.96E-03
345	1.275	1469	3.29	0.173E-02	0.139E-03	4.7	-0.918E-02	0.20E-02
350	1.286	1491	3.33	0.178E-02	0.145E-03	4.7	-0.143E-01	0.30E-02
355	1.299	1514	3.36	0.184E-02	0.150E-03	4.7	-0.202E-01	0.42E-02
360	1.312	1537	3.40	0.190E-02	0.155E-03	4.8	-0.266E-01	0.56E-02
365	1.326	1560	3.44	0.196E-02	0.161E-03	4.8	-0.335E-01	0.69E-02
370	1.340	1583	3.48	0.203E-02	0.167E-03	4.9	-0.406E-01	0.83E-02
375	1.355	1607	3.52	0.209E-02	0.174E-03	4.9	-0.479E-01	0.98E-02
380	1.370	1630	3.55	0.215E-02	0.183E-03	4.9	-0.550E-01	0.11E-01
385	1.385	1654	3.59	0.220E-02	0.194E-03	5.0	-0.620E-01	0.12E-01
390	1.400	1678	3.63	0.225E-02	0.207E-03	5.0	-0.688E-01	0.14E-01
395	1.415	1702	3.67	0.230E-02	0.224E-03	5.0	-0.758E-01	0.15E-01
400	1.429	1726	3.70	0.236E-02	0.245E-03	5.1	-0.839E-01	0.16E-01
405	1.442	1750	3.74	0.238E-02	0.280E-03	5.1	-0.889E-01	0.17E-01
410	1.460	1776	3.78	0.248E-02	0.313E-03	5.2	-0.101E+00	0.19E-01
415	1.478	1802	3.82	0.257E-02	0.341E-03	5.3	-0.114E+00	0.22E-01
420	1.497	1829	3.86	0.267E-02	0.367E-03	5.4	-0.127E+00	0.24E-01
425	1.518	1855	3.90	0.277E-02	0.391E-03	5.5	-0.142E+00	0.26E-01
430	1.540	1882	3.94	0.289E-02	0.413E-03	5.6	-0.159E+00	0.29E-01
435	1.563	1910	3.98	0.301E-02	0.434E-03	5.7	-0.177E+00	0.31E-01
440	1.588	1938	4.02	0.313E-02	0.455E-03	5.8	-0.196E+00	0.34E-01
445	1.616	1966	4.06	0.325E-02	0.477E-03	6.0	-0.216E+00	0.36E-01
450	1.645	1995	4.10	0.336E-02	0.500E-03	6.3	-0.235E+00	0.38E-01
455	1.676	2023	4.15	0.345E-02	0.525E-03	6.6	-0.253E+00	0.39E-01
460	1.707	2052	4.19	0.353E-02	0.554E-03	7.0	-0.271E+00	0.39E-01
465	1.739	2081	4.23	0.362E-02	0.586E-03	7.6	-0.291E+00	0.38E-01
470	1.766	2112	4.27	0.378E-02	0.625E-03	8.6	-0.319E+00	0.37E-01

P 860

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.075	874	2.14	0.598E-03	0.579E-04	4.0	0.771E-01	-0.19E-01
205	1.078	893	2.18	0.600E-03	0.605E-04	4.1	0.769E-01	-0.19E-01
210	1.082	913	2.22	0.613E-03	0.629E-04	4.1	0.761E-01	-0.19E-01
215	1.085	932	2.26	0.637E-03	0.652E-04	4.1	0.748E-01	-0.18E-01
220	1.089	951	2.31	0.669E-03	0.673E-04	4.1	0.729E-01	-0.18E-01
225	1.093	971	2.35	0.708E-03	0.694E-04	4.1	0.707E-01	-0.17E-01
230	1.097	991	2.39	0.752E-03	0.713E-04	4.2	0.682E-01	-0.16E-01
235	1.101	1011	2.43	0.799E-03	0.732E-04	4.2	0.654E-01	-0.16E-01
240	1.106	1031	2.47	0.848E-03	0.751E-04	4.2	0.625E-01	-0.15E-01
245	1.111	1051	2.51	0.899E-03	0.769E-04	4.2	0.594E-01	-0.14E-01
250	1.116	1071	2.55	0.949E-03	0.787E-04	4.2	0.562E-01	-0.13E-01
255	1.122	1091	2.59	0.999E-03	0.806E-04	4.2	0.530E-01	-0.13E-01
260	1.128	1111	2.63	0.105E-02	0.824E-04	4.2	0.498E-01	-0.12E-01
265	1.134	1131	2.67	0.109E-02	0.844E-04	4.3	0.467E-01	-0.11E-01
270	1.141	1152	2.71	0.114E-02	0.864E-04	4.3	0.436E-01	-0.10E-01
275	1.148	1172	2.75	0.118E-02	0.886E-04	4.3	0.406E-01	-0.95E-02
280	1.155	1193	2.79	0.122E-02	0.909E-04	4.3	0.376E-01	-0.87E-02
285	1.163	1213	2.83	0.126E-02	0.933E-04	4.3	0.347E-01	-0.80E-02
290	1.170	1234	2.87	0.129E-02	0.959E-04	4.3	0.318E-01	-0.73E-02
295	1.178	1255	2.91	0.133E-02	0.986E-04	4.4	0.290E-01	-0.67E-02
300	1.186	1275	2.94	0.136E-02	0.102E-03	4.4	0.261E-01	-0.60E-02
305	1.195	1296	2.98	0.139E-02	0.105E-03	4.4	0.232E-01	-0.53E-02
310	1.203	1317	3.02	0.143E-02	0.108E-03	4.4	0.201E-01	-0.45E-02
315	1.212	1339	3.06	0.146E-02	0.112E-03	4.4	0.168E-01	-0.38E-02
320	1.221	1360	3.10	0.150E-02	0.115E-03	4.5	0.133E-01	-0.30E-02
325	1.231	1381	3.13	0.154E-02	0.119E-03	4.5	0.937E-02	-0.21E-02
330	1.240	1403	3.17	0.159E-02	0.123E-03	4.5	0.498E-02	-0.11E-02
335	1.250	1425	3.21	0.163E-02	0.128E-03	4.6	0.117E-02	-0.26E-03
340	1.261	1447	3.25	0.167E-02	0.132E-03	4.6	-0.292E-02	0.63E-03
345	1.272	1469	3.28	0.171E-02	0.137E-03	4.6	-0.747E-02	0.16E-02
350	1.283	1491	3.32	0.176E-02	0.142E-03	4.7	-0.124E-01	0.26E-02
355	1.295	1514	3.36	0.181E-02	0.147E-03	4.7	-0.180E-01	0.38E-02
360	1.308	1536	3.40	0.187E-02	0.152E-03	4.8	-0.242E-01	0.51E-02
365	1.322	1559	3.43	0.193E-02	0.157E-03	4.8	-0.308E-01	0.64E-02
370	1.336	1582	3.47	0.199E-02	0.163E-03	4.8	-0.376E-01	0.78E-02
375	1.350	1606	3.51	0.205E-02	0.170E-03	4.9	-0.444E-01	0.91E-02
380	1.365	1629	3.55	0.210E-02	0.178E-03	4.9	-0.511E-01	0.10E-01
385	1.380	1653	3.59	0.215E-02	0.188E-03	5.0	-0.574E-01	0.12E-01
390	1.394	1676	3.62	0.220E-02	0.201E-03	5.0	-0.636E-01	0.13E-01
395	1.408	1700	3.66	0.224E-02	0.217E-03	5.0	-0.699E-01	0.14E-01
400	1.422	1725	3.70	0.229E-02	0.237E-03	5.1	-0.772E-01	0.15E-01
405	1.434	1749	3.74	0.231E-02	0.272E-03	5.1	-0.815E-01	0.16E-01
410	1.451	1774	3.77	0.240E-02	0.303E-03	5.2	-0.933E-01	0.18E-01
415	1.469	1800	3.81	0.249E-02	0.331E-03	5.2	-0.105E+00	0.20E-01
420	1.487	1826	3.85	0.258E-02	0.356E-03	5.3	-0.118E+00	0.22E-01
425	1.507	1853	3.89	0.268E-02	0.378E-03	5.4	-0.131E+00	0.24E-01
430	1.528	1879	3.93	0.279E-02	0.400E-03	5.5	-0.147E+00	0.27E-01
435	1.551	1907	3.97	0.290E-02	0.420E-03	5.6	-0.164E+00	0.29E-01
440	1.575	1934	4.01	0.302E-02	0.439E-03	5.8	-0.181E+00	0.31E-01
445	1.602	1962	4.05	0.313E-02	0.460E-03	5.9	-0.200E+00	0.34E-01
450	1.630	1990	4.09	0.323E-02	0.482E-03	6.1	-0.217E+00	0.35E-01
455	1.660	2019	4.13	0.331E-02	0.506E-03	6.4	-0.234E+00	0.36E-01
460	1.691	2047	4.17	0.337E-02	0.533E-03	6.8	-0.249E+00	0.37E-01
465	1.721	2076	4.22	0.345E-02	0.564E-03	7.4	-0.267E+00	0.36E-01
470	1.747	2106	4.26	0.360E-02	0.602E-03	8.2	-0.293E+00	0.36E-01

P 880

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.074	876	2.14	0.591E-03	0.575E-04	4.0	0.773E-01	-0.19E-01
205	1.077	895	2.18	0.592E-03	0.600E-04	4.1	0.772E-01	-0.19E-01
210	1.080	914	2.22	0.605E-03	0.624E-04	4.1	0.764E-01	-0.19E-01
215	1.084	933	2.26	0.629E-03	0.646E-04	4.1	0.751E-01	-0.18E-01
220	1.087	953	2.30	0.660E-03	0.668E-04	4.1	0.733E-01	-0.18E-01
225	1.091	973	2.35	0.699E-03	0.688E-04	4.1	0.711E-01	-0.17E-01
230	1.095	992	2.39	0.742E-03	0.707E-04	4.1	0.686E-01	-0.17E-01
235	1.100	1012	2.43	0.789E-03	0.726E-04	4.2	0.659E-01	-0.16E-01
240	1.104	1032	2.47	0.838E-03	0.744E-04	4.2	0.629E-01	-0.15E-01
245	1.109	1052	2.51	0.888E-03	0.761E-04	4.2	0.599E-01	-0.14E-01
250	1.115	1072	2.55	0.939E-03	0.779E-04	4.2	0.567E-01	-0.13E-01
255	1.120	1092	2.59	0.988E-03	0.797E-04	4.2	0.536E-01	-0.13E-01
260	1.126	1112	2.63	0.104E-02	0.816E-04	4.2	0.504E-01	-0.12E-01
265	1.132	1132	2.67	0.108E-02	0.835E-04	4.2	0.473E-01	-0.11E-01
270	1.139	1153	2.71	0.113E-02	0.855E-04	4.3	0.442E-01	-0.10E-01
275	1.146	1173	2.75	0.117E-02	0.876E-04	4.3	0.412E-01	-0.96E-02
280	1.153	1193	2.79	0.121E-02	0.898E-04	4.3	0.383E-01	-0.89E-02
285	1.160	1214	2.83	0.124E-02	0.921E-04	4.3	0.354E-01	-0.82E-02
290	1.168	1234	2.86	0.128E-02	0.946E-04	4.3	0.326E-01	-0.75E-02
295	1.176	1255	2.90	0.131E-02	0.973E-04	4.3	0.298E-01	-0.69E-02
300	1.184	1276	2.94	0.135E-02	0.100E-03	4.4	0.270E-01	-0.62E-02
305	1.192	1297	2.98	0.138E-02	0.103E-03	4.4	0.241E-01	-0.55E-02
310	1.201	1318	3.02	0.141E-02	0.106E-03	4.4	0.210E-01	-0.48E-02
315	1.210	1339	3.05	0.145E-02	0.110E-03	4.4	0.178E-01	-0.40E-02
320	1.219	1360	3.09	0.149E-02	0.113E-03	4.5	0.143E-01	-0.32E-02
325	1.228	1382	3.13	0.153E-02	0.117E-03	4.5	0.105E-01	-0.23E-02
330	1.237	1403	3.17	0.158E-02	0.121E-03	4.5	0.618E-02	-0.14E-02
335	1.247	1425	3.21	0.161E-02	0.125E-03	4.6	0.250E-02	-0.55E-03
340	1.257	1447	3.24	0.165E-02	0.130E-03	4.6	-0.145E-02	0.32E-03
345	1.268	1469	3.28	0.169E-02	0.134E-03	4.6	-0.583E-02	0.13E-02
350	1.279	1491	3.32	0.174E-02	0.139E-03	4.7	-0.106E-01	0.23E-02
355	1.291	1513	3.35	0.179E-02	0.143E-03	4.7	-0.160E-01	0.34E-02
360	1.304	1536	3.39	0.184E-02	0.148E-03	4.7	-0.219E-01	0.46E-02
365	1.318	1559	3.43	0.190E-02	0.153E-03	4.8	-0.282E-01	0.59E-02
370	1.332	1582	3.47	0.196E-02	0.159E-03	4.8	-0.346E-01	0.72E-02
375	1.346	1605	3.50	0.201E-02	0.166E-03	4.9	-0.411E-01	0.85E-02
380	1.360	1628	3.54	0.206E-02	0.174E-03	4.9	-0.473E-01	0.97E-02
385	1.375	1651	3.58	0.211E-02	0.183E-03	4.9	-0.531E-01	0.11E-01
390	1.389	1675	3.62	0.214E-02	0.196E-03	5.0	-0.586E-01	0.12E-01
395	1.402	1699	3.65	0.218E-02	0.211E-03	5.0	-0.643E-01	0.13E-01
400	1.415	1723	3.69	0.223E-02	0.231E-03	5.0	-0.709E-01	0.14E-01
405	1.426	1747	3.73	0.224E-02	0.264E-03	5.1	-0.744E-01	0.15E-01
410	1.443	1773	3.77	0.233E-02	0.294E-03	5.1	-0.856E-01	0.17E-01
415	1.460	1798	3.81	0.242E-02	0.321E-03	5.2	-0.967E-01	0.19E-01
420	1.478	1824	3.84	0.250E-02	0.345E-03	5.3	-0.108E+00	0.20E-01
425	1.496	1850	3.88	0.259E-02	0.367E-03	5.4	-0.121E+00	0.23E-01
430	1.517	1877	3.92	0.269E-02	0.387E-03	5.5	-0.135E+00	0.25E-01
435	1.539	1903	3.96	0.280E-02	0.406E-03	5.6	-0.151E+00	0.27E-01
440	1.563	1931	4.00	0.291E-02	0.425E-03	5.7	-0.168E+00	0.29E-01
445	1.589	1958	4.04	0.301E-02	0.445E-03	5.9	-0.184E+00	0.32E-01
450	1.616	1986	4.08	0.310E-02	0.465E-03	6.0	-0.200E+00	0.33E-01
455	1.646	2014	4.12	0.317E-02	0.488E-03	6.3	-0.215E+00	0.34E-01
460	1.676	2042	4.16	0.323E-02	0.514E-03	6.6	-0.229E+00	0.34E-01
465	1.705	2071	4.20	0.329E-02	0.544E-03	7.1	-0.244E+00	0.34E-01
470	1.729	2101	4.25	0.342E-02	0.580E-03	7.8	-0.267E+00	0.34E-01

P 900

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.073	877	2.13	0.584E-03	0.571E-04	4.0	0.776E-01	-0.19E-01
205	1.076	896	2.18	0.584E-03	0.596E-04	4.1	0.775E-01	-0.19E-01
210	1.079	916	2.22	0.597E-03	0.619E-04	4.1	0.768E-01	-0.19E-01
215	1.082	935	2.26	0.620E-03	0.641E-04	4.1	0.755E-01	-0.18E-01
220	1.086	954	2.30	0.652E-03	0.662E-04	4.1	0.737E-01	-0.18E-01
225	1.090	974	2.34	0.690E-03	0.682E-04	4.1	0.715E-01	-0.17E-01
230	1.094	994	2.39	0.733E-03	0.701E-04	4.1	0.690E-01	-0.17E-01
235	1.098	1013	2.43	0.779E-03	0.719E-04	4.2	0.663E-01	-0.16E-01
240	1.103	1033	2.47	0.828E-03	0.737E-04	4.2	0.634E-01	-0.15E-01
245	1.108	1053	2.51	0.878E-03	0.754E-04	4.2	0.604E-01	-0.14E-01
250	1.113	1073	2.55	0.928E-03	0.771E-04	4.2	0.572E-01	-0.14E-01
255	1.118	1093	2.59	0.978E-03	0.789E-04	4.2	0.541E-01	-0.13E-01
260	1.124	1113	2.63	0.103E-02	0.807E-04	4.2	0.510E-01	-0.12E-01
265	1.131	1133	2.67	0.107E-02	0.826E-04	4.2	0.479E-01	-0.11E-01
270	1.137	1153	2.71	0.112E-02	0.845E-04	4.3	0.448E-01	-0.11E-01
275	1.144	1174	2.75	0.116E-02	0.865E-04	4.3	0.418E-01	-0.98E-02
280	1.151	1194	2.78	0.120E-02	0.887E-04	4.3	0.389E-01	-0.91E-02
285	1.158	1215	2.82	0.123E-02	0.910E-04	4.3	0.361E-01	-0.84E-02
290	1.166	1235	2.86	0.127E-02	0.934E-04	4.3	0.333E-01	-0.77E-02
295	1.174	1256	2.90	0.130E-02	0.960E-04	4.3	0.306E-01	-0.70E-02
300	1.182	1277	2.94	0.133E-02	0.988E-04	4.4	0.278E-01	-0.64E-02
305	1.190	1297	2.98	0.137E-02	0.102E-03	4.4	0.249E-01	-0.57E-02
310	1.198	1318	3.01	0.140E-02	0.105E-03	4.4	0.219E-01	-0.50E-02
315	1.207	1339	3.05	0.144E-02	0.108E-03	4.4	0.188E-01	-0.42E-02
320	1.216	1361	3.09	0.147E-02	0.112E-03	4.5	0.154E-01	-0.35E-02
325	1.225	1382	3.13	0.151E-02	0.115E-03	4.5	0.116E-01	-0.26E-02
330	1.234	1403	3.16	0.156E-02	0.119E-03	4.5	0.732E-02	-0.16E-02
335	1.244	1425	3.20	0.159E-02	0.123E-03	4.5	0.376E-02	-0.83E-03
340	1.254	1447	3.24	0.163E-02	0.127E-03	4.6	-0.404E-04	0.88E-05
345	1.265	1469	3.28	0.167E-02	0.131E-03	4.6	-0.427E-02	0.93E-03
350	1.276	1491	3.31	0.172E-02	0.136E-03	4.6	-0.882E-02	0.19E-02
355	1.288	1513	3.35	0.177E-02	0.140E-03	4.7	-0.140E-01	0.30E-02
360	1.301	1535	3.39	0.182E-02	0.145E-03	4.7	-0.197E-01	0.42E-02
365	1.314	1558	3.42	0.187E-02	0.150E-03	4.8	-0.257E-01	0.54E-02
370	1.328	1581	3.46	0.193E-02	0.155E-03	4.8	-0.319E-01	0.67E-02
375	1.342	1604	3.50	0.198E-02	0.162E-03	4.8	-0.379E-01	0.79E-02
380	1.356	1627	3.54	0.202E-02	0.169E-03	4.9	-0.436E-01	0.90E-02
385	1.370	1650	3.57	0.206E-02	0.179E-03	4.9	-0.489E-01	0.10E-01
390	1.383	1674	3.61	0.210E-02	0.190E-03	4.9	-0.539E-01	0.11E-01
395	1.396	1698	3.65	0.213E-02	0.205E-03	5.0	-0.589E-01	0.12E-01
400	1.409	1722	3.69	0.217E-02	0.224E-03	5.0	-0.649E-01	0.13E-01
405	1.419	1746	3.72	0.218E-02	0.256E-03	5.1	-0.677E-01	0.13E-01
410	1.435	1771	3.76	0.226E-02	0.285E-03	5.1	-0.783E-01	0.15E-01
415	1.451	1796	3.80	0.234E-02	0.311E-03	5.2	-0.887E-01	0.17E-01
420	1.468	1822	3.84	0.242E-02	0.335E-03	5.3	-0.995E-01	0.19E-01
425	1.486	1848	3.88	0.251E-02	0.356E-03	5.3	-0.111E+00	0.21E-01
430	1.506	1874	3.91	0.260E-02	0.375E-03	5.4	-0.125E+00	0.23E-01
435	1.527	1901	3.95	0.270E-02	0.393E-03	5.5	-0.139E+00	0.25E-01
440	1.551	1928	3.99	0.280E-02	0.412E-03	5.6	-0.155E+00	0.27E-01
445	1.576	1955	4.03	0.289E-02	0.430E-03	5.8	-0.170E+00	0.29E-01
450	1.603	1982	4.07	0.297E-02	0.450E-03	5.9	-0.185E+00	0.31E-01
455	1.632	2010	4.11	0.304E-02	0.472E-03	6.2	-0.197E+00	0.32E-01
460	1.661	2038	4.15	0.308E-02	0.497E-03	6.5	-0.209E+00	0.32E-01
465	1.689	2066	4.19	0.313E-02	0.526E-03	6.9	-0.222E+00	0.32E-01
470	1.712	2096	4.23	0.325E-02	0.560E-03	7.5	-0.243E+00	0.32E-01

P 920

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.071	879	2.13	0.577E-03	0.567E-04	4.0	0.779E-01	-0.19E-01
205	1.074	898	2.18	0.577E-03	0.591E-04	4.1	0.778E-01	-0.19E-01
210	1.078	917	2.22	0.589E-03	0.614E-04	4.1	0.771E-01	-0.19E-01
215	1.081	936	2.26	0.612E-03	0.636E-04	4.1	0.758E-01	-0.19E-01
220	1.084	956	2.30	0.643E-03	0.657E-04	4.1	0.741E-01	-0.18E-01
225	1.088	975	2.34	0.681E-03	0.676E-04	4.1	0.719E-01	-0.17E-01
230	1.092	995	2.38	0.724E-03	0.694E-04	4.1	0.695E-01	-0.17E-01
235	1.096	1015	2.43	0.770E-03	0.712E-04	4.1	0.667E-01	-0.16E-01
240	1.101	1034	2.47	0.819E-03	0.730E-04	4.2	0.638E-01	-0.15E-01
245	1.106	1054	2.51	0.868E-03	0.747E-04	4.2	0.608E-01	-0.15E-01
250	1.111	1074	2.55	0.918E-03	0.764E-04	4.2	0.577E-01	-0.14E-01
255	1.117	1094	2.59	0.967E-03	0.781E-04	4.2	0.546E-01	-0.13E-01
260	1.123	1114	2.63	0.102E-02	0.799E-04	4.2	0.515E-01	-0.12E-01
265	1.129	1134	2.67	0.106E-02	0.817E-04	4.2	0.484E-01	-0.11E-01
270	1.135	1154	2.70	0.110E-02	0.836E-04	4.2	0.454E-01	-0.11E-01
275	1.142	1175	2.74	0.115E-02	0.856E-04	4.3	0.425E-01	-0.10E-01
280	1.149	1195	2.78	0.118E-02	0.877E-04	4.3	0.396E-01	-0.93E-02
285	1.156	1215	2.82	0.122E-02	0.899E-04	4.3	0.368E-01	-0.86E-02
290	1.164	1236	2.86	0.126E-02	0.923E-04	4.3	0.340E-01	-0.79E-02
295	1.171	1256	2.90	0.129E-02	0.948E-04	4.3	0.313E-01	-0.72E-02
300	1.179	1277	2.93	0.132E-02	0.975E-04	4.3	0.285E-01	-0.66E-02
305	1.187	1298	2.97	0.135E-02	0.100E-03	4.4	0.257E-01	-0.59E-02
310	1.196	1319	3.01	0.139E-02	0.103E-03	4.4	0.228E-01	-0.52E-02
315	1.204	1340	3.05	0.142E-02	0.106E-03	4.4	0.197E-01	-0.45E-02
320	1.213	1361	3.09	0.146E-02	0.110E-03	4.4	0.163E-01	-0.37E-02
325	1.222	1382	3.12	0.150E-02	0.113E-03	4.5	0.126E-01	-0.28E-02
330	1.231	1404	3.16	0.154E-02	0.117E-03	4.5	0.842E-02	-0.19E-02
335	1.241	1425	3.20	0.158E-02	0.121E-03	4.5	0.498E-02	-0.11E-02
340	1.251	1447	3.23	0.161E-02	0.125E-03	4.6	0.131E-02	-0.29E-03
345	1.261	1468	3.27	0.165E-02	0.129E-03	4.6	-0.277E-02	0.60E-03
350	1.272	1490	3.31	0.169E-02	0.133E-03	4.6	-0.715E-02	0.15E-02
355	1.284	1513	3.35	0.174E-02	0.138E-03	4.7	-0.122E-01	0.26E-02
360	1.297	1535	3.38	0.179E-02	0.142E-03	4.7	-0.176E-01	0.38E-02
365	1.310	1558	3.42	0.185E-02	0.146E-03	4.7	-0.234E-01	0.49E-02
370	1.323	1580	3.46	0.190E-02	0.152E-03	4.8	-0.292E-01	0.61E-02
375	1.337	1603	3.49	0.195E-02	0.158E-03	4.8	-0.349E-01	0.73E-02
380	1.351	1626	3.53	0.199E-02	0.165E-03	4.8	-0.402E-01	0.83E-02
385	1.365	1650	3.57	0.202E-02	0.174E-03	4.9	-0.450E-01	0.92E-02
390	1.378	1673	3.61	0.205E-02	0.185E-03	4.9	-0.494E-01	0.10E-01
395	1.391	1697	3.64	0.208E-02	0.200E-03	5.0	-0.538E-01	0.11E-01
400	1.402	1720	3.68	0.211E-02	0.218E-03	5.0	-0.591E-01	0.12E-01
405	1.412	1744	3.72	0.211E-02	0.249E-03	5.0	-0.613E-01	0.12E-01
410	1.427	1769	3.75	0.220E-02	0.278E-03	5.1	-0.714E-01	0.14E-01
415	1.443	1794	3.79	0.227E-02	0.303E-03	5.2	-0.811E-01	0.16E-01
420	1.459	1820	3.83	0.234E-02	0.325E-03	5.2	-0.912E-01	0.17E-01
425	1.477	1845	3.87	0.242E-02	0.345E-03	5.3	-0.102E+00	0.19E-01
430	1.495	1871	3.91	0.251E-02	0.364E-03	5.4	-0.114E+00	0.21E-01
435	1.516	1898	3.95	0.260E-02	0.382E-03	5.5	-0.128E+00	0.23E-01
440	1.539	1925	3.99	0.270E-02	0.399E-03	5.6	-0.142E+00	0.25E-01
445	1.564	1952	4.02	0.278E-02	0.417E-03	5.7	-0.156E+00	0.27E-01
450	1.590	1979	4.06	0.285E-02	0.436E-03	5.9	-0.169E+00	0.29E-01
455	1.618	2006	4.10	0.291E-02	0.457E-03	6.0	-0.181E+00	0.30E-01
460	1.647	2034	4.14	0.294E-02	0.481E-03	6.3	-0.190E+00	0.30E-01
465	1.674	2062	4.18	0.298E-02	0.508E-03	6.6	-0.201E+00	0.30E-01
470	1.696	2091	4.22	0.309E-02	0.542E-03	7.1	-0.220E+00	0.31E-01

P 940

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.070	880	2.13	0.570E-03	0.563E-04	4.0	0.782E-01	-0.19E-01
205	1.073	899	2.17	0.569E-03	0.587E-04	4.1	0.781E-01	-0.19E-01
210	1.076	919	2.22	0.581E-03	0.610E-04	4.1	0.774E-01	-0.19E-01
215	1.080	938	2.26	0.604E-03	0.631E-04	4.1	0.761E-01	-0.19E-01
220	1.083	957	2.30	0.634E-03	0.651E-04	4.1	0.744E-01	-0.18E-01
225	1.087	977	2.34	0.672E-03	0.670E-04	4.1	0.723E-01	-0.18E-01
230	1.091	996	2.38	0.714E-03	0.688E-04	4.1	0.699E-01	-0.17E-01
235	1.095	1016	2.42	0.761E-03	0.706E-04	4.1	0.672E-01	-0.16E-01
240	1.099	1036	2.46	0.809E-03	0.723E-04	4.1	0.643E-01	-0.16E-01
245	1.104	1055	2.50	0.859E-03	0.740E-04	4.2	0.613E-01	-0.15E-01
250	1.109	1075	2.54	0.909E-03	0.756E-04	4.2	0.582E-01	-0.14E-01
255	1.115	1095	2.58	0.958E-03	0.773E-04	4.2	0.551E-01	-0.13E-01
260	1.121	1115	2.62	0.101E-02	0.790E-04	4.2	0.520E-01	-0.12E-01
265	1.127	1135	2.66	0.105E-02	0.808E-04	4.2	0.490E-01	-0.12E-01
270	1.133	1155	2.70	0.109E-02	0.827E-04	4.2	0.460E-01	-0.11E-01
275	1.140	1175	2.74	0.114E-02	0.846E-04	4.2	0.431E-01	-0.10E-01
280	1.147	1196	2.78	0.117E-02	0.867E-04	4.3	0.402E-01	-0.94E-02
285	1.154	1216	2.82	0.121E-02	0.888E-04	4.3	0.374E-01	-0.88E-02
290	1.161	1237	2.86	0.125E-02	0.911E-04	4.3	0.347E-01	-0.81E-02
295	1.169	1257	2.89	0.128E-02	0.936E-04	4.3	0.320E-01	-0.74E-02
300	1.177	1278	2.93	0.131E-02	0.962E-04	4.3	0.293E-01	-0.68E-02
305	1.185	1298	2.97	0.134E-02	0.989E-04	4.4	0.265E-01	-0.61E-02
310	1.193	1319	3.01	0.137E-02	0.102E-03	4.4	0.237E-01	-0.54E-02
315	1.202	1340	3.04	0.141E-02	0.105E-03	4.4	0.206E-01	-0.47E-02
320	1.210	1361	3.08	0.145E-02	0.108E-03	4.4	0.173E-01	-0.39E-02
325	1.219	1382	3.12	0.149E-02	0.112E-03	4.5	0.136E-01	-0.31E-02
330	1.229	1404	3.16	0.153E-02	0.115E-03	4.5	0.948E-02	-0.21E-02
335	1.238	1425	3.19	0.156E-02	0.119E-03	4.5	0.615E-02	-0.14E-02
340	1.248	1447	3.23	0.160E-02	0.123E-03	4.5	0.260E-02	-0.57E-03
345	1.258	1468	3.27	0.163E-02	0.126E-03	4.6	-0.133E-02	0.29E-03
350	1.269	1490	3.30	0.167E-02	0.131E-03	4.6	-0.555E-02	0.12E-02
355	1.281	1512	3.34	0.172E-02	0.135E-03	4.6	-0.104E-01	0.22E-02
360	1.293	1535	3.38	0.177E-02	0.139E-03	4.7	-0.156E-01	0.33E-02
365	1.306	1557	3.42	0.182E-02	0.143E-03	4.7	-0.211E-01	0.45E-02
370	1.320	1580	3.45	0.187E-02	0.148E-03	4.7	-0.267E-01	0.56E-02
375	1.333	1603	3.49	0.191E-02	0.154E-03	4.8	-0.320E-01	0.67E-02
380	1.347	1626	3.53	0.195E-02	0.161E-03	4.8	-0.369E-01	0.77E-02
385	1.360	1649	3.56	0.198E-02	0.170E-03	4.9	-0.412E-01	0.85E-02
390	1.373	1672	3.60	0.200E-02	0.181E-03	4.9	-0.451E-01	0.92E-02
395	1.385	1696	3.64	0.202E-02	0.195E-03	4.9	-0.489E-01	0.99E-02
400	1.396	1719	3.67	0.206E-02	0.212E-03	5.0	-0.536E-01	0.11E-01
405	1.405	1743	3.71	0.205E-02	0.243E-03	5.0	-0.552E-01	0.11E-01
410	1.420	1768	3.75	0.213E-02	0.270E-03	5.1	-0.648E-01	0.13E-01
415	1.435	1793	3.79	0.220E-02	0.294E-03	5.1	-0.739E-01	0.14E-01
420	1.450	1818	3.82	0.227E-02	0.316E-03	5.2	-0.832E-01	0.16E-01
425	1.467	1843	3.86	0.234E-02	0.336E-03	5.3	-0.934E-01	0.18E-01
430	1.485	1869	3.90	0.242E-02	0.354E-03	5.4	-0.105E+00	0.20E-01
435	1.506	1895	3.94	0.251E-02	0.371E-03	5.4	-0.117E+00	0.22E-01
440	1.528	1922	3.98	0.260E-02	0.388E-03	5.5	-0.130E+00	0.24E-01
445	1.552	1949	4.02	0.268E-02	0.405E-03	5.6	-0.143E+00	0.25E-01
450	1.578	1976	4.06	0.274E-02	0.423E-03	5.8	-0.155E+00	0.27E-01
455	1.605	2003	4.09	0.278E-02	0.443E-03	5.9	-0.165E+00	0.28E-01
460	1.633	2031	4.13	0.281E-02	0.466E-03	6.1	-0.173E+00	0.28E-01
465	1.659	2058	4.17	0.284E-02	0.492E-03	6.4	-0.181E+00	0.28E-01
470	1.680	2087	4.21	0.293E-02	0.525E-03	6.8	-0.198E+00	0.29E-01

P 960

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.069	882	2.13	0.563E-03	0.559E-04	4.0	0.784E-01	-0.19E-01
205	1.072	901	2.17	0.562E-03	0.583E-04	4.0	0.784E-01	-0.19E-01
210	1.075	920	2.22	0.573E-03	0.605E-04	4.1	0.777E-01	-0.19E-01
215	1.078	940	2.26	0.595E-03	0.626E-04	4.1	0.765E-01	-0.19E-01
220	1.082	959	2.30	0.626E-03	0.646E-04	4.1	0.748E-01	-0.18E-01
225	1.085	978	2.34	0.663E-03	0.665E-04	4.1	0.727E-01	-0.18E-01
230	1.089	998	2.38	0.706E-03	0.682E-04	4.1	0.702E-01	-0.17E-01
235	1.093	1017	2.42	0.752E-03	0.700E-04	4.1	0.676E-01	-0.16E-01
240	1.098	1037	2.46	0.800E-03	0.716E-04	4.1	0.647E-01	-0.16E-01
245	1.103	1057	2.50	0.849E-03	0.733E-04	4.1	0.617E-01	-0.15E-01
250	1.108	1076	2.54	0.899E-03	0.749E-04	4.2	0.587E-01	-0.14E-01
255	1.113	1096	2.58	0.948E-03	0.765E-04	4.2	0.556E-01	-0.13E-01
260	1.119	1116	2.62	0.995E-03	0.782E-04	4.2	0.525E-01	-0.13E-01
265	1.125	1136	2.66	0.104E-02	0.800E-04	4.2	0.495E-01	-0.12E-01
270	1.131	1156	2.70	0.108E-02	0.818E-04	4.2	0.465E-01	-0.11E-01
275	1.138	1176	2.74	0.112E-02	0.837E-04	4.2	0.436E-01	-0.10E-01
280	1.145	1197	2.78	0.116E-02	0.857E-04	4.2	0.408E-01	-0.96E-02
285	1.152	1217	2.81	0.120E-02	0.878E-04	4.3	0.381E-01	-0.89E-02
290	1.159	1237	2.85	0.123E-02	0.900E-04	4.3	0.354E-01	-0.83E-02
295	1.167	1258	2.89	0.127E-02	0.924E-04	4.3	0.327E-01	-0.76E-02
300	1.175	1278	2.93	0.130E-02	0.949E-04	4.3	0.300E-01	-0.69E-02
305	1.183	1299	2.97	0.133E-02	0.976E-04	4.3	0.273E-01	-0.63E-02
310	1.191	1320	3.00	0.136E-02	0.100E-03	4.4	0.245E-01	-0.56E-02
315	1.199	1341	3.04	0.140E-02	0.103E-03	4.4	0.215E-01	-0.49E-02
320	1.208	1362	3.08	0.143E-02	0.107E-03	4.4	0.182E-01	-0.41E-02
325	1.217	1383	3.12	0.147E-02	0.110E-03	4.4	0.146E-01	-0.33E-02
330	1.226	1404	3.15	0.152E-02	0.113E-03	4.5	0.105E-01	-0.24E-02
335	1.235	1425	3.19	0.155E-02	0.117E-03	4.5	0.727E-02	-0.16E-02
340	1.245	1447	3.23	0.158E-02	0.120E-03	4.5	0.384E-02	-0.85E-03
345	1.255	1468	3.26	0.162E-02	0.124E-03	4.6	0.516E-04	-0.11E-04
350	1.265	1490	3.30	0.166E-02	0.128E-03	4.6	-0.401E-02	0.87E-03
355	1.277	1512	3.34	0.170E-02	0.132E-03	4.6	-0.865E-02	0.19E-02
360	1.290	1534	3.37	0.175E-02	0.136E-03	4.7	-0.137E-01	0.29E-02
365	1.302	1557	3.41	0.180E-02	0.140E-03	4.7	-0.190E-01	0.40E-02
370	1.316	1579	3.45	0.184E-02	0.145E-03	4.7	-0.242E-01	0.51E-02
375	1.329	1602	3.48	0.188E-02	0.151E-03	4.8	-0.292E-01	0.61E-02
380	1.342	1625	3.52	0.192E-02	0.157E-03	4.8	-0.337E-01	0.70E-02
385	1.356	1648	3.56	0.194E-02	0.166E-03	4.8	-0.376E-01	0.78E-02
390	1.368	1671	3.59	0.196E-02	0.176E-03	4.9	-0.409E-01	0.84E-02
395	1.380	1695	3.63	0.198E-02	0.190E-03	4.9	-0.442E-01	0.90E-02
400	1.390	1718	3.67	0.200E-02	0.207E-03	5.0	-0.484E-01	0.97E-02
405	1.398	1742	3.70	0.200E-02	0.237E-03	5.0	-0.494E-01	0.98E-02
410	1.413	1767	3.74	0.207E-02	0.263E-03	5.1	-0.585E-01	0.12E-01
415	1.427	1791	3.78	0.214E-02	0.287E-03	5.1	-0.670E-01	0.13E-01
420	1.442	1816	3.82	0.220E-02	0.308E-03	5.2	-0.756E-01	0.15E-01
425	1.458	1842	3.85	0.227E-02	0.327E-03	5.3	-0.850E-01	0.16E-01
430	1.476	1867	3.89	0.234E-02	0.344E-03	5.3	-0.955E-01	0.18E-01
435	1.495	1893	3.93	0.242E-02	0.361E-03	5.4	-0.107E+00	0.20E-01
440	1.517	1919	3.97	0.250E-02	0.377E-03	5.5	-0.119E+00	0.22E-01
445	1.541	1946	4.01	0.257E-02	0.393E-03	5.6	-0.130E+00	0.23E-01
450	1.566	1973	4.05	0.263E-02	0.411E-03	5.7	-0.141E+00	0.25E-01
455	1.593	2000	4.09	0.266E-02	0.430E-03	5.8	-0.149E+00	0.26E-01
460	1.620	2027	4.12	0.267E-02	0.452E-03	6.0	-0.156E+00	0.26E-01
465	1.646	2055	4.16	0.269E-02	0.478E-03	6.2	-0.162E+00	0.26E-01
470	1.665	2084	4.20	0.277E-02	0.509E-03	6.5	-0.177E+00	0.27E-01

P 980

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.068	883	2.13	0.556E-03	0.555E-04	4.0	0.787E-01	-0.19E-01
205	1.071	903	2.17	0.555E-03	0.579E-04	4.0	0.787E-01	-0.19E-01
210	1.074	922	2.21	0.566E-03	0.600E-04	4.1	0.780E-01	-0.19E-01
215	1.077	941	2.26	0.587E-03	0.621E-04	4.1	0.768E-01	-0.19E-01
220	1.080	960	2.30	0.618E-03	0.641E-04	4.1	0.751E-01	-0.18E-01
225	1.084	980	2.34	0.655E-03	0.659E-04	4.1	0.730E-01	-0.18E-01
230	1.088	999	2.38	0.697E-03	0.677E-04	4.1	0.706E-01	-0.17E-01
235	1.092	1019	2.42	0.743E-03	0.693E-04	4.1	0.680E-01	-0.17E-01
240	1.096	1038	2.46	0.791E-03	0.710E-04	4.1	0.651E-01	-0.16E-01
245	1.101	1058	2.50	0.840E-03	0.726E-04	4.1	0.622E-01	-0.15E-01
250	1.106	1078	2.54	0.890E-03	0.742E-04	4.1	0.591E-01	-0.14E-01
255	1.112	1097	2.58	0.938E-03	0.758E-04	4.2	0.561E-01	-0.13E-01
260	1.117	1117	2.62	0.985E-03	0.774E-04	4.2	0.530E-01	-0.13E-01
265	1.123	1137	2.66	0.103E-02	0.791E-04	4.2	0.500E-01	-0.12E-01
270	1.129	1157	2.70	0.107E-02	0.809E-04	4.2	0.471E-01	-0.11E-01
275	1.136	1177	2.74	0.111E-02	0.828E-04	4.2	0.442E-01	-0.10E-01
280	1.143	1197	2.77	0.115E-02	0.847E-04	4.2	0.414E-01	-0.98E-02
285	1.150	1218	2.81	0.119E-02	0.868E-04	4.3	0.387E-01	-0.91E-02
290	1.157	1238	2.85	0.122E-02	0.889E-04	4.3	0.360E-01	-0.84E-02
295	1.165	1258	2.89	0.126E-02	0.913E-04	4.3	0.334E-01	-0.78E-02
300	1.172	1279	2.93	0.129E-02	0.937E-04	4.3	0.308E-01	-0.71E-02
305	1.180	1299	2.96	0.132E-02	0.963E-04	4.3	0.281E-01	-0.65E-02
310	1.188	1320	3.00	0.135E-02	0.990E-04	4.4	0.253E-01	-0.58E-02
315	1.197	1341	3.04	0.138E-02	0.102E-03	4.4	0.223E-01	-0.51E-02
320	1.205	1362	3.07	0.142E-02	0.105E-03	4.4	0.191E-01	-0.43E-02
325	1.214	1383	3.11	0.146E-02	0.108E-03	4.4	0.155E-01	-0.35E-02
330	1.223	1404	3.15	0.150E-02	0.111E-03	4.5	0.115E-01	-0.26E-02
335	1.232	1425	3.19	0.153E-02	0.115E-03	4.5	0.834E-02	-0.19E-02
340	1.242	1447	3.22	0.156E-02	0.118E-03	4.5	0.504E-02	-0.11E-02
345	1.252	1468	3.26	0.160E-02	0.122E-03	4.5	0.138E-02	-0.30E-03
350	1.262	1490	3.30	0.164E-02	0.126E-03	4.6	-0.253E-02	0.55E-03
355	1.274	1512	3.33	0.168E-02	0.130E-03	4.6	-0.701E-02	0.15E-02
360	1.286	1534	3.37	0.172E-02	0.133E-03	4.6	-0.119E-01	0.26E-02
365	1.299	1556	3.41	0.177E-02	0.137E-03	4.7	-0.169E-01	0.36E-02
370	1.312	1579	3.44	0.181E-02	0.142E-03	4.7	-0.219E-01	0.47E-02
375	1.325	1601	3.48	0.185E-02	0.147E-03	4.7	-0.266E-01	0.56E-02
380	1.338	1624	3.52	0.188E-02	0.154E-03	4.8	-0.307E-01	0.64E-02
385	1.351	1647	3.55	0.190E-02	0.162E-03	4.8	-0.341E-01	0.71E-02
390	1.363	1670	3.59	0.192E-02	0.172E-03	4.9	-0.369E-01	0.76E-02
395	1.375	1694	3.63	0.193E-02	0.185E-03	4.9	-0.397E-01	0.81E-02
400	1.385	1717	3.66	0.195E-02	0.202E-03	5.0	-0.433E-01	0.87E-02
405	1.392	1741	3.70	0.194E-02	0.231E-03	5.0	-0.438E-01	0.88E-02
410	1.406	1766	3.74	0.201E-02	0.257E-03	5.1	-0.525E-01	0.10E-01
415	1.419	1790	3.77	0.207E-02	0.279E-03	5.1	-0.604E-01	0.12E-01
420	1.434	1815	3.81	0.213E-02	0.300E-03	5.2	-0.684E-01	0.13E-01
425	1.449	1840	3.85	0.219E-02	0.318E-03	5.2	-0.770E-01	0.15E-01
430	1.466	1865	3.89	0.226E-02	0.335E-03	5.3	-0.866E-01	0.16E-01
435	1.486	1891	3.92	0.233E-02	0.351E-03	5.4	-0.971E-01	0.18E-01
440	1.507	1917	3.96	0.241E-02	0.366E-03	5.4	-0.108E+00	0.20E-01
445	1.530	1944	4.00	0.247E-02	0.382E-03	5.5	-0.118E+00	0.21E-01
450	1.555	1970	4.04	0.252E-02	0.399E-03	5.6	-0.128E+00	0.23E-01
455	1.581	1997	4.08	0.254E-02	0.418E-03	5.7	-0.134E+00	0.24E-01
460	1.608	2024	4.12	0.254E-02	0.439E-03	5.8	-0.139E+00	0.24E-01
465	1.632	2052	4.15	0.255E-02	0.464E-03	6.0	-0.144E+00	0.24E-01
470	1.651	2080	4.19	0.262E-02	0.494E-03	6.2	-0.156E+00	0.25E-01

P 1000

t	v	h	s	a	k	cp	jt(t)	jt(h)
200	1.066	885	2.13	0.549E-03	0.552E-04	4.0	0.789E-01	-0.20E-01
205	1.069	904	2.17	0.548E-03	0.574E-04	4.0	0.789E-01	-0.20E-01
210	1.072	923	2.21	0.558E-03	0.596E-04	4.1	0.783E-01	-0.19E-01
215	1.075	943	2.25	0.580E-03	0.616E-04	4.1	0.771E-01	-0.19E-01
220	1.079	962	2.30	0.609E-03	0.635E-04	4.1	0.755E-01	-0.19E-01
225	1.082	981	2.34	0.646E-03	0.654E-04	4.1	0.734E-01	-0.18E-01
230	1.086	1001	2.38	0.688E-03	0.671E-04	4.1	0.710E-01	-0.17E-01
235	1.090	1020	2.42	0.734E-03	0.687E-04	4.1	0.684E-01	-0.17E-01
240	1.095	1040	2.46	0.782E-03	0.703E-04	4.1	0.656E-01	-0.16E-01
245	1.099	1059	2.50	0.831E-03	0.719E-04	4.1	0.626E-01	-0.15E-01
250	1.104	1079	2.54	0.880E-03	0.735E-04	4.1	0.596E-01	-0.14E-01
255	1.110	1099	2.58	0.929E-03	0.751E-04	4.2	0.565E-01	-0.14E-01
260	1.115	1118	2.62	0.976E-03	0.767E-04	4.2	0.535E-01	-0.13E-01
265	1.121	1138	2.66	0.102E-02	0.783E-04	4.2	0.505E-01	-0.12E-01
270	1.128	1158	2.69	0.106E-02	0.801E-04	4.2	0.476E-01	-0.11E-01
275	1.134	1178	2.73	0.110E-02	0.819E-04	4.2	0.447E-01	-0.11E-01
280	1.141	1198	2.77	0.114E-02	0.838E-04	4.2	0.420E-01	-0.99E-02
285	1.148	1218	2.81	0.118E-02	0.858E-04	4.2	0.393E-01	-0.92E-02
290	1.155	1239	2.85	0.121E-02	0.879E-04	4.3	0.366E-01	-0.86E-02
295	1.163	1259	2.88	0.124E-02	0.901E-04	4.3	0.340E-01	-0.79E-02
300	1.170	1279	2.92	0.128E-02	0.925E-04	4.3	0.314E-01	-0.73E-02
305	1.178	1300	2.96	0.131E-02	0.950E-04	4.3	0.288E-01	-0.67E-02
310	1.186	1321	3.00	0.134E-02	0.977E-04	4.3	0.260E-01	-0.60E-02
315	1.194	1341	3.03	0.137E-02	0.101E-03	4.4	0.231E-01	-0.53E-02
320	1.203	1362	3.07	0.141E-02	0.103E-03	4.4	0.199E-01	-0.45E-02
325	1.211	1383	3.11	0.145E-02	0.107E-03	4.4	0.164E-01	-0.37E-02
330	1.220	1404	3.15	0.149E-02	0.110E-03	4.4	0.124E-01	-0.28E-02
335	1.230	1426	3.18	0.152E-02	0.113E-03	4.5	0.938E-02	-0.21E-02
340	1.239	1447	3.22	0.155E-02	0.116E-03	4.5	0.618E-02	-0.14E-02
345	1.249	1469	3.26	0.158E-02	0.120E-03	4.5	0.265E-02	-0.59E-03
350	1.259	1490	3.29	0.162E-02	0.124E-03	4.5	-0.111E-02	0.24E-03
355	1.271	1512	3.33	0.166E-02	0.127E-03	4.6	-0.543E-02	0.12E-02
360	1.283	1534	3.36	0.170E-02	0.131E-03	4.6	-0.101E-01	0.22E-02
365	1.295	1556	3.40	0.175E-02	0.135E-03	4.6	-0.149E-01	0.32E-02
370	1.308	1578	3.44	0.179E-02	0.139E-03	4.7	-0.196E-01	0.42E-02
375	1.321	1601	3.47	0.182E-02	0.144E-03	4.7	-0.240E-01	0.51E-02
380	1.334	1624	3.51	0.185E-02	0.150E-03	4.8	-0.277E-01	0.58E-02
385	1.347	1647	3.55	0.187E-02	0.158E-03	4.8	-0.307E-01	0.64E-02
390	1.359	1670	3.58	0.188E-02	0.168E-03	4.8	-0.331E-01	0.68E-02
395	1.370	1693	3.62	0.188E-02	0.181E-03	4.9	-0.354E-01	0.72E-02
400	1.379	1717	3.66	0.190E-02	0.197E-03	4.9	-0.385E-01	0.78E-02
405	1.386	1740	3.69	0.188E-02	0.225E-03	5.0	-0.384E-01	0.77E-02
410	1.399	1765	3.73	0.195E-02	0.250E-03	5.0	-0.468E-01	0.93E-02
415	1.412	1789	3.77	0.201E-02	0.273E-03	5.1	-0.541E-01	0.11E-01
420	1.426	1814	3.80	0.206E-02	0.292E-03	5.2	-0.614E-01	0.12E-01
425	1.441	1838	3.84	0.212E-02	0.310E-03	5.2	-0.693E-01	0.13E-01
430	1.457	1864	3.88	0.218E-02	0.326E-03	5.3	-0.781E-01	0.15E-01
435	1.476	1889	3.92	0.225E-02	0.342E-03	5.3	-0.877E-01	0.16E-01
440	1.497	1915	3.95	0.232E-02	0.357E-03	5.4	-0.975E-01	0.18E-01
445	1.520	1941	3.99	0.237E-02	0.372E-03	5.5	-0.107E+00	0.20E-01
450	1.544	1968	4.03	0.241E-02	0.388E-03	5.5	-0.115E+00	0.21E-01
455	1.570	1995	4.07	0.243E-02	0.406E-03	5.6	-0.120E+00	0.21E-01
460	1.596	2022	4.11	0.242E-02	0.427E-03	5.7	-0.123E+00	0.22E-01
465	1.620	2050	4.15	0.241E-02	0.451E-03	5.8	-0.127E+00	0.22E-01
470	1.637	2078	4.19	0.247E-02	0.480E-03	5.8	-0.137E+00	0.23E-01