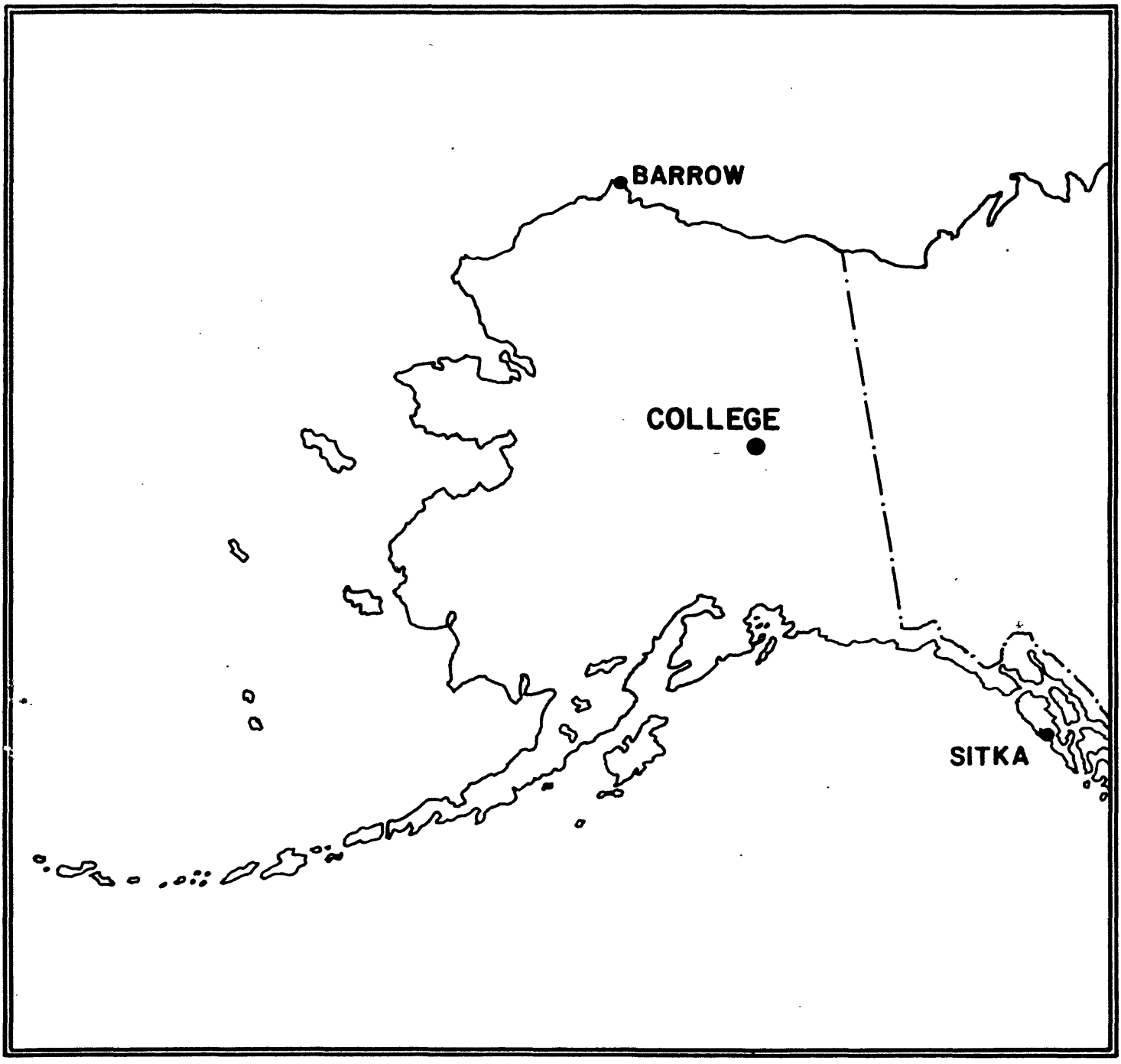
UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

PRELIMINARY GEOMAGNETIC DATA
COLLEGE OBSERVATORY
FAIRBANKS, ALASKA

SEPTEMBER 1985

OPEN FILE REPORT 85-0300I



THIS REPORT WAS PREPARED UNDER THE DIRECTION OF JOHN B. TOWNSHEND, CHIEF OF THE COLLEGE OBSERVATORY, WITH THE ASSISTANCE OF THE OBSERVATORY STAFF MEMBERS: J.E. PAPP, E.A. SAUTER, L.Y. TORRENCE, P.A. FRANKLIN AND IN COOPERATION WITH THE GEOPHYSICAL INSTITUTE OF THE UNIVERSITY OF ALASKA. THE COLLEGE OBSERVATORY IS A PART OF THE BRANCH OF GLOBAL SEISMOLOGY AND GEOMAGNETISM OF THE U.S. GEOLOGICAL SURVEY.

COLLEGE OBSERVATORY PRELIMINARY GEOMAGNETIC DATA

EXPLANATION OF DATA AND REPORTS

INTRODUCTION

The preliminary geomagnetic data included here is made available to scientific personnel and organizations as part of a cooperative effort and on a data exchange basis because of the early need by some users. To avoid delay, all of the data is copied from original forms processed at the observatory; therefore it should be regarded as preliminary. Inquiries about this report or about the College Observatory should be addressed to:

Chief, College Observatory
U.S. Geological Survey
800 Yukon Drive
Fairbanks, Alaska 99701

Requests for copies of the magnetograms except for the current month should be addressed to:

World Data Center A
NOAA D63, 325 Broadway
Boulder, Colorado 80303

OBSERVATORY LOCATION

The College Observatory, operated by the U.S. Geological Survey, is located at the University of Alaska, Fairbanks, Alaska. It is near the Auroral Zone and the northern limit of the world's greatest earthquake belt, the circum-Pacific Seismic belt. Although the observatory's basic operation is in geomagnetism and seismology, it cooperates with other scientists and organizations in areas where the facility and personnel can be of service.

The observatory is one of three operated by the USGS in Alaska. The others are located at Barrow and Sitka.

The position of the observatory site is:

Geographic latitude.....64° 51.6'N
Geographic longitude.....147° 50.2'W
Geomagnetic latitude.....+64.6°
Geomagnetic longitude.....+256.5°
Elevation.....200 meters

GEOMAGNETIC DATA

Normal, Storm and Rapid Run magnetograms and appropriate calibration data are processed daily at the observatory and are available for analysis or copying. Also available, are mean hourly scalings, K-Indices, selected magnetic phenomena reports and on a real-time basis are recordings from a 3-component fluxgate magnetometer and F-component proton magnetometer.

Magnetic Activity

The K-Index: The K-Index is a logarithmic measurement of the range of the most disturbed component (D or H) of the geomagnetic field for eight intervals beginning 0000-0300, 0300-0600...2100-2400 UT. It is a measure of the difference between the highest and lowest deviation from a smooth curve to be expected for a component on a magnetically quiet day, within a three hour interval.

The Equivalent Daily Amplitude, AK: The K-Index is converted into an equivalent range, ak, which is near the center of the limiting gamma ranges for a given K. The average of the eight values is called equivalent daily amplitude AK. The unit 10γ has been chosen so as not to give the illusion of an accuracy not justified.

The schedule for converting gamma range to K, and K to ak is as follows:

Gamma Range	K - Index	ak
0 < 25	0	0
25 < 50	1	3
50 < 100	2	7
100 < 200	3	15
200 < 350	4	27
350 < 600	5	48
600 < 1000	6	80
1000 < 1650	7	140
1650 < 2500	8	240
2500+	9	400 (10γ)

The Magnetic Daily Character Figure, C: To each Universal day a character is assigned on the basis C=0, if it is quiet; C=1, if it is moderately disturbed; C=2, if it is greatly disturbed. The method used to assign characters at the College Observatory is based on AK as follows:

AK Range	C
0≈11	0
11≈50	1
50+	2

Routine assignment of C was discontinued at College on January 1, 1976.

Selected Phenomena & Outstanding Magnetic Effects

Prior to January 1, 1976, the Normal and Rapid Run records were reviewed at the observatory for selected magnetic phenomena and the events identified were forwarded to the IUGG Commission on Magnetic Variations and Disturbances. This was discontinued on January 1, 1976, but a report on Outstanding Magnetic Effects is prepared monthly for this report.

Principal Magnetic Storms

Gradual and sudden commencement magnetic disturbances with at least one K-Index of 5 or greater, which are believed to be part of a world-wide disturbance, are classified as principal magnetic storms. The time of the storm beginning and ending; direction and amplitude of sudden commencements; period of maximum activity; and storm range are reported. Monthly reports of these data are forwarded to the World Data Center A in Boulder, Colorado.

Magnetogram Hourly Scalings

Magnetogram hourly scalings are averages for successive periods of one hour for the D, H and Z elements. The Value in the column headed "01" is the average for the hour beginning 0000 and ending 0100. Note that the values on the scaling sheets are in tenths of mm with the decimal point omitted. The user of these scalings should keep in mind that the tabular values are hourly means and if he is interested in the detailed morphology of the magnetic field, he should refer directly to the magnetograms.

Magnetograms

The normal magnetograms in this report are reproduced at about one-third the size of the originals. Preliminary base-line values and scale values adopted for use with the original magnetograms are included. For days when the magnetic field is too disturbed for the Normal magnetogram to be readable, Storm magnetograms are reproduced.

Absolutes, Base-lines and Scale Values

To determine the absolute value of the magnetic field from the hourly means or from point scalings the following equations should be used:

$D=B_D+d\cdot S_D$; $H=B_H+h\cdot S_H$; $Z=B_Z+z\cdot S_Z$

where D, H and Z are absolute values;
B_D, B_H and B_Z are base-line values;
S_D, S_H and S_Z are scale values;
and d, h and z are scalings in millimeters.

NOAA FORM 76-133 (9-72)

U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

MAGNETIC ACTIVITY

(Greenwich civil time, counted from midnight to midnight)

OBSERVATORY: COLLEGE, ALASKA

MONTH AND YEAR: SEPTEMBER 1985

DATE	K-INDICES 00-03	03-06	06-09	09-12	12-15	15-18	18-21	21-24	SUM	AK
1	2	2	0	0	2	2	1	1	10	04
2	1	2	2	3	1	0	0	1	10	05
3	1	1	1	0	0	0	0	0	03	01
4	1	1	0	0	0	0	1	0	03	01
5	0	1	0	0	0	0	1	1	03	01
6	1	1	1	4	4	4	2	2	19	13
7	2	2	3	3	2	1	1	1	15	08
8	0	1	4	5	5	4	2	1	22	20
9	1	2	2	6	6	5	4	1	27	32
10	2	3	4	4	1	3	1	2	20	13
11	2	2	3	5	2	1	2	1	18	12
12	0	0	1	2	3	3	1	0	10	05
13	0	0	2	4	4	1	0	0	11	08
14	1	1	5	4	6	5	2	2	26	28
15	1	2	0	1	3	2	4	3	16	10
16	3	5	3	7	6	5	2	3	34	46
17	3	2	2	6	5	1	2	1	22	21
18	1	1	2	4	3	2	1	1	15	09
19	1	2	4	7	5	6	4	3	32	43
20	4	5	5	6	5	4	2	3	34	38
21	3	4	5	6	5	4	3	3	33	34
22	2	4	3	2	4	4	2	1	22	15
23	1	1	4	6	2	2	1	0	17	16
24	1	1	2	5	5	3	4	3	24	21
25	2	2	5	3	4	5	3	3	27	23
26	2	2	5	6	2	2	2	2	23	21
27	2	3	4	6	3	2	2	3	25	22
28	3	1	1	4	4	3	1	1	18	12
29	1	0	0	2	2	0	1	1	07	03
30	2	1	0	0	1	1	1	2	08	03
31										

TIME SCALE ON MAGNETOGRAMS: 20 mm/hr

SUDDEN COMMENCEMENTS

d	h	m

POSSIBLE SOLAR-FLARE EFFECTS BASED ON INSPECTION OF GRAMS ALONE (WITHOUT REFERENCE TO DATA FROM OTHER SOURCES)

BEGIN d	BEGIN h	BEGIN m	END d	END h	END m

K SCALE USED:

	D	H	Z	
LOWER LIMIT FOR K = 9.....	675.7	322.2		(mm)
CURRENT SCALE VALUE.....	3.72	7.80		(γ/mm)
LOWER LIMIT FOR K = 9	2510	2510		(to nearest 10γ)

SCALINGS AND COMPUTATIONS HAVE BEEN CHECKED.

APPROVED Jack B. Townshend, Chief, College Observatory

OBSERVER IN CHARGE

NOAA FORM 76-133 SUPERSEDES C&GS FORM 815

☆ U.S. GOVERNMENT PRINTING OFFICE: 1973-761-857

OUTSTANDING MAGNETIC EFFECTS

OBSERVATORY: COLLEGE, ALASKA

MONTH: SEPTEMBER

YEAR: 1985

DATE	TIME U.T.	NATURE OF PHENOMENON[1]	REMARKS
5	12xx	pi 2	
24	04xx	pc5	

IDENTIFIED BY: JBT

VERIFIED BY: EAS

1. NATURE OF PHENOMENON: ssc, ssc*, si, si*, b, bp, bs, bps, pc1, pc2 - - - pc5, pg, pi 1, pi 2, sfe.

NOAA FORM 86-500
(11/73)

PRINCIPAL MAGNETIC STORMS

WDC-A FOR SOLAR-TERRESTRIAL PHYSICS
ENVIRONMENTAL DATA SERVICE, NOAA
BOULDER, COLORADO 80302 U.S.A.

Data from Individual Observatories: COLLEGE OBSERVATORY, COLLEGE, ALASKA

SEPTEMBER 1985

Obs. 2 letter IAGA code	Geomag. lat.	Commencement			SC - amplitudes			Max. 3 hr - index K			Ranges			UT End	
		day	hr min (UT)	type	D(')	H(γ)	Z(γ)	day	(3 hr - period)	K	D(')	H(γ)	Z(γ)	day	hr
CO	64.6 N	19	05xx	...	...	...	...	19	4	7	324	1880	810	21	23

COLLEGE OBSERVATORY, COLLEGE, ALASKA -- PRELIMINARY CALIBRATION DATA FOR: SEPTEMBER 1985

NORMAL MAGNETOGRAPH

COMPONENT	PERIOD		CALIBRATION		
	FROM	TO	SCALE VALUE		BASELINE
D	0000 U.T., 9-1-85	2400 U.T., 9-30-85	1.0'/mm	3.7γ/mm	27° 16.9E
H	0000 U.T., 9-1-85	2400 U.T., 9-30-85	7.8γ/mm		12690γ
Z	0000 U.T., 9-1-85	2400 U.T., 9-30-85	7.6γ/mm		55172γ

STORM MAGNETOGRAPH

COMPONENT	PERIOD		CALIBRATION		
	FROM	TO	SCALE VALUE		BASELINE
D	0000 U.T., 9-1-85	2400 U.T., 9-30-85	7.9'/mm	29.5γ/mm	23° 44.2
H	0000 U.T., 9-1-85	2400 U.T., 9-30-85	43.9γ/mm		10728γ
Z	0000 U.T., 9-1-85	2400 U.T., 9-30-85	48.4γ/mm		54108

RAPID RUN MAGNETOGRAPH

COMPONENT	PERIOD		CALIBRATION
	FROM	TO	SCALE VALUE
D			
H			
Z			

MONTHLY MEAN ABSOLUTE VALUES*

D	H	Z
27° 37.6	12891γ	55339γ

* COMPUTED FROM TEN QUIETEST DAYS DURING MONTH.

DAYS USED: SEP 1, 2, 3, 4, 5, 7, 12, 13, 29, 30

FORM C&GS-404a

MAGNETOGRAM HOURLY SCALINGS
(UNIVERSAL TIME)

U.S. DEPARTMENT OF INTERIOR
Geological Survey, Geologic Division
Denver Federal Center
DENVER, CO 80225

Values are in tenths of mm. and are averages for successive periods of one hour beginning at midnight, Hour 01 of local day (120W M.T.) is hour 08 of the same universal day.
Shrinkage corrections have been applied. Negative values are in red, with minus signs shown.

OBSY.	YEAR	MONTH	ELEMENT
COL	85	SEP	D

C	Q or S	Tee Q	Hr / Da.	01	02	03	04	05	06	07	08	09	10	11	12	Hr. / Da.	13	14	15	16	17	18	19	20	21	22	23	24	SUM
			01	138	143	160	156	177	167	180	192	192	201	195	203	01	211	233	237	253	277	270	258	252	200	157	193	151	4731
			02	163	177	169	179	173	177	186	187	219	178	184	206	02	221	247	261	274	284	287	277	253	229	223	200	187	5141
			03	179	180	170	166	183	183	188	184	173	203	221	225	03	228	235	238	247	268	273	269	263	243	216	207	191	5133
			04	175	166	157	168	184	193	193	191	199	211	209	230	04	228	223	237	251	269	272	289	282	255	212	193	188	5175
			05	183	176	173	177	191	200	199	203	205	207	213	217	05	217	223	233	252	270	293	293	265	233	193	175	167	5158
			06	177	183	187	183	175	160	195	190	197	208	250	249	06	257	306	310	345	288	306	233	168	101	92	119	128	5007
			07	137	134	137	156	182	140	156	157	136	166	195	224	07	210	227	238	266	278	305	274	235	209	147	162	153	4624
			08	143	143	148	160	187	173	166	348	185	223	232	317	08	229	391	286	354	294	276	274	205	198	176	149	148	5405
			09	143	161	180	174	173	242	202	178	170	159	166*	301*	09	301*	361	238	256	405	285	194	195	195	150	136	132	5097
			10	165	173	190	200	188	180	387	266	176	193	200	188	10	202	218	239	254	261	271	212	230	180	140	113	120	4946
			11	156	157	134	138	194	188	277	231	170	164	167	212	11	248	226	275	276	267	270	252	170	76	113	167	182	4710
			12	183	190	183	185	187	190	193	196	229	175	172	207	12	231	227	228	271	245	270	220	215	188	186	168	183	4922
			13	193	194	189	176	178	191	187	174	177	228	294	219	13	237	254	252	242	240	257	254	233	223	200	186	183	5161
			14	157	167	173	176	200	198	154	64	-26	84	97	216	14	240	557*	405*	317	341	353	303	268	218	182	159	158	5161
			15	155	164	138	164	182	180	193	188	193	191	202	203	15	207	223	242	274	293	309	309	114	112	127	138	141	4642
			16	129	143	112	223	208	174	198	196	187	224	183	263*	16	24*	461*	243	337	424	284	257	237	217	149	156	138	5167
			17	131	138	174	204	162	197	212	176	177	244	289	143*	17	111*	214	233	273	283	258	286	270	212	171	150	141	4849
			18	158	177	193	193	198	183	172	225	183	194	192	211	18	198	218	268	256	262	264	267	264	243	207	183	186	5095
			19	178	183	183	184	184	159	190	160	155	490*	1014*	283*	19	237	209	260	434*	283*	351	289	296	194	153	126	140	6335
			20	142	57	111	92	233	146	186	252	379*	100*	-99*	355*	20	244	264	309	194	219	280	244	216	201	184	133	140	4612
			21	152	132	152	171	170	172	243*	203	219	147	140*	188*	21	242	262	264	274	276	294	246	186	137	168	181	178	4797
			22	175	151	167	157	148	118	370	195	166	196	202	208	22	245	271	205	260	375	227	247	234	207	199	188	173	5084
			23	173	180	183	178	160	176	280	210	193	260*	44*	185	23	207	236	242	249	228	256	250	236	210	180	184	182	4882
			24	174	170	177	159	159	160	155	216	173	182	196	136	24	210	230	252	260	262	262	191	80	177	181	155	144	4461
			25	144	157	165	177	183	170	216	580*	187	153	172	213	25	231	247	329	389*	224	250	253	207	164	165	174	178	5328
			26	160	160	177	192	268	319	238	223	175*	325*	165	176	26	210	226	235	250	247	247	258	204	172	197	142	143	5109
			27	157	157	183	181	170	168	453	212	198	206*	-32*	232	27	196	223	237	240	269	290	274	213	153	130	113	146	4769
			28	153	167	183	182	189	183	188	174	178	185	220	219	28	329	212	232	229	258	272	250	231	209	196	194	190	5023
			29	191	194	183	177	183	182	187	193	196	203	206	222	29	270	216	234	236	242	236	239	221	221	213	203	197	5045
			30	192	193	187	188	187	193	194	199	236	200	199	207	30	208	217	233	233	242	259	256	239	226	203	196	177	5069
			31													31													

SCALED BY	LYT
CHECKED BY	EAS, JEP
SIGNS RE-VIEWED BY	
PUNCHED BY	

Preliminary base-line and scale values:

Interval Beginning	Base-line Value	Scale Value

( ) Interpolated
⌜⌟ Significant portion of hour interpolated.
☐ No record; or no values available because of faulty record.
[ ] Scaling uncertain because of magnetic storm.
<> Record off sheet for part or all of hour; if value is given, curve was estimated for missing part.
* Derived from STORM Mgph., converted to Normal Mgph.

MONTHLY SUM	150633
MONTHLY MEAN	209
DATES WITH GAPS:	

8

FORM C&GS-404a

MAGNETOGRAM HOURLY SCALINGS
(UNIVERSAL TIME)

U.S. DEPARTMENT OF INTERIOR
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OBSY.	YEAR	MONTH	ELEMENT
COL	85	SEP	Z

C	Q or S	Tes Q	Hr. / Da.	01	02	03	04	05	06	07	08	09	10	11	12	Hr. / Da.	13	14	15	16	17	18	19	20	21	22	23	24	SUM
			01	236	231	237	238	240	237	238	243	234	237	236	233	01	227	183	194	219	226	197	177	203	216	213	203	221	5319
			02	223	226	232	236	235	239	235	233	232	160	184	163	02	223	232	219	215	211	211	213	218	219	220	219	227	5225
			03	226	224	223	231	237	230	253	257	242	239	234	231	03	226	226	226	224	224	220	220	220	219	216	220	223	5491
			04	223	226	228	226	234	233	230	227	232	231	224	226	04	225	223	226	228	226	219	224	223	222	214	216	216	5397
			05	216	216	217	223	226	226	221	221	220	223	226	223	05	222	221	223	226	226	227	223	214	206	204	208	209	5267
			06	216	221	227	236	242	259	251	243	243	216	196	254	06	288	300	187	196	96	106	132	141	116	152	196	220	4934
			07	233	245	268	271	285	300	296	257	204	254	238	188	07	206	224	226	224	223	207	200	203	204	213	227	227	5618
			08	229	229	230	237	243	253	274	174	96	142	182	226	08	265	84	128	187	154	178	210	198	207	217	235	243	4821
			09	237	236	227	233	268	314	267	256	236	215	292*	9	09	183*	162	180	205	195	78	13	103	177	196	213	225	4720
			10	226	235	236	237	247	249	221	200	250	217	194	175	10	218	233	232	220	150	96	126	172	205	213	224	249	5020
			11	253	251	254	278	290	272	220	197	239	199	122	142	11	193	205	216	220	223	216	203	185	140	170	203	218	5109
			12	231	227	223	223	223	226	236	232	240	226	224	224	12	216	193	114	80	80	153	184	183	196	207	216	220	4777
			13	223	223	220	223	229	243	245	264	269	227	95	158	13	160	120	187	206	196	202	208	208	209	213	216	226	4970
			14	225	230	226	233	258	257	246	140*	178*	210	223	245	14	394	515*	242*	175	203	211	203	207	200	211	214	220	5666
			15	224	231	227	266	239	248	240	241	241	231	230	229	15	226	217	220	174	197	208	188	31	111	186	203	223	5031
			16	233	261	232	267*	272	276	242	216	251	155	219	261*	16	96*	178*	170	224	152	83	146	185	195	207	218	229	4968
			17	236	262	267	243	226	256	266	243	246	184	52	113	17	-4	140	210	216	218	217	222	217	207	209	210	216	4872
			18	224	231	233	225	224	226	242	264	250	193	142	84	18	106	185	214	212	223	219	219	218	216	207	208	215	4980
			19	214	221	223	224	221	233	272	259	224	72*	389*	232	19	306	245	197	300*	22	47	172	199	159	187	202	222	5042
			20	222	216	273	266	269*	260	262	239	-17*	117*	-4*	8*	20	142	203	279	158	216	207	188	174	193	200	217	232	4520
			21	230	245	283	266	250	192	85*	176	164	113	182	34*	21	97	211	169	174	186	206	156	162	178	211	226	236	4432
			22	243	236	243	244	244	268	280	231	276	249	222	215	22	177	232	180	115	113	143	187	181	184	196	213	216	5088
			23	223	223	226	227	230	253	266	116	106	244*	242	229	23	218	223	232	217	207	191	214	209	214	216	221	226	5173
			24	222	225	223	224	231	236	246	279	252	251	248	99	24	124	199	188	156	174	183	138	41	160	194	229	223	4745
			25	223	228	240	236	227	227	256	151*	62	214	234	221	25	186	126	112	113*	59	121	206	186	214	238	248	230	4558
			26	230	230	232	236	285	233	228	174	43	-8*	-11	176	26	233	228	220	214	207	207	204	193	193	224	243	247	4661
			27	234	216	223	225	221	248	264	136	167	296*	211	185	27	176	216	217	216	204	195	206	187	166	180	233	223	5045
			28	216	226	236	228	231	236	244	246	255	242	154	153	28	138	85	114	173	214	207	207	208	207	207	216	222	4865
			29	223	220	223	226	221	223	227	230	234	226	223	214	29	174	206	204	215	216	217	217	215	217	216	217	216	5220
			30	221	226	226	225	224	224	226	232	231	213	223	222	30	202	195	197	212	218	216	207	201	206	209	214	214	5184
			31													31													

SCALED BY	LYT
CHECKED BY	EAS, JEP
SIGNS REVIEWED BY	
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Preliminary base-line and scale values:

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MONTHLY SUM	150718
MONTHLY MEAN	209
DATES WITH GAPS:	

Form C&GS-404a

U.S. DEPARTMENT OF INTERIOR
Geological Survey, Geologic Division
Denver Federal Center
DENVER, CO 80225

MAGNETOGRAM HOURLY SCALINGS
(UNIVERSAL TIME)

Values are in tenths of mm. and are averages for successive periods of one hour beginning at midnight, Hour 01 of local day (120W M.T.) is hour 08 of the same universal day.
Shrinkage corrections have been applied. Negative values are in red, with minus signs shown.

OBSY.	YEAR	MONTH	ELEMENT
COL	85	SEP	H

C	Q or S	Tea Q	Hr / Da	01	02	03	04	05	06	07	08	09	10	11	12	Hr / Da	13	14	15	16	17	18	19	20	21	22	23	24	SUM
			01	288	277	265	266	256	280	268	269	267	270	270	263	01	253	212	268	260	220	191	240	239	215	212	223	248	6020
			02	267	253	271	260	282	261	270	270	277	253	268	250	02	275	267	259	256	252	250	250	243	242	241	248	249	6214
			03	250	253	262	268	267	273	283	279	278	270	270	268	03	270	269	275	261	255	249	241	243	250	260	255	246	6295
			04	243	240	260	269	276	269	273	273	273	272	277	274	04	273	273	270	260	259	256	259	252	245	243	243	245	6277
			05	246	249	265	269	273	272	270	270	271	273	272	273	05	275	277	272	279	278	270	261	249	250	248	249	252	6363
			06	253	265	271	270	268	273	277	280	277	279	133	125	06	152	28	36	-9	100	159	236	212	220	238	252	248	4843
			07	260	291	275	302	330	334	336	383	316	254	160	216	07	262	268	270	275	273	245	256	249	240	240	248	253	6536
			08	260	257	263	265	265	287	341	302	259	234	199	89	08	-10	35*	199	112	216	290	271	258	245	242	263	263	5405
			09	253	257	263	277	283	292	293	280	280	273	38	-106*	09	-208*	-48	228	238	14	3	139	245	267	259	260	253	4333
			10	269	277	269	263	289	317	382	318	328	306	207	211	10	272	274	263	229	159	168	217	236	229	242	237	248	6210
			11	263	251	267	284	305	305	342	307	299	23	183	247	11	250	271	261	270	265	239	223	179	220	248	251	256	6009
			12	258	255	250	256	265	267	267	272	273	298	258	275	12	254	224	115	108	170	240	239	252	260	268	267	270	5861
			13	265	256	255	267	263	263	271	304	300	225	77	270	13	117	256	269	266	246	259	268	269	270	268	259	263	6026
			14	246	255	266	260	265	269	374	374*	409*	365	348	291	14	176	-363*	-31*	286	282	272	265	240	240	246	262	266	5863
			15	270	273	285	282	270	259	256	263	262	263	263	278	15	274	255	237	217	269	239	130	15	200	230	229	248	5767
			16	304	276	326	544*	335	360	304	304	329	302	274	-262*	16	-356*	-47*	303	148	-35	210	256	247	243	233	252	246	5096
			17	292	314	304	295	298	278	282	280	275	258	279	32*	17	37	275	272	272	261	265	246	219	213	230	239	253	5969
			18	258	260	261	268	267	280	299	320	332	208	120	161	18	220	281	257	264	261	256	253	252	248	251	254	253	6084
			19	261	248	265	266	270	290	308	336	341	-592*	-958*	-51*	19	124	171	253	-119*	-187*	262	290	204	131	266	254	256	2889
			20	267	372	356	397	387*	280	272	274	168*	95*	-423*	-169*	20	48	165	-136*	198	224	242	224	230	229	215	236	250	4401
			21	237	301	306	318	326	367	253*	386	218	168	62*	-181*	21	187	213	112	210	234	140	144	176	222	244	262	274	5179
			22	271	282	261	294	285	362	305	328	306	271	274	239	22	154	69	6	67	81	236	232	230	243	258	259	247	5560
			23	253	250	259	268	275	277	280	215	301	-58*	10*	300	23	253	278	259	252	242	246	261	260	260	256	260	257	5714
			24	261	259	269	274	260	271	283	314	319	291	38	-63*	24	221	266	173	205	246	187	-24	194	242	212	240	259	5187
			25	263	274	256	283	279	291	335	72	311	306	287	241	25	214	167	124	-83	80	270	243	218	228	227	258	259	5403
			26	280	269	259	273	267	262	300	290	232	-169*	211	329	26	295	269	262	240	263	263	243	225	247	231	200	233	5774
			27	256	263	263	266	271	332	356	441	390	-51*	5*	230	27	240	276	258	252	230	256	243	215	180	213	225	247	5857
			28	263	258	252	260	267	270	286	293	295	275	234	248	28	-4	43	139	271	254	249	247	241	257	261	260	268	5677
			29	263	263	261	268	269	269	267	268	264	267	267	246	29	229	269	268	260	253	253	251	253	253	261	260	259	6241
			30	247	248	256	261	260	263	264	263	265	275	270	270	30	251	273	253	271	263	258	243	248	243	247	234	249	6175
			31													31													

SCALED BY	LYT
CHECKED BY	EAS, JEP
SIGNS REVIEWED BY	
PUNCHED BY	

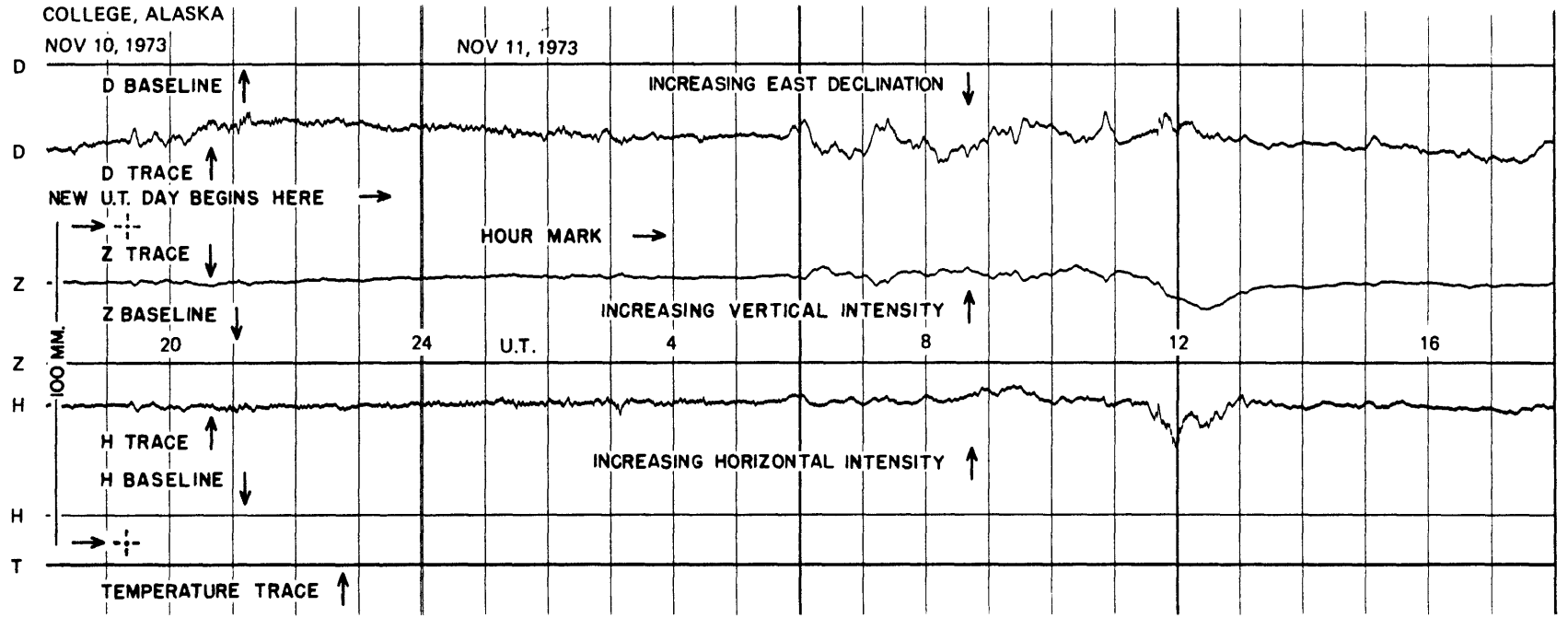
Preliminary base-line and scale values:

Interval Beginning	Base-line Value	Scale Value

( ) Interpolated
⌐ Significant portion of hour interpolated.
□ No record; or no values available because of faulty record.
[ ] Scaling uncertain because of magnetic storm.
<> Record off sheet for part or all of hour; if value is given, curve was estimated for missing part.
* Derived from STORM Mgph., converted to Normal Mgph.

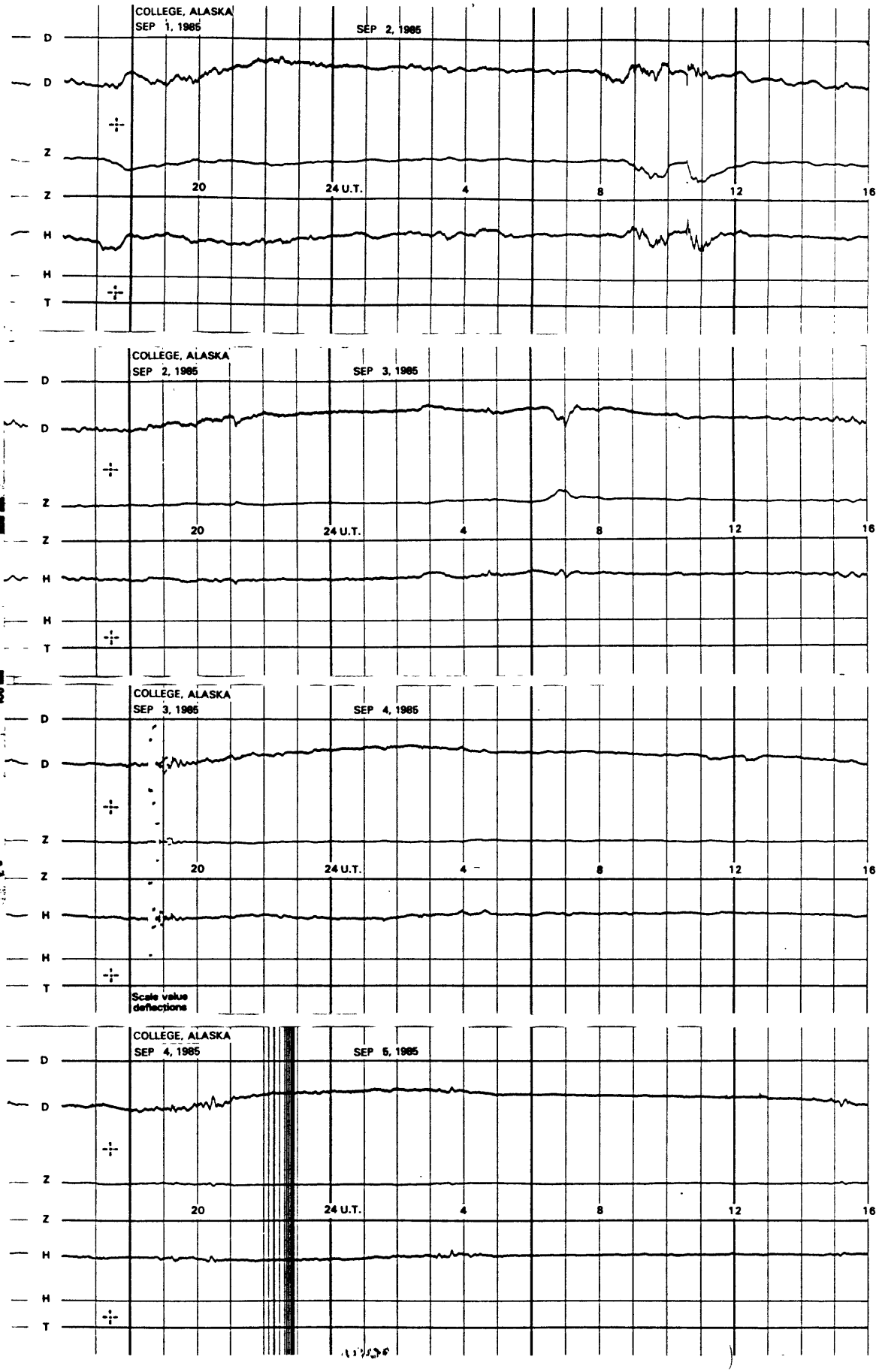
MONTHLY SUM	169228
MONTHLY MEAN	235
DATES WITH GAPS:	

FORMAT FOR NORMAL & STORM MAGNETOGRAMS
(SAMPLE ONLY)

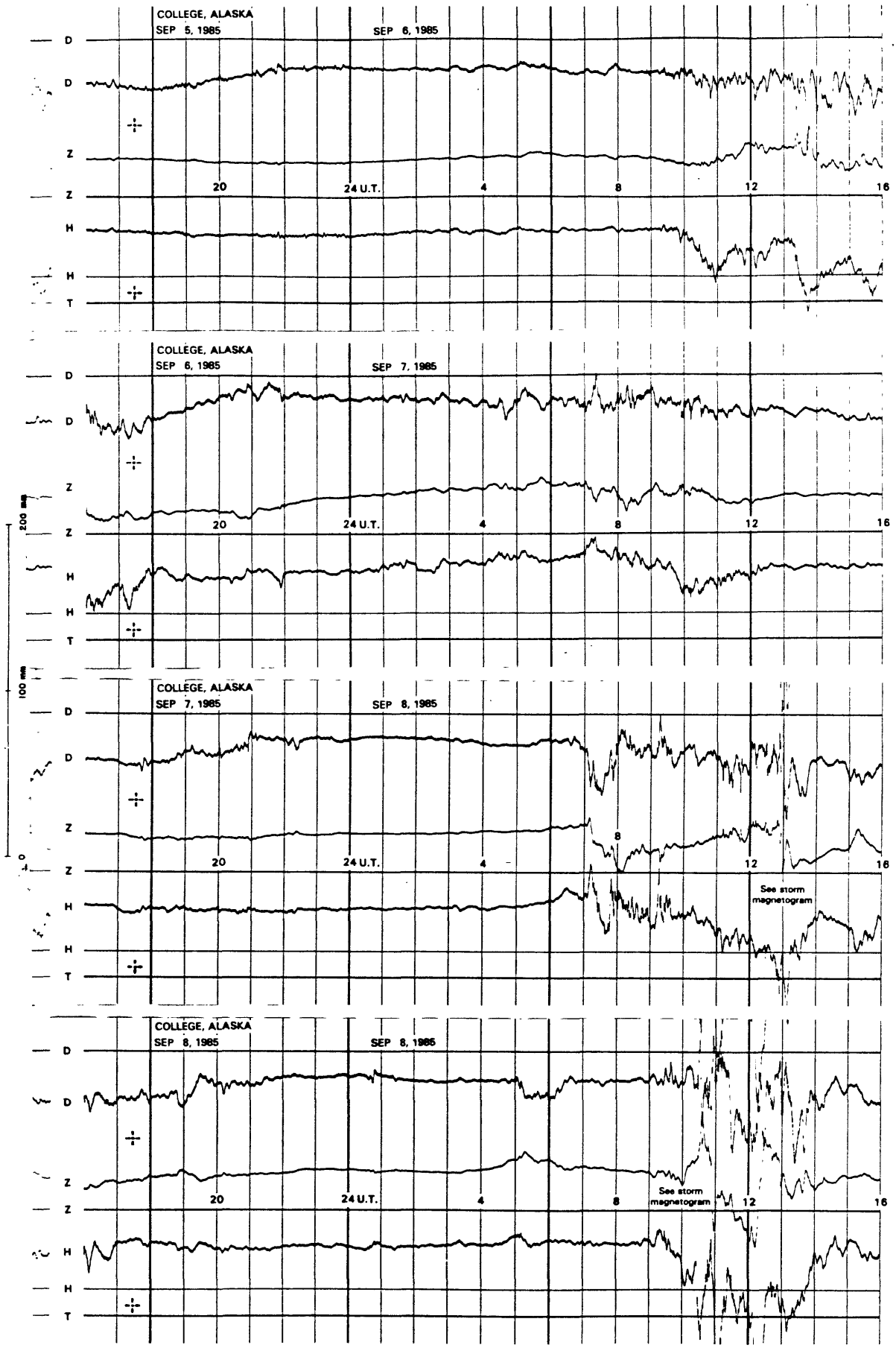


SEE PRELIMINARY CALIBRATION DATA FOR SCALE VALUES & BASELINE VALUES

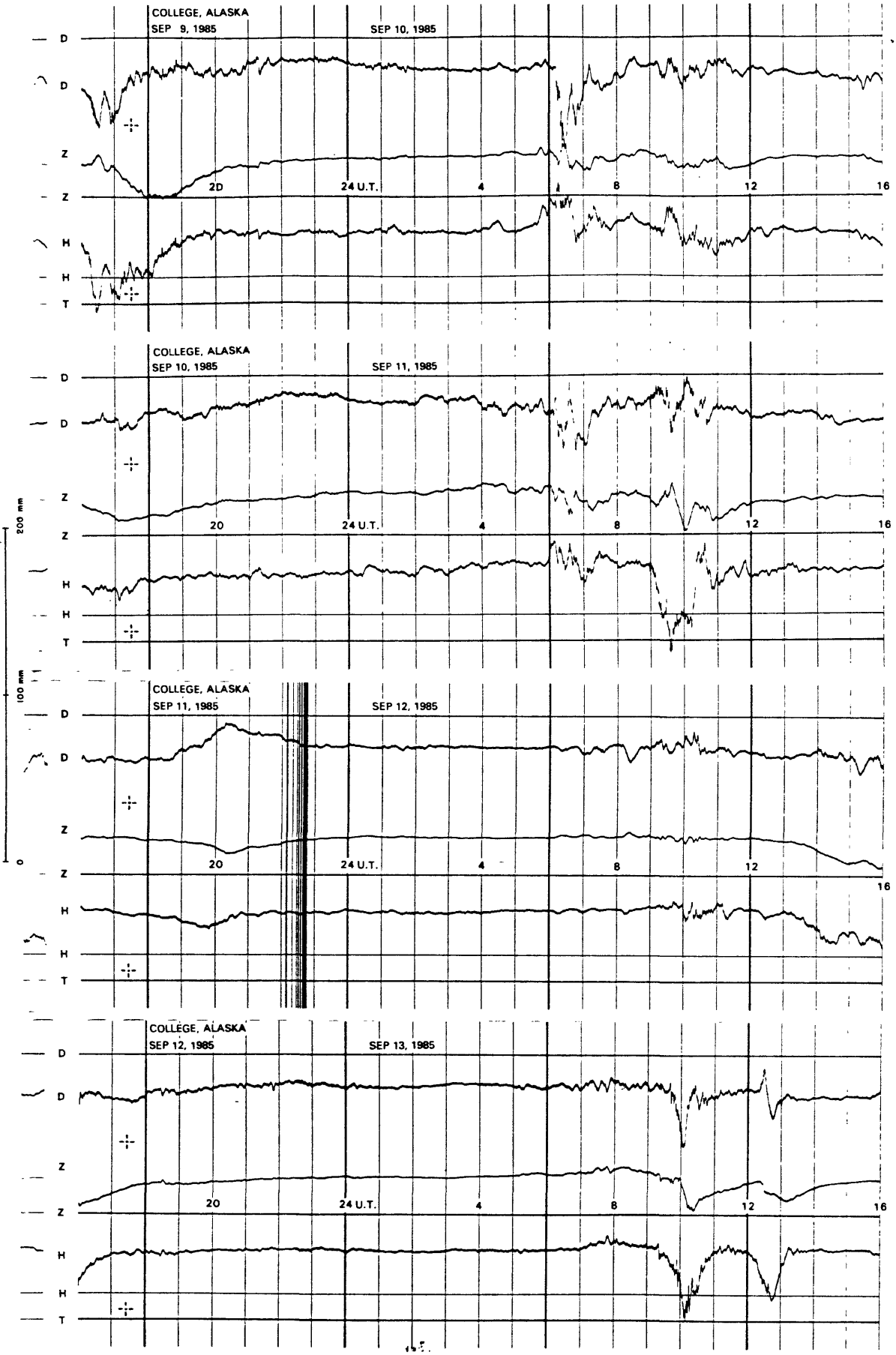
NORMAL MAGNETOGRAMS



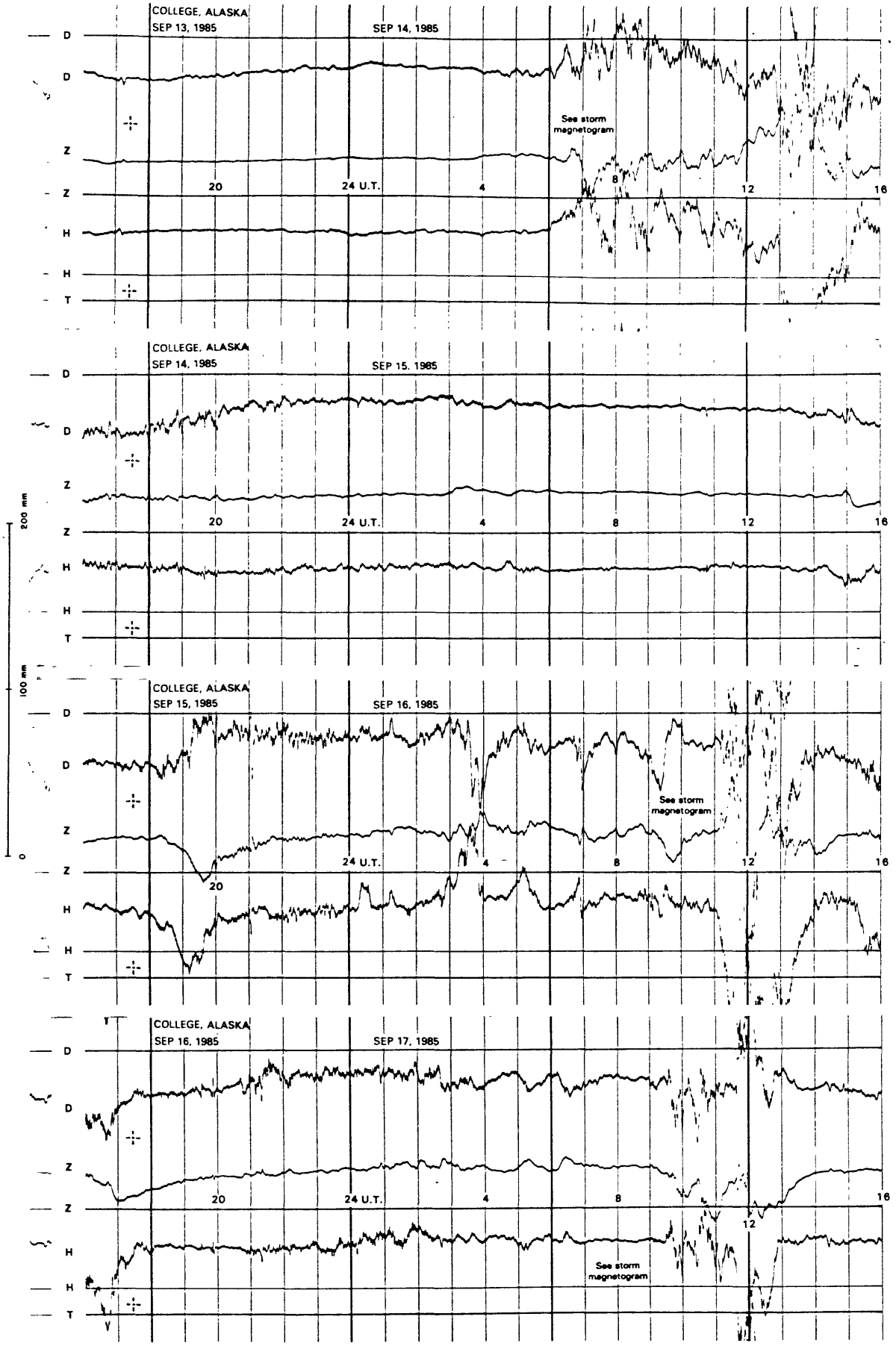
NORMAL MAGNETOGRAMS



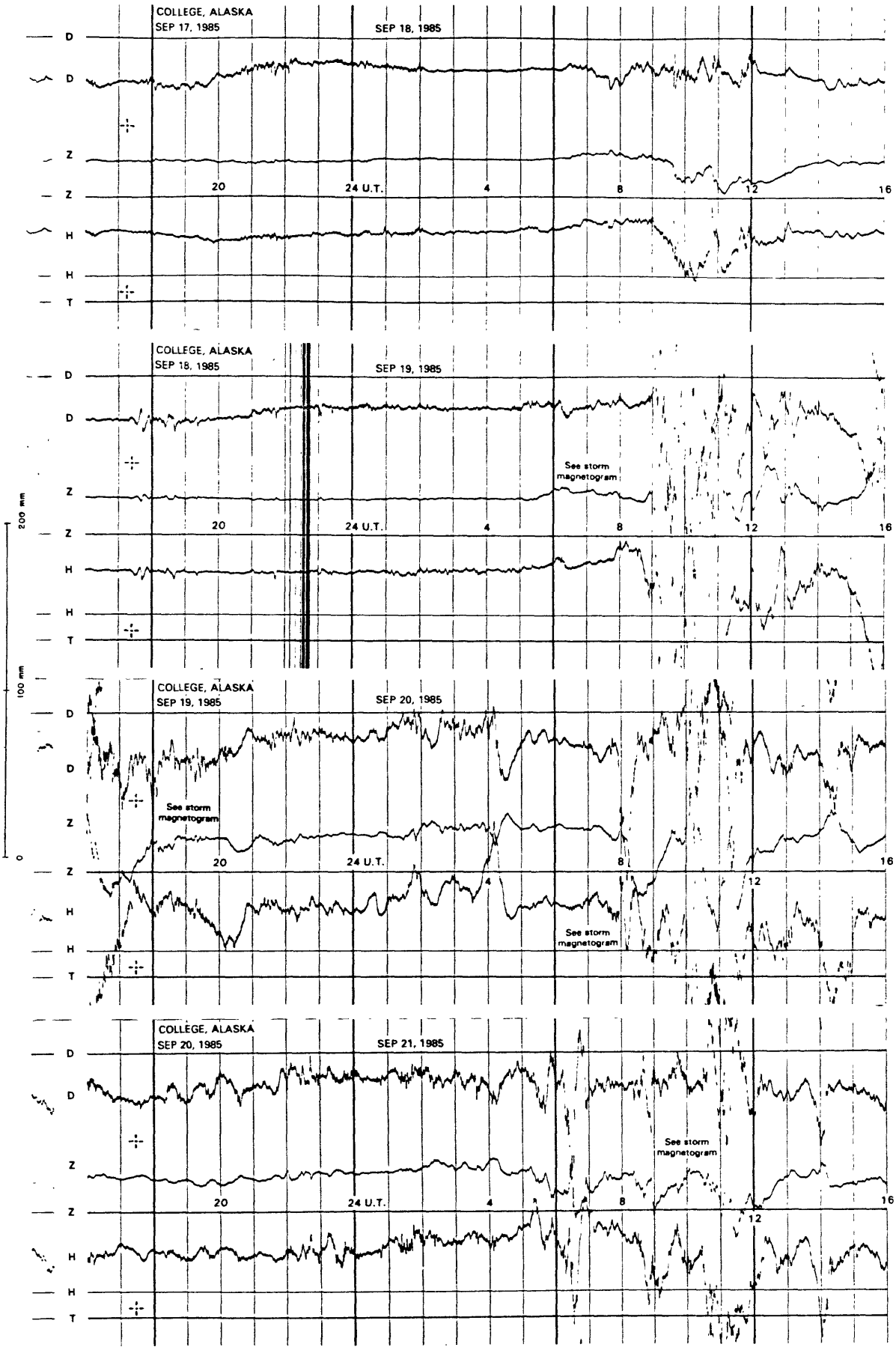
NORMAL MAGNETOGRAMS



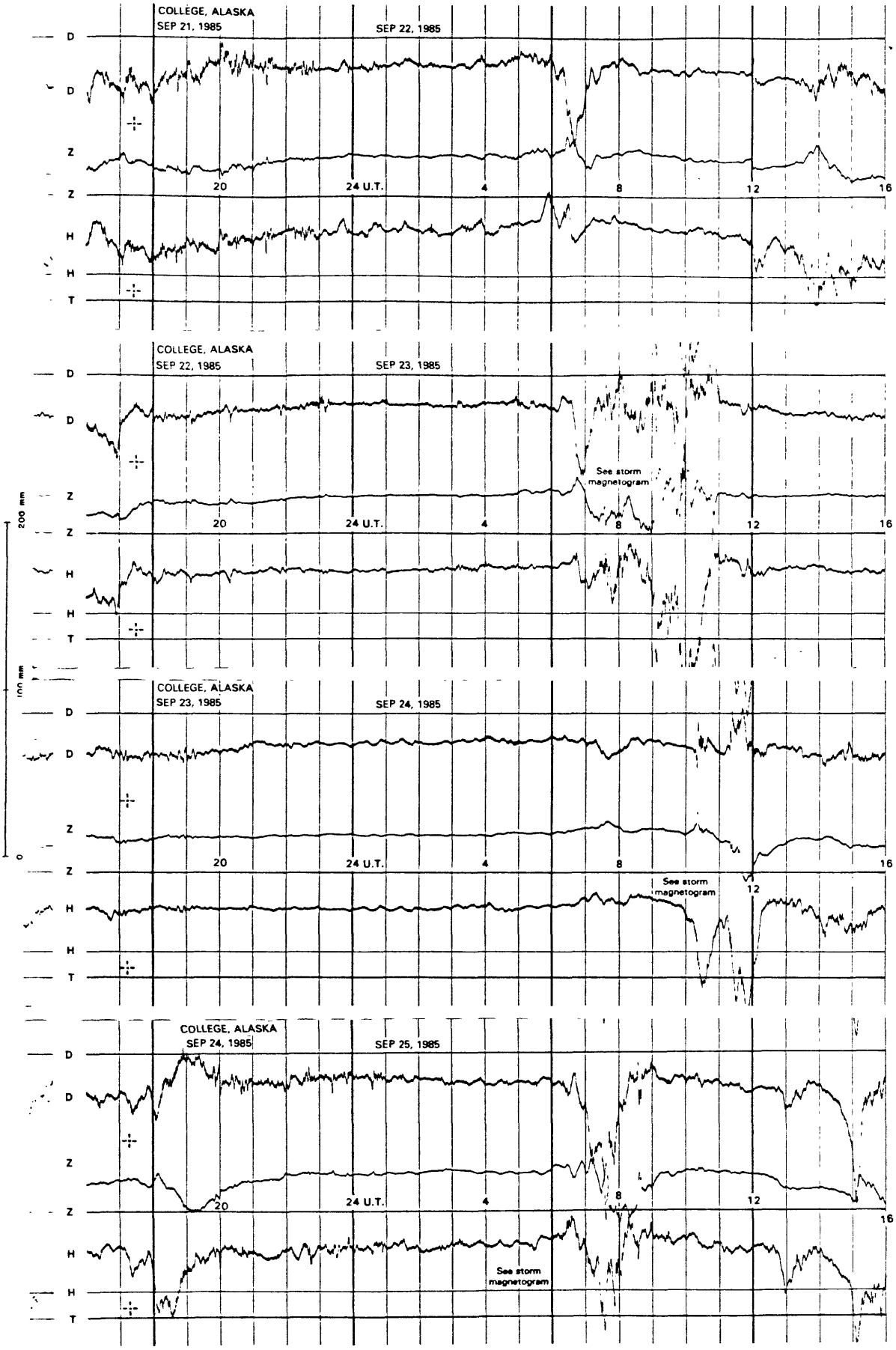
NORMAL MAGNETOGRAMS



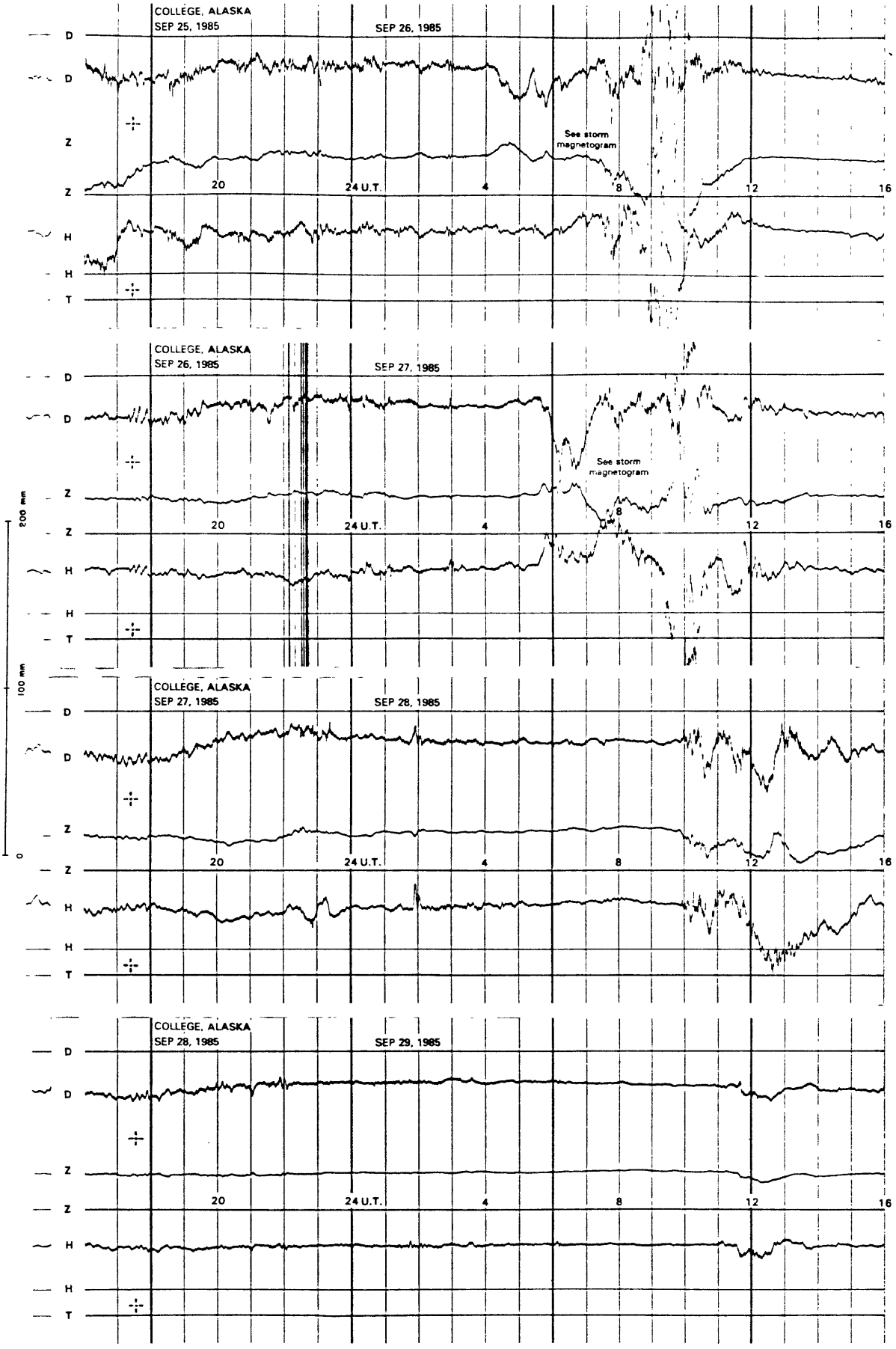
NORMAL MAGNETOGRAMS



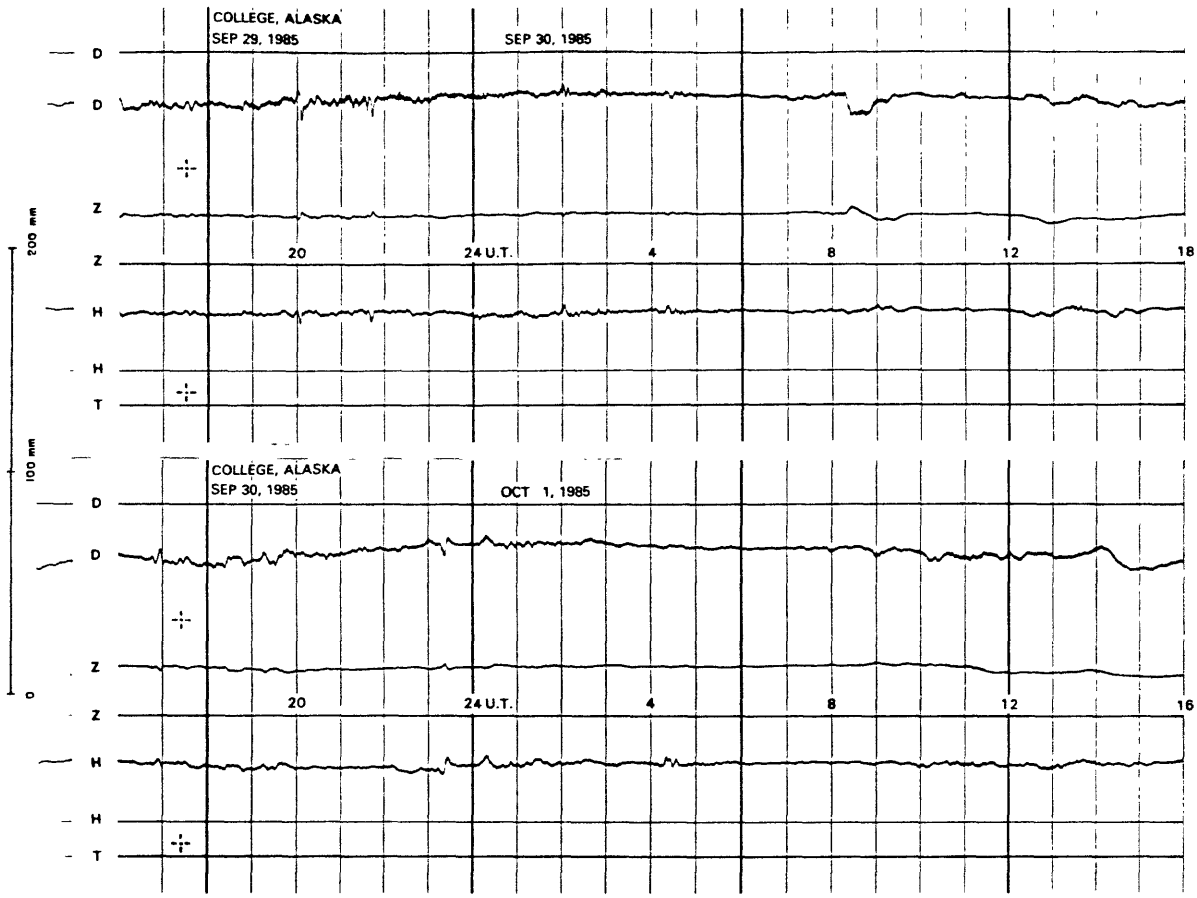
NORMAL MAGNETOGRAMS



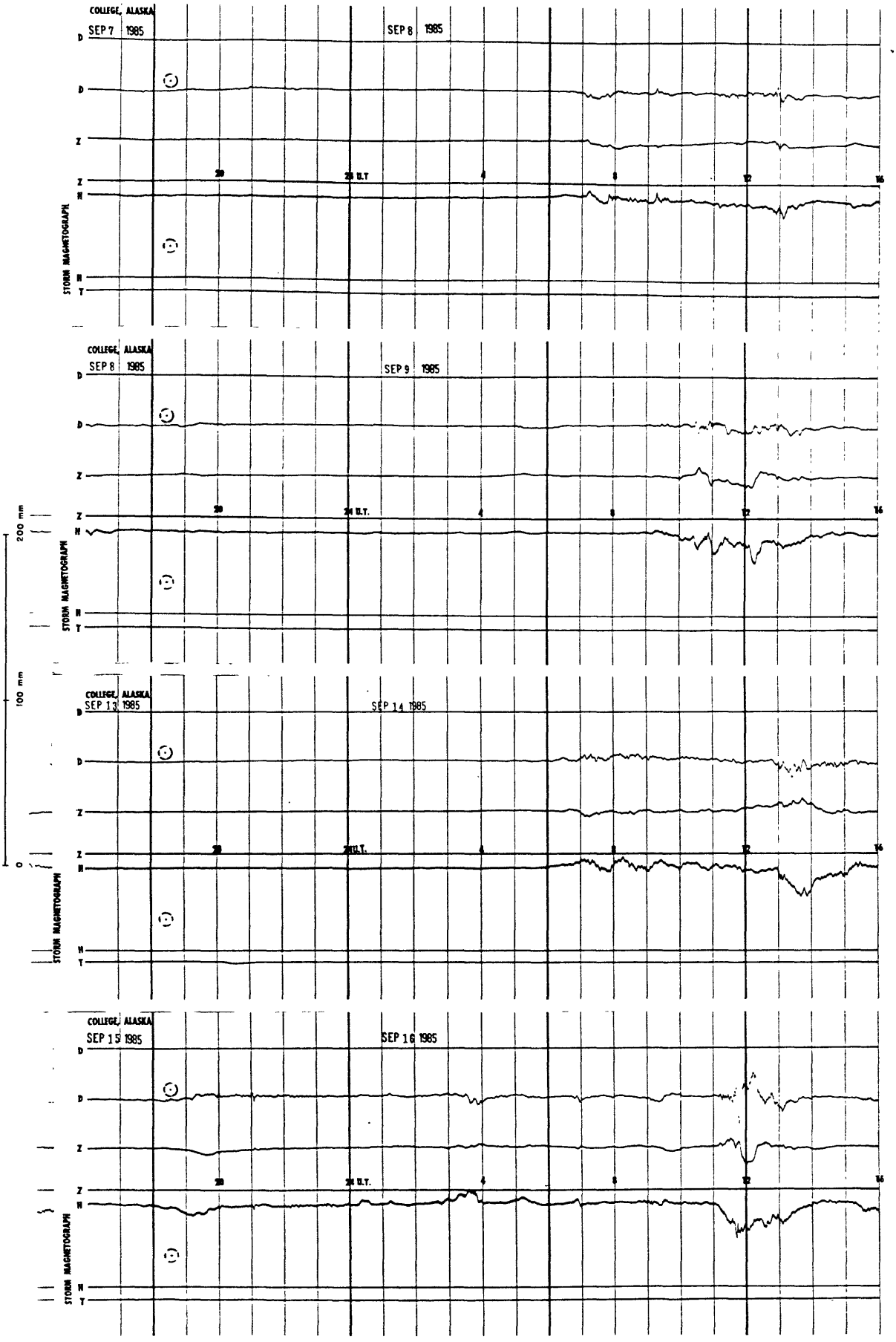
NORMAL MAGNETOGRAMS



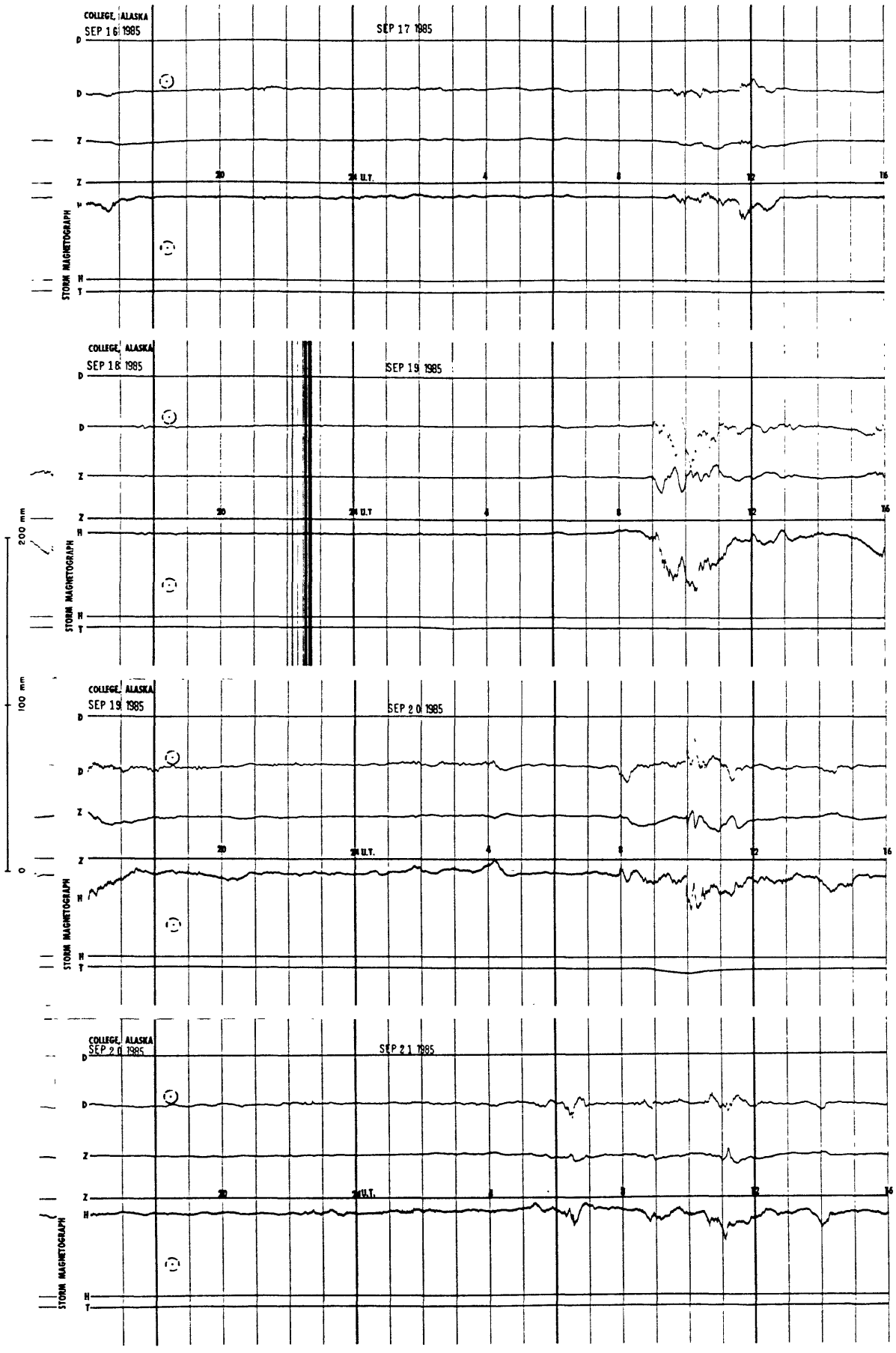
NORMAL MAGNETOGRAMS



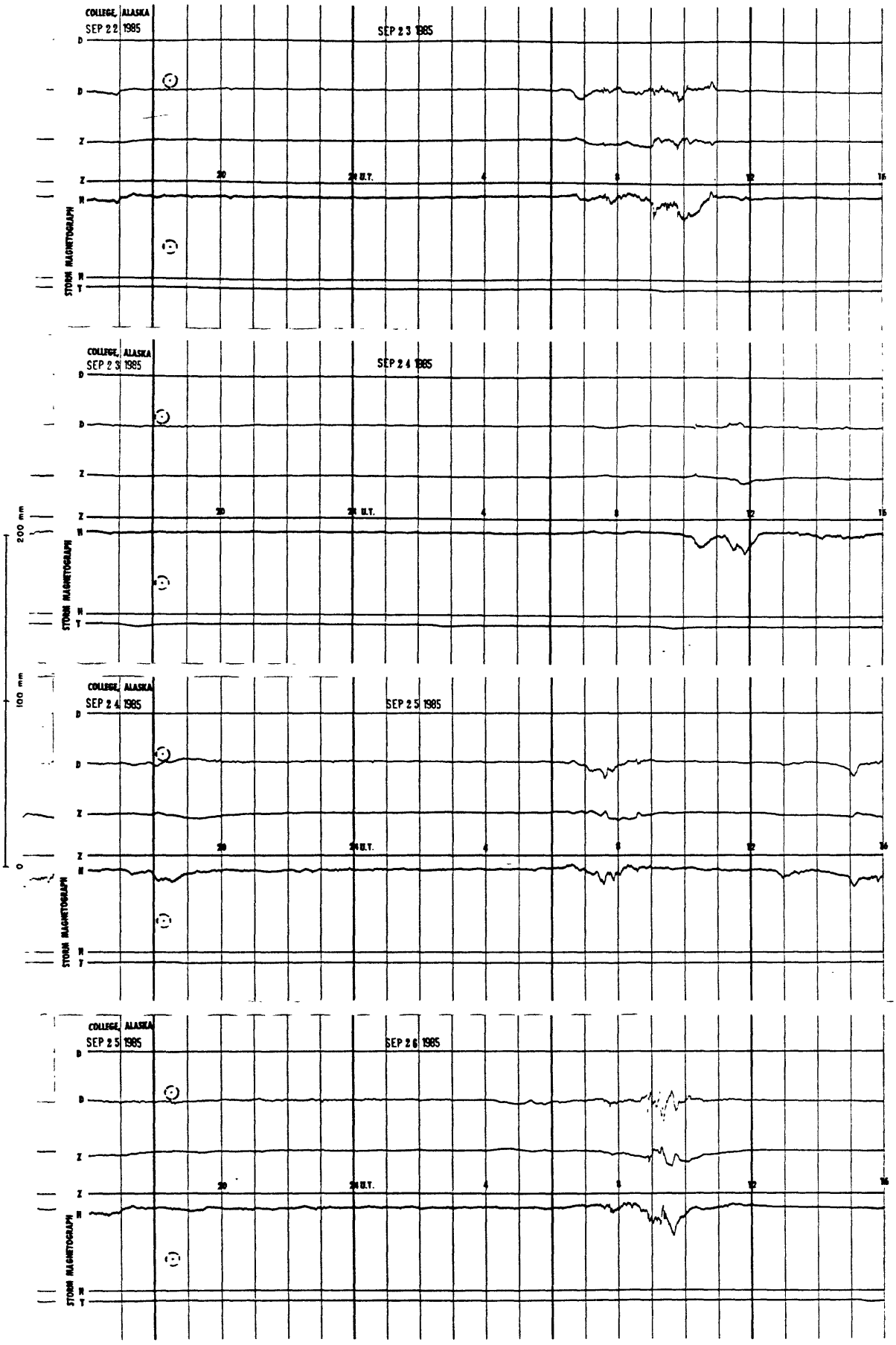
STORM MAGNETOGRAMS



STORM MAGNETOGRAMS



STORM MAGNETOGRAMS



STORM MAGNETOGRAMS