WORLD DATA CENTER A

Upper Atmosphere Geophysics

REPORT UAG- 1

IQSY NIGHT AIRGLOW DATA

by

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I. Introduction. World Data Center A, in Boulder, has received photometric data of the night airglow during the IQSY from 19 stations (Table 1) covering 25 lunations (Table 2). The data consist of (a) hourly zenith intensities of [OI] 5577A, NaI 5890-96A, and [OI] 6300A for most stations plus sporadic observations of the hydroxyl (OH) and N_2^+ 3914A, and (b) hourly values of the ratio of intensity (north/south) near or at zenith distance 75°. Table 3 is a summary of the data received from each station by giving the IQSY numbered lunations in Table 2 for the periods data were received.

A preliminary interpretation of this data (Night Airglow Observations During the IQSY by F. E. Roach, L. L. Smith and J. R. McKennan) is included in the IQSY Annals. This report is a compilation of the IQSY night airglow data.

II. Data. The hourly values reported to the Data Center were recorded on punched cards. Table 4 is the tabulation of this data including the mean and the standard deviation of the mean for each night and for each lunation. The tabulation of the data in Table 4 is as follows:

1. Zenith Intensities
   a. [OI] 5577A
   b. NaI 5890-96A
   c. [OI] 6300A
   d. OH
   e. N_2^+ 3914A
2. Ratios
   a. [OI] 5577A
   b. NaI 5890-96A
   c. [OI] 6300A

The data from each station are tabulated in the numbered order given in Table 1.

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Table 1

STATIONS PARTICIPATING IN IQSY AIRGLOW PROGRAM

No	Name of Observatory	Sponsoring Country	Geographic Latitude	Geographic Longitude	Geomagnetic Latitude	Dip Latitude	h = 250 km B*	I*	L*	Altitude (meters)
1	Loparskaya	U.S.S.R.	68° 38'	33° 20'E	$63^\circ.7$	66°	0.47	12.70	5.61	50
2	Haute Provence	France	43° 55'	5° 43'E	$45^\circ.8$	41°	0.41	2.23	1.81	680
3	Memambetsu	Japan	43° 55'	144° 12'E	$34^\circ.0$	38°	0.44	1.56	1.63	39
4	Abastumani	U.S.S.R.	41° 45'	42° 50'E	$36^\circ.6$	39°	0.43	1.72	1.60	1700
5	Fritz Peak	U.S.A.	39° 54'	105° 29'W	$48^\circ.7$	50°	0.50	3.99	2.41	2749
6	Sendai	Japan	38° 06'	140° 33'E	$27^\circ.9$	32°	0.42	1.06	1.35	425
7	Vannovskaya	U.S.S.R	37° 57'	58° 06'E	$30^\circ.6$	36°	0.44	1.27	1.42	
8	Niigata	Japan	37° 42'	138° 49'E	$27^\circ.4$	32°	0.42	1.03	1.33	630
8a	Kakioka**	Japan	36° 14'	140° 11'E	$26^\circ.0$	30°	0.41	0.91	1.29	
9	Dodaira	Japan	36° 00'	139° 12'E	$25^\circ.7$	30°	0.41	0.90	1.29	
10	Gifu	Japan	35° 27'	137° 02'E	$24^\circ.9$	30°	0.42	0.87	1.27	82
11	Maruyama	Japan	35° 01'	139° 58'E	$24^\circ.8$	29°	0.41	0.83	1.26	33
12	Aso	Japan	32° 53'	131° 01'E	$22^\circ.0$	28°	0.41	0.71	1.21	567
13	Kitt Peak	U.S.A.	31° 57'	111° 36'W	$40^\circ.1$	39°	0.45	2.08	1.72	2064
13a	Mount Abu**	India	24° 36'	72° 43'E	$15^\circ.4$	21°	0.40	0.34	1.07	
14	Haleakala	U.S.A	20° 42'	156° 15'W	$20^\circ.7$	22°	0.32	0.43	1.17	3052
15	Poona	India	18° 31'	73° 52'E	$9^\circ.2$	12°	0.37	0.13	1.00	555
16	Makatea	France	16° 25'S	148° 20'W	$-14^\circ.0$	15°	0.33	0.25	1.09	90
17	Tsumeb	W.Germany	19° 13'S	17° 42'E	$-18^\circ.1$	39°	0.28	0.83	1.38	1290

*Computed by method of Cain et al., (1964). B, I and L are respectively the magnitude of the magnetic field, the integral invariant and the magnetic shell parameter as defined by McIlwain (1961).
**Data too late to be numerically ordered in summary paper.

Table 2

Lunations During IQSY

Lunation Almanac*	Number IQSY	Date of New Moon	Lunation Almanac	Number IQSY	Date of New Moon
508	1	1964 Jan. 14	520	13	1965 Jan. 2
509	2	Feb. 13	521	14	Feb. 1
510	3	Mar. 14	522	15	Mar. 3
511	4	Apr. 12	523	16	Apr. 2
512	5	May 11	524	17	May 1
513	6	June 10	525	18	May 30
514	7	July 9	526	19	June 29
515	8	Aug. 7	527	20	July 28
516	9	Sept. 6	528	21	Aug. 26
517	10	Oct. 5	529	22	Sept. 25
518	11	Nov. 4	530	23	Oct. 24
519	12	Dec. 4	531	24	Nov. 23
			532	25	Dec. 22

*The almanac lunation numbers start with number 1 on January 16, 1923.

TABLE 3

DATA LISTED FROM EACH IQSY STATION BY LUNATION

No.	Name of Observatory	5577Å Zenith	5577Å Ratio	5893Å Zenith	5893Å Ratio	6300Å Zenith	6300Å Ratio	OH Zenith
1.	Loparskaya	1-3,12-14,24				1-3,11-14,24		
2.	Haute Provence	1-25	1-25	1-25		1-25		1-25(6700Å)
3.	Memambetsu	2-19,21-25	2-5,14-19,22-23			14-19,22-24	14-19,22,23	
4.	Abastumani	1,3-15,17-25	1,3-15,17-25	1,3-15,17-25	1,3-15,17-25	1,3-15,17-25	1,3-15,17-25	1,3-15,17-25 (9000Å-10550Å)
5.	Fritz Peak		1,2,4,5,8-25		1,2,4,5,8-25		1,2,4,5,8-25	
6.	Sendai	1-6,8-25				4-6,8	1-6,8-17,19-21	
7.	Vannovskaya	1,5-12,14-16 20,24,25	1,5-12,14-16 20,24,25			1	1	
8.	Niigata	1-17,20-25	1,3-5,21-25					
*8a.	Kakioka							1-5
9.	Dodaira	4-6,8-17,19-25	4-6,8,9			5-17,19-25		10-25
10.	Gifu	1-3,5,10-17, 25,19-23				1-3,5,10-13		
11.	Maruyama	2	2					
12.	Aso	2-3,5-11,13, 14,16				11,13,14,16		
13.	Kitt Peak	4-24	10-24	4-24	10-24	4-24	10-24	
*13a.	Mount Abu	12-19,22-25		12-18,22-25		12-19,22-25		
14.	Haleakala	1-25	1-3,5-10,12-25	1-25	1-3,5-10,12-25	1-25	1-3,5-10,12-25	
15.	Poona	1-5		1-5		1-5		1-5(7750Å) 1-5(8860Å)
16.	Makatea	1-13,15-24		1-13,15-24		1-13,15-24		1-13,15-24 (6700Å)
17.	Tsumeb**	20-24		20-24		20-24		20-24(8,3)

*Too late to be numerically ordered in summary paper

**Has data for 3914A during lunation 20-24