

Records of All-Sky Camera Photographs at Syowa Station,
Antarctica in 1979

National Institute of Polar Research

This report gives information on all-sky photograph data obtained at Syowa Station in 1979. Copies of the data are available to users on request. The request should be addressed to:

Division of Data Collection and Processing
National Institute of Polar Research
9-10, Kaga 1-chome, Itabashi-ku
Tokyo 173, Japan.

1. Location of observatory

CSAGI code	Station name	Geographic		Geomagnetic		Height 15 m above sea level
		Lat.	Long.	Lat.	Long.	
A984	Syowa	69°00'S	39°35'E	-69.6°	77.1°	

2. Observer

Mr. Takeshi MORIKAWA: Shiraki Microearthquake Observatory
Earthquake Research Institute
University of Tokyo

3. Compiler

Mr. Ryoki SAKAI and Miss Keiko KOKUBUN: National Institute of
Polar Research

4. Instrumentation

A 35 mm cine-pulse camera with a fish-eye lens of f/1.4 was used.

The observation was carried out during clear nights between February 28 and October 11, 1979. In general, six photographs were taken every minute. The exposure time of each photograph was 7 seconds. During very low auroral activities, photographing rate was reduced to two frames per minute. The film used was Kodak 35 mm 4-X with the ASA number of 800.

5. Observation

The date and hour of the observations is given in Fig. 1 and Table 1. Symbols in Fig. 1 are as follows:

Dark area: All-sky camera was operated.

Blank area: Not operated due to bad weather conditions.

The time in Table 1 is given by UT, while the clock which is put in all-sky photographs gives LT (LT = UT + 3 hours). The underlines for the three-hourly K-indices in Table 1 represent the period in which the all-sky camera was operated.

The classification of the K-indices at Syowa Station is as follows:

K-index:	0	0 -	25 nT
	1	25 -	50 nT
	2	50 -	100 nT
	3	100 -	200 nT
	4	200 -	350 nT
	5	350 -	600 nT
	6	600 -	1000 nT
	7	1000 -	1660 nT
	8	1660 -	2500 nT
	9	more than	2500 nT

Table 1. Hours of operation of the 35 mm all-sky camera at Syowa Station in 1979.

Date	Hours (Universal Time)		K-Index
Feb. 28		18 ^h 27 ^m 00 ^s	5422 34 <u>54</u>
Mar. 1	-01 ^h 48 ^m 37 ^s		<u>5421</u> 2332
2		17 00 00	5552 3 <u>235</u>
3	-01 28 37	19 04 00	<u>4222</u> 13 <u>44</u>
4	-01 26 37		<u>5343</u> 3434
10		17 15 00	6554 2 <u>475</u>
11	-01 58 37	16 ^h 30 ^m 00 ^s -19 23 37	<u>5332</u> 2 <u>100</u>
12		16 45 00	3211 0 <u>130</u>
13	-01 53 37	17 32 00	<u>2420</u> 0 <u>000</u>
14	-01 23 37	22 30 00	<u>0011</u> 000 <u>1</u>
15	-01 51 37		<u>0010</u> 0024
16		23 49 00	3412 10 <u>21</u>
17	-01 48 37		<u>3354</u> 2213
19		17 55 00 -22 44 37	0122 2 <u>212</u>
20		19 37 00	3311 00 <u>03</u>
21	-01 23 37		<u>0111</u> 0100
30		18 51 00 -23 44 37	5540 22 <u>03</u>
31		15 43 00	5521 1 <u>346</u>
Apr. 1	-02 29 37	15 39 00	<u>4633</u> 3 <u>337</u>
2	-02 00 37	15 44 00	<u>7442</u> 3 <u>455</u>
3	-02 32 37		<u>4532</u> 1466
4		17 42 00 -19 52 37	6653 3 <u>214</u>
6	15 45 00	-19 31 37 21 32 00	4331 2 <u>224</u>
7	-02 30 37		<u>2332</u> 0115
9		16 26 00	5520 2 <u>000</u>

Date	Hours (Universal Time)		K-Index
Apr. 10	-00 ^h 11 ^m 37 ^s		<u>1431</u> <u>2223</u>
13		16 ^h 43 ^m 00 ^s	2220 <u>1212</u>
14	-03 01 37	15 50 00	<u>3311</u> <u>0335</u>
15	-00 12 37		<u>4422</u> 1234
23		16 27 00	4643 <u>2233</u>
24	-03 40 37	15 20 00	<u>5531</u> <u>1156</u>
25	-03 48 37	14 34 00	<u>7776</u> <u>4356</u>
26	-03 29 57	16 ^h 17 ^m 00 ^s -21 50 37	<u>5410</u> <u>0024</u>
May 2		14 13 00	5532 <u>1132</u>
3	-03 47 57		<u>4400</u> 0114
5		18 45 00	4311 <u>1210</u>
6	-02 59 37	14 15 00	<u>0111</u> <u>0000</u>
7	-02 59 37	14 22 00	<u>3102</u> <u>2232</u>
8	-03 01 37	14 14 00	<u>2131</u> <u>0022</u>
9	-03 01 37	14 29 00 -19 36 37	<u>1122</u> <u>2254</u>
10		15 28 00	3101 <u>0223</u>
11	-02 38 37	14 13 00	<u>5353</u> <u>2325</u>
12	-03 01 37		<u>3322</u> 1112
13		15 56 00	3221 <u>0010</u>
14	-03 02 37		<u>2321</u> 2134
16		16 21 00 -23 17 37	4430 <u>0002</u>
20		14 42 00	6542 <u>2234</u>
21	-03 02 37	15 16 00	<u>1021</u> <u>1354</u>
22	-03 01 57		<u>5555</u> 2355
23		21 34 00	4421 <u>0044</u>
24	-04 00 57	14 35 00	<u>5563</u> <u>2356</u>

Date		Hours (Universal Time)		K-Index	
May	25	-04 ^h 00 ^m 57 ^s	15 ^h 09 ^m 00 ^s	<u>4</u> <u>6</u> <u>5</u> <u>4</u>	<u>3</u> <u>4</u> <u>6</u> <u>6</u>
	26	-03 01 57		<u>6</u> <u>5</u> <u>5</u> <u>3</u>	3325
	27	16 26 00	-22 ^h 11 ^m 37 ^s	5653	<u>3</u> <u>3</u> <u>3</u> <u>4</u>
	28	-02 59 37		<u>4</u> <u>2</u> <u>2</u> <u>0</u>	<u>0</u> <u>1</u> <u>3</u> <u>4</u>
	29	-03 03 37		<u>3</u> <u>1</u> <u>1</u> <u>1</u>	2256
	31		14 44 00	0001	<u>0</u> <u>0</u> <u>0</u> <u>0</u>
June	1	-02 59 37		<u>1</u> <u>0</u> <u>0</u> <u>0</u>	<u>0</u> <u>0</u> <u>2</u> <u>3</u>
	2	-01 14 37		<u>3</u> <u>3</u> <u>1</u> <u>1</u>	000 <u>4</u>
	3	-02 59 37		<u>2</u> <u>0</u> <u>0</u> <u>0</u>	<u>0</u> <u>0</u> <u>1</u> <u>3</u>
	4	-02 29 37		<u>3</u> <u>0</u> <u>0</u> <u>2</u>	<u>1</u> <u>1</u> <u>1</u> <u>0</u>
	5	-02 59 37		<u>2</u> <u>0</u> <u>0</u> <u>0</u>	0001
	12		17 23 00	4321	<u>0</u> <u>0</u> <u>2</u> <u>3</u>
	13	-02 59 37		<u>2</u> <u>0</u> <u>0</u> <u>0</u>	<u>0</u> <u>1</u> <u>1</u> <u>3</u>
	14	-02 59 37		<u>3</u> <u>3</u> <u>1</u> <u>1</u>	<u>0</u> <u>0</u> <u>0</u> <u>1</u>
	15	-02 59 37		<u>2</u> <u>3</u> <u>2</u> <u>1</u>	<u>1</u> <u>1</u> <u>3</u> <u>4</u>
	16	-00 54 37		<u>4</u> <u>4</u> <u>5</u> <u>3</u>	<u>2</u> <u>2</u> <u>5</u> <u>5</u>
	17	-02 59 57		<u>3</u> <u>4</u> <u>1</u> <u>2</u>	<u>2</u> <u>3</u> <u>3</u> <u>3</u>
	18	-02 59 37		<u>1</u> <u>2</u> <u>2</u> <u>1</u>	<u>0</u> <u>0</u> <u>1</u> <u>1</u>
	19	-02 59 37		<u>3</u> <u>4</u> <u>2</u> <u>2</u>	100 <u>4</u>
	20	-03 59 37		<u>4</u> <u>2</u> <u>1</u> <u>0</u>	1033
	24		16 25 00	4532	<u>1</u> <u>2</u> <u>1</u> <u>4</u>
	25	-03 59 37		<u>3</u> <u>3</u> <u>3</u> <u>1</u>	<u>2</u> <u>1</u> <u>2</u> <u>2</u>
	26	-03 59 37		<u>0</u> <u>1</u> <u>1</u> <u>1</u>	<u>3</u> <u>3</u> <u>4</u> <u>5</u>
	27	-03 59 37		<u>4</u> <u>5</u> <u>2</u> <u>2</u>	2110
	28		19 00 00	0120	<u>0</u> <u>0</u> <u>0</u> <u>2</u>
	29	-03 59 37		<u>3</u> <u>0</u> <u>2</u> <u>0</u>	0033
July	3		16 02 00	1001	<u>1</u> <u>4</u> <u>3</u> <u>4</u>

Date		Hours (Universal Time)		K-Index	
July	4	-03 ^h 59 ^m 37 ^s	14 ^h 55 ^m 00 ^s	<u>4551</u>	<u>0032</u>
	5	-03 59 37	14 29 00	<u>1112</u>	<u>1123</u>
	6	-03 59 37		<u>2233</u>	3164
	7		15 20 00	5432	<u>3423</u>
	8	-04 00 37	14 21 00	<u>2222</u>	<u>1224</u>
	9	-04 00 37		<u>1210</u>	0210
	10		18 15 00	1300	<u>1023</u>
	11	-04 00 37		<u>2112</u>	0002
	13		13 46 00	4431	<u>2344</u>
	14	-03 53 37	14 35 00	<u>3100</u>	<u>0036</u>
	15	-04 00 37		<u>5532</u>	1134
	17		14 34 00	5522	<u>1216</u>
	18	-03 59 57	14 ^h 37 ^m 00 ^s -19 20 37	<u>5452</u>	<u>2346</u>
	20		16 07 00	1424	<u>3346</u>
	21	-03 59 57		<u>3521</u>	1024
	24		19 02 00	4410	<u>0003</u>
	25	-03 49 37		<u>3310</u>	0000
	28		16 14 00	5510	<u>0102</u>
	29	-03 55 37	15 59 00 -16 58 57	<u>3311</u>	<u>2336</u>
	31		21 00 00	0000	<u>0000</u>
Aug.	1	-03 59 37	15 00 00	<u>0001</u>	<u>2245</u>
	2	-03 59 37	14 52 00	<u>5332</u>	<u>1210</u>
	3	-03 59 37	15 54 00 -22 35 37	<u>4533</u>	<u>2204</u>
	7		17 13 00	4331	<u>1245</u>
	8	-00 17 37		<u>3331</u>	1024
	11		21 15 00 -22 26 37	3400	<u>0034</u>
	14		15 43 00 -22 12 37	4221	<u>0112</u>

Date	Hours (Universal Time)			K-Index	
Aug. 15			16 ^h 00 ^m 00 ^s	2210	<u>0124</u>
16	-04 ^h 59 ^m 37 ^s		15 26 00	<u>4221</u>	<u>0000</u>
17	-02 59 37		17 13 00	<u>4110</u>	<u>0033</u>
18	-01 11 37			<u>3101</u>	0037
19		15 ^h 40 ^m 00 ^s	-18 52 37	5553	<u>2335</u>
21			14 36 00	6553	<u>5434</u>
22	-03 59 37		17 00 00	<u>5432</u>	<u>1222</u>
23	-01 44 57	14 49 00	-19 07 57	<u>0111</u>	<u>0000</u>
25	02 00 00	-03 59 37		<u>2333</u>	3234
26			18 52 00	5443	<u>0233</u>
27	-03 50 37		14 54 00	<u>3532</u>	<u>1232</u>
28	-02 59 57		15 15 00	<u>4421</u>	<u>1005</u>
29	-02 52 57	14 43 00	-23 13 57	<u>4665</u>	<u>5666</u>
Sep. 4			15 42 00	1432	<u>1133</u>
5	-02 57 37			<u>5632</u>	3344
6			18 14 00	5652	<u>1202</u>
7	-02 57 37		15 56 00	<u>5511</u>	<u>0003</u>
8	-02 38 37		17 28 00	<u>3222</u>	<u>0024</u>
9	-02 58 37	16 15 00	-21 29 37	<u>4420</u>	<u>0035</u>
12			16 55 00	4300	<u>0026</u>
13	-02 23 57	18 07 00	-21 23 37	<u>4400</u>	<u>0013</u>
15			17 08 00	4211	<u>0013</u>
16	-01 59 37		16 45 00	<u>5421</u>	<u>0216</u>
17	-00 53 37		18 01 00	<u>4211</u>	<u>1115</u>
18	-00 41 37		16 49 00	<u>5455</u>	<u>3422</u>
19	-01 58 57			<u>1110</u>	1023
20			17 00 00	4221	<u>2315</u>

Date		Hours (Universal Time)		K-Index	
Sep.	21	-01 ^h 40 ^m 57 ^s	18 ^h 24 ^m 00 ^s	<u>6632</u>	<u>2024</u>
	22	-01 17 57	16 26 00	<u>5100</u>	<u>0100</u>
	23	-01 44 37	16 00 00	<u>3411</u>	<u>0120</u>
	24	-01 04 37	16 51 00	<u>1422</u>	<u>2246</u>
	25	-01 59 37	17 05 00	<u>5541</u>	<u>2335</u>
	26	-01 24 57	17 36 00	<u>5532</u>	<u>2354</u>
	27	-00 42 57	17 13 00	<u>4621</u>	<u>2234</u>
	28	-00 57 57	18 57 00	<u>4542</u>	<u>1254</u>
	29	-00 36 57	18 33 00	<u>5421</u>	<u>2325</u>
	30	-00 18 37		<u>5632</u>	<u>2334</u>
Oct.	1		19 53 00	<u>5412</u>	<u>1101</u>
	2	-00 56 37		<u>2000</u>	<u>1444</u>
	3		18 19 00	<u>4440</u>	<u>1324</u>
	4	-00 35 37	18 ^h 56 ^m 00 ^s -23 16 37	<u>5223</u>	<u>1000</u>
	5		17 30 00	<u>0001</u>	<u>1255</u>
	6	-00 56 37		<u>4542</u>	<u>4434</u>
	7		17 17 00	<u>5562</u>	<u>3335</u>
	8	-00 56 37	18 33 00	<u>6545</u>	<u>3345</u>
	9	-00 55 37	17 47 00 -23 56 37	<u>5653</u>	<u>3235</u>
	10		18 04 00 -23 57 37	<u>5431</u>	<u>2244</u>
	11		18 21 00 -23 26 37	<u>1122</u>	<u>2212</u>