

IONOSPHERE DATA

Mean ionospheric absorption $L'(\text{dB})$ at oblique incidence (A3)

$$f = 270 \text{ kHz}$$

The following tables give the values of mean ionospheric absorption at oblique incidence (A3) for certain zenith distances of the Sun (χ) expressed in decibels (dB). Values for ground sunset (SS) and ground sunrise (SR) are given for periods of 20 minutes centered on the times of $\chi = 90^\circ$. Night values have been determined by taking the periods ranging from $\chi = 100^\circ$ to 23 00 GMT. The date column gives year, month, day (e.g. 920101 indicates 1992 January 1). SS and Night values in actual row are valid for the actual day, however, the SR values always for the next day's dawn. Values uncertain for some reason are entered in round brackets (). Some gaps are due to missing records.

The sky wave of the transmitter Československo ($f = 272 \text{ kHz}$) has been recorded since January 1967. The geographical coordinates of the reflection point are 48.4° N , 17.1° E . Because of reconstruction works on the transmitter Československo, the absorption measurement at 272 kHz and the publication of data were suspended from April 1975 till September 1978. (At present the transmitter frequency is 270 kHz.)

The equipment and the method have been described in the papers by BENCZE P and MÄRCZ F: "Atmosphärisch-elektrische und ionosphärische Messungen im Observatorium bei Nagycenk". Observatoriumsberichte des Geophysikalischen Forschungslaboratoriums der Ungarischen Akademie der Wissenschaften vom Jahre 1966, Sopron, 1967, as well as by BENCZE P, HORVÁTH J, MÄRCZ F: "A new equipment for the measurement of ionospheric absorption" Geophysical Observatory Report of the Geodetic and Geophysical Research Institute of the Hungarian Academy of Sciences, Year 1975. Observatory of Nagycenk, Sopron, 1976. Further information is given by BENCZE P and MÄRCZ F: "The Geophysical Observatory near Nagycenk II. Atmospheric electric and ionospheric measurements" (*Acta Geod. Geoph. Mont. Hung.*, 16, 1981, 353-357).

See CD (program Seenck.exe, menu item Ionosphere/Absorption).

Mean ionospheric absorption L' (dB) at oblique incidence (A3) $f = 270$ kHz

1994

Date	SS	Night	SR
940101	27.2	28.2	30.3
940102	41.2	31.7	37.7
940103	37.7	27.2	31.7
940104	29.2	23.8	31.7
940105	37.7	23.2	35.2
940106	37.7	23.8	41.2
940107	41.2	26.4	30.3
940108	41.2	19.5	33.2
940109	35.2	23.8	23.2
940110	33.2	22.2	21.0
940111	30.3	24.4	28.2
940112	35.2	27.2	30.3
940113	41.2	21.4	26.4
940114	33.2	25.7	31.7
940115	35.2	21.0	35.2
940116	30.3	26.4	30.3
940117	30.3	26.4	26.4
940118	37.7	23.8	35.2
940119	23.2	28.2	23.2
940120	29.2	22.7	26.4
940121	23.8	23.8	27.2
940122	27.2	27.2	31.7
940123	41.2	25.0	27.2
940124	25.7	23.8	23.8
940125	30.3	21.4	25.0
940126	27.2	20.6	23.8
940127	23.8	19.2	28.2
940128	25.7	24.4	29.2
940129	33.2	25.0	33.2
940130	31.7	26.4	31.7
940131	41.2	35.2	35.2
940201	42.2	33.2	35.2
940202	37.7	33.2	29.2
940203	41.2	25.0	30.3
940204	25.7	30.3	27.2
940205	37.7	23.2	27.2
940206			
940207	29.2	21.4	28.2
940208	30.3	26.4	26.4

Date	SS	Night	SR
940209	31.7	25.7	24.4
940210	33.2	28.2	29.2
940211	30.3	22.2	29.2
940212	37.7	20.6	24.4
940213	27.2	31.7	27.2
940214	33.2	24.4	30.3
940215	37.7	30.3	37.7
940216	30.3	20.6	23.8
940217	41.2	26.4	35.2
940218	41.2	25.0	37.7
940219	41.2	26.4	35.2
940220	35.2	27.2	25.7
940221	41.2	25.0	29.2
940222	30.3	19.2	20.2
940223	37.7	19.2	33.2
940224	29.2	25.0	31.7
940225	37.7	26.4	31.7
940226	35.2	18.3	27.2
940227	27.2	20.2	27.2
940228	33.2	17.8	26.4
940301	33.2	22.2	33.2
940302	30.3	21.4	22.7
940303	30.3	17.8	28.2
940304	28.2	18.6	23.2
940305	21.4	20.6	24.4
940306	25.7	15.4	22.2
940307	27.2	23.2	23.8
940308	25.0	19.9	21.4
940309	17.3	24.4	30.3
940310	31.7	21.4	29.2
940311	33.2	17.8	27.2
940312			
940313	31.7	19.5	28.2
940314	33.2	18.3	25.7
940315	19.9	23.2	26.4
940316	23.2	21.0	26.4
940317			
940318	25.0	22.2	27.2
940319	30.3	21.0	20.6
940320	28.2	24.4	25.0
940321	33.2	21.0	20.2
940322	27.2	18.3	19.9
940323	30.3	16.3	21.8

Date	SS	Night	SR
940324	24.4	15.7	22.2
940325	27.2	22.2	22.7
940326	21.8	21.4	17.6
940327	25.0	20.6	22.7
940328	26.4	24.4	25.0
940329	23.2	16.3	27.2
940330	30.3	15.9	19.2
940331	19.5	16.3	24.4
940401	20.6	15.7	23.8
940402	22.7	24.4	22.7
940403	23.8	21.8	21.0
940404	17.3	18.1	18.1
940405	22.2	15.4	20.6
940406	23.2	21.0	21.0
940407	25.0	21.8	21.8
940408	25.7	19.9	22.2
940409	33.2	25.7	25.0
940410	19.9	16.1	22.7
940411	17.3	16.9	19.9
940412	21.8	17.6	24.4
940413	30.3	13.6	25.0
940414	31.7	18.9	30.3
940415	22.7	20.6	20.6
940416	31.7	27.2	26.4
940417	19.9	21.4	31.7
940418	31.7	24.4	25.7
940419	18.1	19.5	21.8
940420	30.3	25.0	28.2
940421	23.8	21.4	20.6
940422	19.5	28.2	24.4
940423	23.2	23.8	25.0
940424	24.4	23.2	21.4
940425	24.4	28.2	27.2
940426	27.2	18.6	18.9
940427	21.0	16.5	19.2
940428	23.2	18.6	25.7
940429	28.2	17.8	22.2
940430	22.2	23.2	30.3
940501	30.3	23.8	28.2
940502			
940503	41.2	21.4	25.7
940504	27.2	25.7	24.4
940505	29.2	22.7	25.7

Date	SS	Night	SR
940506	28.2	28.2	
940507	31.7	25.7	23.8
940508	27.2	23.2	29.2
940509	22.2	22.7	25.7
940510	30.3	17.8	27.2
940511	33.2	27.2	31.7
940512	1.7	28.2	24.4
940513	41.2	19.9	
940514	31.7	23.2	
940515	23.8	22.2	24.4
940516	24.4	18.6	21.4
940517	27.2	23.2	22.2
940518	35.2	41.2	23.8
940519	27.2	37.7	22.7
940520	24.4	14.8	
940521	26.4	37.7	
940522	21.0	26.4	23.8
940523	41.2	20.2	24.4
940524	23.8		
940525	28.2		24.4
940526	33.2		25.7
940527	47.2		
940528	27.2		
940529	25.0		23.2
940530	29.2		23.8
940530	26.4		24.4
940601	33.2		28.2
940602	22.7		30.3
940603	35.2		
940604	25.0		
940605	37.7		25.0
940606	26.4		25.0
940607	24.4		(24.4)
940608	31.7		27.2
940609	28.2		25.0
940610	23.8		
940611	29.2		
940612	25.0		23.2
940613	27.2		22.2
940614	22.2		23.8
940615	33.2		
940616	25.7		25.7
940617	26.4		

Date	SS	Night	SR
940618	26.4		
940619	28.2		21.0
940620			
940621			
940622			
940623	30.3		22.2
940624	26.4		
940625	23.2		
940626	33.2		27.2
940627	30.3		30.3
940628	27.2		25.7
940629	23.8		23.2
940630	27.2		30.3
940701	24.4	18.6	23.2
940702	29.2	22.2	24.4
940703	24.4	21.0	18.9
940704	26.4	23.2	27.2
940705	23.2	20.2	25.7
940706	26.4	25.0	25.7
940707	28.2	25.0	25.7
940708	26.4	24.4	23.8
940709	21.8	21.4	21.0
940710	26.4	23.8	22.7
940711	29.2	21.8	21.8
940712	26.4	21.8	23.2
940713	41.2	22.7	21.4
940714	30.3	22.7	25.0
940715	30.3	21.4	29.2
940716	26.4	26.4	21.8
940717	29.2	21.4	25.0
940718	27.2	26.4	30.3
940719	27.2	27.2	28.2
940720	30.3	26.4	22.7
940721	28.2	21.8	27.2
940722	30.3	21.8	28.2
940723	41.2	2.8	27.2
940724	31.7	23.2	27.2
940725	30.3	21.4	22.7
940726	25.7	21.0	25.7
940727	31.7	18.9	35.2
940728	28.2	25.7	23.8
940729	26.4	21.0	27.2
940730	24.4	17.8	25.7

Date	SS	Night	SR
940731	26.4	20.2	29.2
940801	27.2	22.2	28.2
940802	22.2	20.2	22.7
940803	20.6	24.4	30.3
940804	29.2	19.9	29.2
940805	25.7	23.2	22.7
940806	25.0	21.4	31.7
940807	22.2	19.2	23.8
940808	22.7	19.9	25.0
940809	30.3	20.2	31.7
940810	27.2	21.4	
940811	29.2	19.2	22.7
940812	27.2	22.7	25.7
940813	26.4	21.0	23.8
940814	25.7	16.9	24.4
940815	24.4	20.6	23.2
940816	23.2	22.2	28.2
940817	25.0	21.4	28.2
940818	25.7	20.6	24.4
940819	25.7	21.0	25.7
940820	26.4	18.9	25.0
940821	23.2	21.0	28.2
940822	19.9	17.3	30.3
940823	22.2	20.6	25.0
940824	19.5	21.0	30.3
940825	27.2	19.9	29.2
940826	33.2	18.3	29.2
940827	18.6	18.3	28.2
940828	25.0	17.8	23.2
940829	21.4	16.3	28.2
940830	30.3	21.8	20.6
940831	25.7	18.3	24.4
940901	23.8	18.3	27.2
940902	24.4	21.0	30.3
940903	24.4	21.0	27.2
940904	23.2	21.8	
940905			
940906			
940907			
940908			
940909			
940910			29.2
940911	29.2	18.6	33.2

Date	SS	Night	SR
940912	24.4	20.2	28.2
940913	28.2	18.3	31.7
940914	25.7	21.0	26.4
940915	30.3	18.6	33.2
940916	30.3	18.6	31.7
940917	25.0	18.1	29.2
940918	27.2	20.2	28.2
940919	33.2	18.9	31.7
940920	27.2	18.3	23.8
940921	28.2	19.2	26.4
940922	23.2	18.9	25.0
940923	28.2	8.1	28.2
940924	24.4	21.8	28.2
940925	28.2	21.8	25.7
940926	18.9	17.8	24.4
940927	20.2	18.3	20.2
940928	24.4	18.9	22.2
940929	19.5	20.2	21.8
940930	26.4	17.8	25.7
941001	28.2	16.7	25.0
941002		16.9	22.2
941003	23.2	23.2	23.8
941004	18.1	19.5	21.0
941005	22.2	22.2	26.4
941006	17.6	23.2	31.7
941007	29.2	21.0	25.7
941008	20.6	23.8	23.2
941009	25.0	23.8	22.2
941010	22.2	18.6	19.2
941011	19.5	18.1	21.4
941012	21.4	19.5	
941013	21.0	18.9	25.0
941014	19.2	18.3	22.2
941015	18.1	19.2	
941016	21.8	18.3	24.4
941017	27.2	16.1	
941018	28.2	17.6	25.0
941019	21.0	17.1	25.0
941020	25.7	23.2	24.4
941021	21.4	24.4	31.7
941022	25.0	22.2	33.2
941023		26.4	27.2
941024	33.2	23.2	30.3

Date	SS	Night	SR
941025		21.4	17.8
941026	26.4	18.3	
941027	27.2	21.0	31.7
941028	23.8	21.4	27.2
941029	21.8	19.2	31.7
941030			
941031			
941101	23.2	21.4	24.4
941102	29.2	20.6	26.4
941103	25.0	21.0	22.7
941104	28.2	21.4	30.3
941105	25.0	19.5	23.2
941106	21.4	20.6	25.7
941107	35.2	19.5	23.2
941108	41.2	21.4	24.4
941109	30.3	21.4	30.3
941110	25.0	27.2	30.3
941111	31.7	22.2	33.2
941112	41.2	27.2	23.2
941113			
941114	41.2	26.4	
941115		20.6	
941116			
941117			
941118			
941119			
941120			
941121			
941122			
941123			
941124			
941125	41.2	18.1	
941126	27.2	(20.2)	25.0
941127	26.4	(20.2)	30.3
941128	16.9	21.4	22.7
941129	29.2	19.2	16.5
941130	33.2	18.9	29.2
941201	30.3	16.7	23.2
941202	30.3	23.8	28.2
941203	31.7		
941204			
941205	37.7	28.2	29.2
941206			

Date	SS	Night	SR
941207	37.7	23.2	33.2
941208	33.2	26.4	27.2
941209	31.7	24.4	
941210			
941211	41.2	23.8	31.7
941212	41.2	22.2	27.2
941213	37.7	25.7	35.2
941214	41.2	23.2	
941215			
941216	41.2	21.0	22.2
941217		23.2	
941218			
941219			
941220	23.8	17.8	22.7
941221	25.7	25.7	33.2
941222	31.7	25.7	28.2
941223	31.7	19.5	21.4
941224	33.2	19.9	23.2
941225	29.2	21.0	27.2
941226	37.7	23.2	17.3
941227	31.7	23.2	29.2
941228	23.8	23.2	23.8
941229	33.2	21.4	33.2
941230	35.2	23.8	27.2
941231	37.7	25.0	29.2

Mean ionospheric absorption L' (dB) at oblique incidence (A3)
 $f = 270$ kHz
 1995

Date	SS	Night	SR
950101	37.7	22.7	25.0
950102	30.3	21.8	27.2
950103	31.7	21.8	22.7
950104	25.7	21.0	21.8
950105	27.2	21.4	24.4
950106	29.2	21.0	25.0
950107	23.8	23.8	24.4
950108	37.7	24.4	35.2
950109	25.0	23.2	28.2
950110	37.7	27.2	35.2
950111			
950112	35.2	23.8	26.4
950113	23.8	21.0	(26.4)
950114	(33.2)	24.4	35.2
950115	37.7	23.8	37.7
950116	37.7	25.0	31.7
950117	37.7	24.4	
950118	33.2	23.2	47.2
950119	(25.0)	25.7	
950120	(23.8)	(23.2)	35.2
950121	27.2	21.0	37.7
950122			
950123	(30.3)	27.2	
950124			
950125	37.7	24.4	26.4
950126	27.2	24.4	31.7
950127	35.2	23.2	31.7
950128	27.2	23.8	28.2
950129	37.7	26.4	27.2
950130	28.2	31.7	31.7
950131	31.7	27.2	35.2
950201	29.2	23.8	47.2
950202	37.7	28.2	35.2
950203	33.2	31.7	37.7
950204	27.2	26.4	35.2
950205	41.2	28.2	35.2
950206	29.2	23.8	27.2
950207	37.7	21.4	23.2
950208	28.2	22.2	28.2

Date	SS	Night	SR
950209	41.2	19.9	22.2
950210	26.4	23.8	22.2
950211	22.2	22.2	23.2
950212	27.2	22.2	30.3
950213	41.2	21.8	31.7
950214	35.2	25.7	28.2
950215	37.7	26.4	37.7
950216	41.2	21.8	28.2
950217	26.4	22.2	31.7
950218	25.7	21.4	29.2
950219	37.7		
950220	30.3	21.0	31.7
950221	31.7	25.7	25.7
950222	28.2	21.4	
950223	37.7	19.5	25.0
950224	31.7	19.9	21.4
950225	20.2	25.0	28.2
950226	28.2	25.7	31.7
950227	24.4	23.2	30.3
950228	35.2	22.7	25.7
950301	29.2	21.0	28.2
950302	25.0	22.2	30.3
950303	24.4	21.8	29.2
950304	31.7	23.2	28.2
950305	27.2	20.6	29.2
950306	27.2	20.2	20.2
950307	33.2	19.2	23.8
950308	25.0	18.6	26.4
950309	20.2	18.6	23.2
950310	28.2	21.8	26.4
950311	31.7	25.0	23.2
950312	30.3		
950313	31.7	17.8	22.2
950314	35.2	19.9	20.2
950315	30.3	21.4	26.4
950316	37.7	21.4	23.8
950317	27.2	20.6	18.3
950318	37.7	21.4	25.0
950319	26.4	22.2	31.7
950320	31.7	23.2	19.2
950321	35.2	19.5	24.4
950322	30.3	21.0	22.2
950323	26.4	21.8	21.4

Date	SS	Night	SR
950324	19.5	21.0	21.8
950325	19.2	(16.7)	
950326			
950327	28.2	(19.9)	26.4
950328	27.2	(21.4)	23.8
950329	27.2	(20.6)	28.2
950330	19.5	(18.6)	27.2
950331	27.2	(19.2)	(26.4)
950401	29.2	20.2	28.2
950402	31.7	18.1	21.8
950403	28.2	18.6	18.9
950404	21.8	22.7	31.7
950405	19.5	21.8	23.8
950406	25.0	18.6	26.4
950407	24.4	19.2	25.0
950408	26.4	23.2	27.2
950409	25.7	21.0	24.4
950410	21.8	19.9	33.2
950411	26.4	18.6	23.2
950412	24.4	23.8	22.2
950413	25.7	21.8	21.8
950414	23.8	23.2	26.4
950415	26.4	21.4	19.2
950416	29.2	21.8	26.4
950417	25.7	22.2	21.8
950418	18.6	19.9	21.8
950419	18.1	16.5	18.6
950420	21.0	19.9	28.2
950421	18.6	22.7	27.2
950422	28.2	22.2	20.2
950423	30.3	23.2	23.8
950424	22.2	17.8	23.8
950425	24.4	23.8	21.0
950426	20.6	22.7	
950427	26.4	18.9	23.8
950428	23.2	18.9	22.2
950429	21.4	18.1	26.4
950430	21.4	24.4	25.7
950501	23.8	24.4	24.4
950502	25.0	23.2	19.5
950503	23.8	21.4	21.8
950504	28.2	23.8	29.2
950505	31.7	20.2	24.4

Date	SS	Night	SR
950506	31.7	25.0	23.8
950507	29.2	23.2	28.2
950508	37.7	29.2	23.2
950509	25.0	21.8	23.8
950510	27.2	19.5	25.7
950511	35.2		
950512	27.2	21.0	23.2
950513	25.7	20.2	25.0
950514	30.3	19.5	25.7
950515	29.2		
950516	41.2	21.4	31.7
950517	23.8		
950518	25.0		
950519	25.0	21.8	26.4
950520	22.7	23.2	24.4
950521	21.0	19.9	26.4
950522	26.4	20.2	28.2
950523	25.0	23.8	22.2
950524	30.3	21.0	26.4
950525	26.4	24.4	24.4
950526	27.2	20.6	27.2
950527	28.2	23.8	26.4
950528	27.2	19.5	24.4
950529	25.0	21.0	28.2
950530	23.2	20.2	25.0
950530	29.2	19.9	26.4
950601	25.7	23.2	21.0
950602	25.0	22.7	26.4
950603	26.4	20.2	24.4
950604	25.0	25.0	27.2
950605	23.2	20.2	28.2
950606	25.0	23.2	27.2
950607	28.2	20.2	26.4
950608	28.2	20.2	26.4
950609	21.4	20.6	27.2
950610	23.2	17.6	23.2
950611	23.2	25.0	24.4
950612	27.2	22.7	27.2
950613	25.0	18.3	26.4
950614	27.2	23.2	27.2
950615	24.4	19.5	26.4
950616	24.4	23.2	(27.2)
950617	25.0	21.8	27.2

Date	SS	Night	SR
950618	26.4	26.4	30.3
950619	26.4	25.7	25.7
950620	29.2	23.8	27.2
950621	25.0	23.8	30.3
950622	27.2	21.4	28.2
950623	29.2	21.4	29.2
950624	26.4		
950625			
950626	24.4	25.7	22.2
950627	23.8	22.2	25.0
950628	25.0	21.8	
950629	27.2	21.0	26.4
950630	27.2	22.2	27.2
950701	26.4	19.5	27.2
950702	33.2	24.4	35.2
950703	31.7	21.8	26.4
950704	26.4	22.7	27.2
950705	24.4	22.2	27.2
950706	25.0	21.4	26.4
950707	23.8	19.9	29.2
950708			
950709	25.0	24.4	30.3
950710	23.2	23.8	25.7
950711	33.2	26.4	27.2
950712	31.7	19.2	27.2
950713	26.4	19.2	25.7
950714	30.3	25.7	28.2
950715	29.2	23.8	27.2
950716	28.2	27.2	29.2
950717	37.7	21.4	28.2
950718	33.2	21.8	26.4
950719	25.7	24.4	27.2
950720	29.2	25.0	26.4
950721	28.2	21.0	27.2
950722	25.0	22.7	28.2
950723	26.4	19.9	26.4
950724	26.4	23.8	29.2
950725	28.2	21.4	30.3
950726	31.7	21.8	25.7
950727	30.3	21.4	26.4
950728	22.2	17.8	26.4
950729			
950730	27.2	19.5	26.4

Date	SS	Night	SR
950731	23.8	21.0	21.8
950801	23.2	19.9	26.4
950802	31.7	19.2	27.2
950803	25.0	22.2	26.4
950804	25.7	23.8	26.4
950805	25.0	21.8	25.0
950806			
950807	23.8	21.0	27.2
950808	27.2	22.7	28.2
950809	27.2	21.0	26.4
950810	25.0	21.8	25.7
950811	24.4	21.0	26.4
950812	23.2	21.0	26.4
950813	25.7	19.9	22.2
950814	24.4	19.9	23.2
950815	29.2	24.4	28.2
950816	26.4	21.8	26.4
950817	26.4	22.7	27.2
950818	20.6	19.9	27.2
950819			
950820			
950821			
950822	23.2	17.3	25.0
950823			
950824	22.2	21.8	29.2
950825	25.0	19.9	25.0
950826	22.7	19.2	26.4
950827	25.7	19.5	23.8
950828	21.0	18.6	(25.0)
950829	23.8	21.0	26.4
950830	23.2	21.8	26.4
950831	22.7	19.2	21.8
950901	22.7	18.1	27.2
950902	25.7	18.3	24.4
950903	23.2	19.5	27.2
950904	33.2	27.2	33.2
950905	31.7	30.3	37.7
950906	37.7	30.3	35.2
950907	30.3	29.2	37.7
950908	37.7	28.2	35.2
950909	35.2	27.2	31.7
950910	30.3	20.6	33.2
950911	29.2	21.4	31.7

Date	SS	Night	SR
950912	22.7	21.8	26.4
950913	25.7	19.2	30.3
950914	24.4	20.2	30.3
950915	33.2	23.8	29.2
950916	26.4	20.6	28.2
950917			
950918	24.4	20.2	27.2
950919	24.4	18.6	23.8
950920	23.8	21.4	23.8
950921			
950922	26.4	21.4	31.7
950923			
950924			
950925			
950926	25.7	17.6	28.2
950927	21.0	25.0	23.2
950928	18.6	19.5	
950929	21.8	19.5	22.2
950930	27.2	18.3	21.8
951001	22.7	20.2	23.2
951002	21.8		
951003	19.9	19.9	23.2
951004			
951005	21.4	18.6	21.0
951006	26.4	18.2	18.9
951007	21.0	20.2	24.4
951008	25.0	18.6	23.2
951009			
951010	22.7	19.5	22.7
951011			
951012	23.8	18.9	25.7
951013	25.0	19.5	26.4
951014	18.9	19.5	26.4
951015	24.4	18.1	22.2
951016	28.2	18.6	20.6
951017	21.8	21.4	22.7
951018	28.2		
951019	25.7	20.6	24.4
951020	21.0	20.6	22.7
951021	25.7	20.6	22.7
951022	23.2	18.1	18.1
951023	22.7	21.8	24.4
951024	20.6	21.4	20.6

Date	SS	Night	SR
951025	(22.7)	18.1	
951026		18.1	21.8
951027	27.2	20.6	
951028	22.7	19.2	22.2
951029	25.7	19.2	21.8
951030	21.8	20.2	23.8
951031	22.7	18.1	27.2
951101	22.7	20.6	26.4
951102	23.2	23.2	26.4
951103	23.2	23.8	21.4
951104	25.0	18.6	27.2
951105	24.4	21.4	28.2
951106	25.7	24.4	22.7
951107	27.2	19.9	27.2
951108	30.3	23.8	28.2
951109	29.2	20.6	25.7
951110	25.0	19.9	21.8
951111	23.8	19.9	27.2
951112	29.2	21.4	23.2
951113	23.2	22.2	23.2
951114	29.2	18.6	23.8
951115	25.7	18.6	24.4
951116	33.2	19.5	27.2
951117	26.4	21.0	28.2
951118	27.2	19.5	28.2
951119	33.2	25.0	23.2
951120	28.2	23.8	41.2
951121	30.3	19.9	28.2
951122	35.2	21.4	28.2
951123	25.0	23.8	22.7
951124	33.2	27.2	28.2
951125	28.2	21.0	25.0
951126	19.5	24.4	21.4
951127	25.7	24.4	21.8
951128	27.2	19.5	21.0
951129	21.8	19.5	20.6
951130	18.6	21.4	23.2
951201	23.8	21.8	24.4
951202	21.0	18.9	23.2
951203	29.2	20.6	24.4
951204	26.4	24.4	25.0
951205	25.7	19.5	31.7
951206	33.2	24.4	24.4

Date	SS	Night	SR
951207	24.4	21.4	28.2
951208	26.4	21.8	33.2
951209	37.7	20.6	21.8
951210	24.4	19.5	25.0
951211	28.2	20.6	22.2
951212	18.3	22.2	21.4
951213	23.2	21.0	20.6
951214	21.8	21.4	26.4
951215			
951216	28.2	20.2	21.4
951217	27.2	(19.2)	
951218	28.2	21.4	24.4
951219	25.0	21.4	23.2
951220	29.2	21.0	
951221	31.7	23.2	25.7
951222	33.2	23.8	
951223			
951224	35.2	23.8	33.2
951225	35.2	25.0	33.2
951226	35.2	29.2	37.7
951227	31.7	23.8	35.2
951228	33.2	23.2	31.7
951229	30.3	21.8	35.2
951230	35.2	23.2	30.3
951231	30.3	21.8	30.3

Mean ionospheric absorption L' (dB) at oblique incidence (A3)
 $f = 272$ kHz
 1996

Date	SS	Night	SR
960101	23.2	25.0	30.3
960102	33.2	19.9	33.2
960103	33.2	20.6	28.2
960104	35.2	23.2	27.2
960105	29.2	(25.7)	
960106	35.2	23.2	29.2
960107	30.3	23.2	25.0
960108			
960109			
960110	27.2	25.7	29.2
960111			
960112	24.4	22.7	27.2
960113	28.2	23.2	28.2
960114	33.2	23.2	23.2
960115	37.7	20.6	23.2
960116	29.2	25.7	27.2
960117	27.2	21.4	23.2
960118	33.2	24.4	29.2
960119	24.4	23.8	24.4
960120	29.2	23.8	24.4
960121	28.2	21.0	26.4
960122	30.3	28.2	25.7
960123	28.2	24.4	28.2
960124	23.8	24.4	25.7
960125	35.2	22.2	23.2
960126	29.2	23.2	27.2
960127	31.7	23.2	27.2
960128	28.2	24.4	27.2
960129	28.2	23.8	29.2
960130	29.2	25.7	31.7
960131	30.3	21.4	28.2
960201	37.7	21.0	29.2
960202	28.2	22.2	22.7
960203	31.7	27.2	29.2
960204	30.3	26.4	27.2
960205	27.2	22.7	26.4
960206	27.2	26.4	29.2
960207	33.2	21.0	28.2
960208	37.7	25.0	29.2

Date	SS	Night	SR
960209	33.2	21.0	27.2
960210	35.2	23.2	33.2
960211	41.2	23.8	24.4
960212	24.4	26.4	28.2
960213	27.2	21.8	21.8
960214	21.8	19.2	23.2
960215	21.0	21.0	26.4
960216	23.8	21.4	27.2
960217	29.2	22.7	31.7
960218	37.7	18.3	31.7
960219	25.7	22.7	29.2
960220	29.2	20.6	31.7
960221	27.2	23.8	
960222	30.3	21.8	27.2
960223	27.2	20.6	24.4
960224	21.8	19.5	22.2
960225	22.2	19.5	21.4
960226	21.4	23.2	24.4
960227	20.2	21.8	19.5
960228	27.2	23.2	23.8
960229	31.7	22.7	28.2
960301	35.2	25.7	27.2
960302	27.2	23.2	27.2
960303			
960304	21.4	22.7	24.4
960305	24.4	19.5	21.8
960306	20.2	18.3	19.2
960307	18.3	19.2	23.2
960308	18.3	18.9	21.4
960309	26.4	20.2	24.4
960310	24.4	22.7	21.4
960311	25.7	18.3	21.8
960312	25.0	20.6	20.2
960313	28.2	18.3	31.7
960314	24.4	21.0	19.5
960315	24.4	21.4	26.4
960316	25.7	20.2	19.2
960317	26.4	25.0	22.7
960318	24.4	27.2	19.2
960319	28.2	21.8	21.0
960320	22.7	26.4	23.8
960321	18.3	20.2	22.2
960322	25.7	24.4	18.1

Date	SS	Night	SR
960323	22.7	17.3	27.2
960324			
960325	23.2	20.2	23.8
960326	22.2	25.0	28.2
960327			
960328	25.0	21.4	20.2
960329	27.2	21.0	28.2
960330	26.4	18.9	
960331	26.4	17.8	27.2
960401	23.2	24.4	23.2
960402	19.2	18.9	19.9
960403	25.7	19.2	19.5
960404	22.7	21.4	21.0
960405	27.2	19.9	27.2
960406	23.2	21.4	26.4
960407	18.6	21.8	21.8
960408	24.4	16.9	21.8
960409	26.4	19.2	19.2
960410	18.3	23.2	20.2
960411	22.7	18.3	22.7
960412	19.5	19.2	23.8
960413	23.2	22.2	17.8
960414	22.2	18.9	19.5
960415	25.0	21.0	20.6
960416	16.5	19.9	25.0
960417	23.2	21.4	20.2
960418	20.6	21.8	23.8
960419	37.7	19.2	19.2
960420	18.1	16.9	21.4
960421	25.7	19.9	26.4
960422	22.2	21.8	19.9
960423	22.7	18.3	22.7
960424	19.2	18.1	
960425	27.2	18.3	25.7
960426	22.7	23.2	23.8
960427	24.4	15.7	26.4
960428	29.2	17.8	29.2
960429	26.4	23.8	23.2
960430	24.4	22.2	27.2
960501			
960502	27.2	24.4	30.3
960503	33.2	26.4	27.2
960504	25.0	17.8	24.4

Date	SS	Night	SR
960505	28.2	17.8	22.2
960506	22.7	23.8	29.2
960507	33.2	17.3	24.4
960508	25.0	22.7	25.7
960509			
960510	25.7	29.2	25.0
960511	33.2	19.2	33.2
960512	24.4	25.7	27.2
960513	25.7	27.2	31.7
960514	33.2	18.1	30.3
960515	30.3	21.0	30.3
960516	33.2	21.4	26.4
960517	27.2	18.6	23.2
960518	23.8	21.4	27.2
960519	31.7	21.0	28.2
960520	24.4	24.4	29.2
960521	33.2	23.8	27.2
960522	24.4	23.2	31.7
960523	31.7	24.4	23.8
960524	29.2	21.8	25.7
960525	30.3	25.7	28.2
960526	29.2	19.9	25.0
960527	21.8	23.8	30.3
960528	33.2	21.8	27.2
960529	30.3	20.6	24.4
960530			
960531	28.2	25.0	26.
960601	25.7	23.2	24.4
960602	27.2	20.6	25.7
960603	30.3	22.7	28.2
960604	30.3	21.8	33.2
960605	29.2	23.2	33.2
960606	27.2	19.9	27.2
960607	22.7	21.4	(29.2)
960608	35.2	23.2	31.7
960609	21.8	21.4	31.7
960610	24.4	23.2	
960611	30.3	23.2	29.2
960612	24.4	21.8	33.2
960613	27.2	26.4	27.2
960614	29.2	24.4	31.7
960615	28.2	20.6	(27.2)
960616	24.4	21.4	27.2

Date	SS	Night	SR
960617	27.2	22.7	28.2
960618	27.2	22.2	30.3
960619	35.2	21.4	27.2
960620	26.4	24.4	30.3
960621	31.7	21.8	(28.2)
960622	23.8	27.2	(31.7)
960623	30.3	28.2	29.2
960624	33.2	23.2	28.2
960625			
960626	31.7	21.4	
960627	37.7	23.8	29.2
960628	30.3	29.2	28.2
960629			
960630	28.2	23.2	
960701	23.2	21.4	28.2
960702	27.2	21.8	
960703	24.4	24.4	26.4
960704	24.4	24.4	25.7
960705	23.8	21.0	27.2
960706	22.7	23.2	26.4
960707	22.7	21.8	31.7
960708	26.4	21.8	27.2
960709	28.2	21.8	25.0
960710	27.2	24.4	27.2
960711	21.0	19.9	27.2
960712	26.4	25.0	27.2
960713	27.2	27.2	27.2
960714	(23.8)	19.9	27.2
960715	25.0	21.0	33.2
960716	23.2	23.8	29.2
960717	29.2	27.2	22.2
960718	29.2	20.6	25.0
960719	29.2	23.8	
960720	26.4	24.4	33.2
960721	28.2	27.2	26.4
960722	30.3	23.8	30.3
960723	27.2	25.0	24.4
960724	30.3	25.7	27.2
960725	30.3	25.0	27.2
960726	29.2	21.4	23.8
960727	27.2	19.5	29.2
960728	29.2	21.8	25.0
960729	25.0	22.7	30.3

Date	SS	Night	SR
960730	27.2	22.2	29.2
960731	35.2	26.4	28.2
960801	28.2	26.4	24.4
960802	29.2	21.4	29.2
960803	25.7	21.8	29.2
960804	33.2	23.2	24.4
960805	28.2	21.4	24.4
960806	31.7	18.3	31.7
960807	26.4	21.4	24.4
960808	21.8	21.8	27.2
960809	22.7	18.1	24.4
960810	23.8	25.0	25.0
960811	27.2	21.8	28.2
960812	24.4	23.2	
960813			
960814			
960815			
960816			
960817			
960818			
960819			
960820			
960821			
960822			
960823			
960824			
960825			
960826			
960827			
960828			
960829			
960830			
960831			
960901			
960902			
960903			
960904			
960905			
960906			
960907			
960908			
960909			
960910			

Date	SS	Night	SR
960911			
960912			
960913			
960914			
960915			
960916			
960917			
960918			
960919			
960920			
960921			
960922	25.0	19.2	27.2
960923	20.2	25.0	27.2
960924	25.0	20.2	27.2
960925	29.2	23.2	28.2
960926	26.4	23.8	28.2
960927	33.2	20.2	26.4
960928	27.2	21.8	27.2
960929	29.2	21.4	27.2
960930	24.4	21.0	18.6
961001	29.2	19.2	23.8
961002	24.4	19.2	27.2
961003	20.6	21.0	25.0
961004	25.0	18.9	22.7
961005	23.2	19.2	26.4
961006	26.4	20.2	25.0
961007	23.8	17.6	22.2
961008	21.0	18.6	20.0
961009	24.4	18.1	23.2
961010	21.4	20.2	22.7
961011	24.4	18.1	21.8
961012	21.8	17.1	19.2
961013	21.4	19.2	23.8
961014	21.0	19.2	22.7
961015	19.2	20.2	18.1
961016	22.2	19.2	28.2
961017	29.2	21.4	24.4
961018	24.4	20.2	29.2
961019	28.2	(19.2)	
961020	19.5	21.0	23.2
961021	20.6	19.5	22.2
961022	22.2	22.2	35.2
961023	29.2	21.8	

Date	SS	Night	SR
961024	35.2	21.0	22.2
961025	24.4	21.0	24.4
961026	22.2	18.3	24.4
961027	23.8	18.9	25.0
961028	25.7	18.3	30.3
961029	21.4	18.9	20.2
961030	27.2	17.6	22.2
961031	22.2	16.3	21.4
961101	19.2	19.2	20.6
961102	19.2	16.3	22.7
961103	19.5	15.9	23.2
961104	22.2	17.6	19.5
961105	24.4	18.6	21.4
961106	23.8	18.6	23.8
961107	27.2	16.5	24.4
961108	27.2	19.9	24.4
961109	27.2	19.5	24.4
961110	31.7	19.9	24.4
961111	25.7	21.4	24.4
961112	27.2	22.4	21.4
961113	27.2	21.4	33.2
961114	33.2	23.2	29.2
961115	35.2	23.2	33.2
961116	33.2	24.4	27.2
961117	28.2	24.4	(28.2)
961118	33.2	20.6	30.3
961119	25.7	19.9	26.4
961120	25.7	20.6	23.2
961121	26.4	18.9	25.0
961122	21.4	21.0	23.8
961123	21.8	21.4	21.8
961124	19.5	18.6	23.8
961125	22.7	23.2	23.8
961126	29.2	19.9	29.2
961127	30.3	21.4	26.4
961128	28.2	21.4	23.2
961129	33.2	19.2	27.2
961130	35.2	(23.2)	
961201	29.2	20.6	22.2
961202	35.2	23.8	31.7
961203	35.2	23.2	21.8
961204	22.7	23.2	23.2
961205	25.7	21.4	24.4

Date	SS	Night	SR
961206	23.2	22.2	26.4
961207	33.2	23.8	23.2
961208	29.2	23.8	
961209	31.7	24.4	24.4
961210	28.2	23.2	27.2
961211	28.2	25.7	28.2
961212	33.2	23.8	26.4
961213	21.8	19.2	
961214	29.2	19.2	27.2
961215	20.6	18.6	27.2
961216	27.2	22.2	29.2
961217	26.4	19.2	31.7
961218	29.4		
961219			
961220	25.7	20.6	29.2
961221	21.0	19.2	25.7
961222	27.2	20.6	27.2
961223	23.2	19.5	23.2
961224	23.2	18.9	
961225	33.2	23.2	26.4
961226	33.2	23.2	23.2
961227	41.2	21.0	27.2
961228	41.2	21.4	23.8
961229	41.2	26.4	26.4
961230	37.7	25.7	27.2
961231			

Mean ionospheric absorption L' (dB) at oblique incidence (A3)
 $f = 272$ kHz
 1997

Date	SS	Night	SR
970101	37.7	23.2	26.4
970102	41.2	24.4	27.2
970103	37.7	24.4	31.7
970104	41.2	29.2	31.7
970105	37.7	24.4	33.2
970106	33.2	23.2	25.0
970107	28.2	23.8	23.8
970108	27.2	23.8	25.0
970109	25.0	21.4	25.0
970110	27.2	23.8	25.7
970111	23.8	21.4	30.3
970112	33.2	26.4	28.2
970113	29.2	29.2	25.0
970114	31.7	23.8	26.4
970115	25.0	26.4	27.2
970116	26.4	27.2	28.2
970117	31.7	24.4	26.4
970118	31.7	23.8	28.2
970119	35.2	26.4	26.4
970120	22.2	23.8	28.2
970121	37.7	27.2	28.2
970122	35.2	20.6	26.4
970123	37.7	23.2	27.2
970124	37.7	24.4	29.2
970125	37.7	24.4	27.2
970126	28.2	22.2	26.4
970127	28.2	22.2	27.2
970128	31.7	27.2	27.2
970129	27.2	25.0	27.2
970130	33.2	22.7	27.2
970131	33.2	26.4	25.0
970201	31.7	21.4	26.4
970202	33.2	23.2	23.2
970203	28.2	25.0	29.2
970204	33.2	25.7	25.0
970205	31.7	19.9	37.7
970206	47.2	25.7	29.2
970207	31.7	26.4	41.2
970208	28.2	27.2	30.3

Date	SS	Night	SR
970209	30.3	28.2	37.7
970210	37.7	26.4	29.2
970211	30.3	23.8	29.2
970212	33.2	25.7	28.2
970213	27.2	23.8	25.0
970214	27.2	20.6	28.2
970215	37.7	22.7	25.0
970216	33.2	22.2	27.2
970217	35.2	27.2	25.0
970218	37.7	24.4	31.7
970219	37.7	21.4	29.2
970220	41.2	18.3	24.4
970221	35.2	23.2	26.4
970222	33.2	19.5	22.2
970223	37.7	21.0	22.2
970224	27.2	20.6	21.0
970225	25.7	21.0	26.4
970226	24.4	19.5	
970227	28.2	21.8	25.7
970228	33.2	21.8	23.8
970301	41.2	19.2	24.4
970302	23.8	23.8	23.2
970303	33.2	22.7	29.2
970304	35.2	19.5	21.4
970305	29.2	21.0	22.7
970306	26.4	21.4	19.2
970307	19.9	19.9	19.9
970308	28.2	23.2	25.0
970309	33.2	19.5	24.4
970310	25.0	23.2	23.8
970311	27.2	22.7	26.4
970312	33.2	21.4	24.4
970313	24.4	23.2	28.2
970314	24.4	19.5	24.4
970315	23.2	23.8	24.4
970316	24.4	19.9	28.2
970317	28.2	19.2	25.0
970318	25.7	19.5	26.4
970319	30.3	19.2	25.7
970320	23.8	22.2	22.7
970321		22.7	20.6
970322			23.2
970323	27.2	23.8	

Date	SS	Night	SR
970324			18.9
970325	27.2	22.2	16.3
970326			21.4
970327		21.0	23.2
970328	20.6	22.2	20.6
970329			
970330		21.0	
970331			
970401			23.2
970402	23.2	19.2	
970403	19.9	19.5	
970404		21.0	
970405	26.4		
970406	25.7	23.2	
970407	23.8	21.8	24.4
970408	23.8	(21.8)	29.2
970409			28.2
970410	25.7	19.5	23.2
970411	21.4	23.8	26.4
970412	22.7	(23.2)	
970413	23.8	18.9	23.8
970414		18.3	23.2
970415	20.2	18.6	19.5
970416			
970417	24.4	21.0	24.4
970418			
970419	26.4	25.0	
970420		22.7	
970421	24.4	20.6	
970422	23.2		
970423	21.8	23.8	
970424	26.4	27.2	
970425			
970426	23.8		
970427	27.2	(19.5)	
970428	28.2	23.2	26.4
970429	23.8	18.6	23.2
970430	31.7	26.4	24.4
970501	25.0	23.8	17.6
970502	28.2	(21.8)	19.9
970503	23.2	22.7	21.4
970504	25.0	19.9	23.8
970505	26.4	25.7	25.0

Date	SS	Night	SR
970506	33.2	20.2	23.2
970507	28.2	20.2	22.2
970508	25.7	21.0	25.7
970509	22.2	21.0	29.2
970510	21.4	19.2	23.8
970511	27.2	20.2	21.4
970512			26.4
970513	27.2		33.2
970514	29.2	18.9	27.2
970515	29.2	23.2	27.2
970516	25.7	22.7	23.8
970517	25.7	21.4	27.2
970518	23.8	22.2	28.2
970519	22.7	20.2	25.0
970520	21.0	21.4	41.2
970521	24.4	19.5	22.2
970522	27.2	18.3	21.0
970523	28.2	24.4	24.4
970524	23.2	25.0	28.2
970525	25.0	20.2	25.7
970526	25.7	25.7	26.4
970527	29.2	19.5	30.3
970528	31.7	22.2	30.3
970529	23.8	23.2	28.2
970530	26.4	22.7	30.3
970531	26.4	21.8	26.4
970601	26.4	22.7	28.2
970602	29.2	23.8	26.4
970603	27.2	19.2	23.2
970604	26.4	20.2	31.7
970605	24.4	20.2	25.7
970606	23.8	23.8	(24.4)
970607	30.3	20.6	(26.4)
970608	29.2	22.2	26.4
970609	23.8	23.8	27.2
970610	33.2	24.4	31.7
970611	24.4	20.6	24.4
970612	27.2	22.2	22.7
970613	29.2	18.3	23.8
970614	23.8	18.1	26.4
970615			
970616			27.2
970617	23.2	18.3	23.2

Date	SS	Night	SR
970618	30.3	24.4	27.2
970619	29.2	24.4	27.2
970620	26.4	23.8	29.2
970621	27.2	20.6	26.4
970622	26.4	19.5	26.4
970623	30.3	17.3	26.4
970624	28.2	20.2	23.2
970625	29.2	23.8	
970626	30.3	21.8	27.2
970627	26.4	21.4	30.3
970628	31.7	22.2	35.2
970629	30.3	21.8	26.4
970630	29.2	23.2	25.0
970701	27.2	22.2	30.3
970702	28.2	16.5	27.2
970703	25.7	19.5	23.2
970704	30.3	21.0	26.4
970705	29.2	16.5	27.2
970706	21.4	18.6	24.4
970707	26.4	24.4	21.8
970708	24.4	25.7	29.2
970709	29.2	21.8	27.2
970710	30.3	27.2	31.7
970711	35.2	21.4	28.2
970712	30.3	19.9	24.4
970713	27.2	21.0	26.4
970714	26.4	21.0	26.4
970715	25.0	24.4	29.2
970716	30.3	24.4	26.4
970717	30.3	20.6	33.2
970718	31.7	27.2	31.7
970719	33.2	21.8	23.8
970720	28.2	19.2	30.3
970721	27.2	20.2	27.2
970722	27.2	18.6	28.2
970723	33.2	23.8	26.4
970724	30.3	23.8	26.4
970725	31.7	23.2	23.8
970726	30.3	18.3	29.2
970727	23.8	21.4	20.6
970728	30.3	26.4	28.2
970729	30.3	20.2	28.2
970730	26.4	19.5	24.4

Date	SS	Night	SR
970731	31.7	19.5	33.2
970801	30.3	23.2	27.2
970802	27.2	23.2	29.2
970803	26.4	20.2	25.7
970804	30.3	21.0	25.7
970805	27.2	16.3	18.3
970806	21.4	21.4	24.4
970807	29.2	16.3	23.8
970808	29.2	20.2	24.4
970809	26.4	19.5	25.0
970810	27.2	20.2	33.2
970811	22.7	18.1	22.2
970812	30.3	18.3	23.2
970813	21.0	20.2	24.4
970814	30.3	23.8	26.4
970815	33.2	21.0	30.3
970816			
970817	27.2	21.0	20.6
970818			29.2
970819	29.2	21.4	29.2
970820	28.2	26.4	30.3
970821	26.4	19.5	27.2
970822	22.7	21.4	28.2
970823	21.4	18.6	24.4
970824	20.6	23.2	30.3
970825	26.4	21.4	23.8
970826	23.2	17.8	26.4
970827	25.0	21.4	30.3
970828	22.7	21.4	27.2
970829	30.3	19.9	30.3
970830	23.8	19.2	27.2
970831	27.2	18.1	29.2
970901	23.8	21.4	30.3
970902	23.8	19.9	
970903	22.2	21.4	29.2
970904	26.4	24.4	27.2
970905	21.4	18.6	30.3
970906	27.2	21.0	24.4
970907	35.2	20.6	37.7
970908	37.7	31.7	41.2
970909	41.2	31.7	41.2
970910	41.2	33.2	41.2
970911	37.7	24.4	37.7

Date	SS	Night	SR
970912	37.7	30.3	41.2
970913	41.2	31.7	26.4
970914	19.9	19.5	26.4
970915	23.2	21.4	28.2
970916	23.2	21.8	30.3
970917	22.7	21.0	28.2
970918	22.2	24.4	26.4
970919	26.4	21.4	26.4
970920	25.0	21.8	29.2
970921	30.3	21.4	33.2
970922	26.4	18.9	24.4
970923	25.0	21.4	26.4
970924	21.8	17.6	24.4
970925	28.2	17.8	26.4
970926	21.4	21.8	26.4
970927	22.2	21.4	27.2
970928	25.0	18.9	24.4
970929	22.2	18.3	25.0
970930	23.8	17.3	21.0
971001	26.4	22.2	25.0
971002	19.9	19.5	29.2
971003	26.4	18.1	21.0
971004	23.2	19.5	21.4
971005			
971006	23.8	19.2	21.4
971007	24.4	17.6	21.4
971008	23.2	18.9	21.4
971009	23.2	18.1	23.2
971010	29.2	23.8	24.4
971011	23.2	21.8	21.4
971012	23.2	21.4	22.2
971013	23.8	19.2	22.2
971014	20.2	16.7	21.0
971015	21.8	18.1	24.4
971016	18.1	18.6	23.8
971017	21.4	16.9	20.6
971018	23.2	18.6	23.8
971019	20.6	19.2	26.4
971020	21.0	19.5	27.2
971021	27.2	18.3	26.4
971022	27.2	19.2	27.2
971023	22.7	21.4	26.4
971024	22.7	21.4	23.2

Date	SS	Night	SR
971025	19.9	16.5	25.7
971026	26.4	19.2	26.4
971027	21.0	20.6	27.2
971028	19.2	21.0	26.4
971029	21.4	19.2	
971030	21.0	18.1	18.1
971031	28.2	19.9	25.0
971101	21.8	18.3	21.0
971102	22.7	17.8	(23.2)
971103	21.4	18.6	19.5
971104	25.7	17.8	21.0
971105	24.4	19.9	28.2
971106	23.8	23.2	31.7
971107	25.7	19.2	21.0
971108	23.8	24.4	28.2
971109	27.2	19.9	33.2
971110	23.8	21.8	31.7
971111	31.7	23.2	28.2
971112	33.2	20.6	28.2
971113	30.3	21.8	23.2
971114	35.2	23.2	23.2
971115	(27.2)	23.8	29.2
971116	27.2	21.4	25.7
971117	26.4	22.2	21.4
971118	28.2	21.4	25.7
971119	27.2	20.6	25.0
971120	30.3	23.8	26.4
971121	31.7	19.2	23.8
971122	28.2	21.0	21.4
971123	26.4	22.2	18.3
971124	23.2	19.5	19.2
971125	29.2	18.3	21.4
971126	26.4	20.2	23.2
971127	21.0	19.9	21.8
971128	30.3	19.5	23.2
971129	27.2	23.8	31.7
971130	33.2	21.0	28.2
971201	31.7	19.2	26.4
971202	31.7	19.5	29.2
971203	27.2	19.9	27.2
971204	31.7	18.6	27.2
971205	30.3	20.6	29.2
971206	23.2	20.6	31.7

Date	SS	Night	SR
971207	30.3	21.0	28.2
971208	31.7	23.2	29.2
971209	27.2	25.0	26.4
971210	26.4	22.2	33.2
971211	29.2	21.4	26.4
971212	35.2	23.8	25.7
971213	31.7	19.9	28.2
971214	33.2	19.9	28.2
971215	33.2	23.2	25.0
971216	33.2	18.6	
971217	26.4	22.7	
971218	25.7	21.0	27.2
971219	30.3	21.4	27.2
971220	26.4	21.0	27.2
971221	23.8	21.0	27.2
971222	22.7	21.0	28.2
971223			
971224	26.4	21.0	27.2
971225	23.8	19.9	35.2
971226	31.7	19.2	28.2
971227	25.7	19.5	29.2
971228	31.7	23.2	31.7
971229	28.2	18.6	25.0
971230	22.7	25.0	23.2
971231	27.2	19.2	26.4

Mean ionospheric absorption L' (dB) at oblique incidence (A3)
 $f = 272$ kHz
 1998

Date	SS	Night	SR
980101	16.3	21.0	24.4
980102	30.3	17.8	20.2
980103	28.2	21.4	21.4
980104	22.7	23.2	27.2
980105	25.0	19.5	19.9
980106	23.2	23.8	31.7
980107	29.2	23.2	29.2
980108	28.2	25.0	23.8
980109	26.4	27.2	33.2
980110	33.2	25.0	29.2
980111	37.7	21.0	26.4
980112	41.2	30.3	21.0
980113	41.2	31.7	28.2
980114	37.7	31.7	25.7
980115	28.2	28.2	29.2
980116	35.2	28.2	35.2
980117	35.2	23.8	37.7
980118	33.2	23.8	35.2
980119	31.7	23.8	31.7
980120	41.2	21.4	27.2
980121	35.2	21.4	29.2
980122	33.2	23.8	29.2
980123	33.2	19.5	23.8
980124	35.2	23.8	31.7
980125	35.2	21.4	28.2
980126	31.7	21.0	30.3
980127	25.0	20.6	24.4
980128	24.4	19.5	29.2
980129	21.8	24.4	21.8
980130	31.7	24.4	28.2
980131	25.0	23.8	24.4
980201	25.7	19.5	21.8
980202	24.4	24.4	24.4
980203	27.2	25.0	27.2
980204	30.3	27.2	28.2
980205	28.2	23.8	29.2
980206	30.3	22.7	29.2
980207	31.7	26.4	31.7
980208			

Date	SS	Night	SR
980209	29.2	27.2	
980210	35.2	25.0	33.2
980211	33.2	24.4	30.3
980212	37.7	23.2	35.2
980213	31.7	23.8	37.7
980214	35.2	25.7	25.0
980215	33.2	21.4	33.2
980216	37.7	28.2	31.7
980217	31.7	23.8	29.2
980218	30.3	23.2	25.7
980219	27.2	23.2	30.3
980220	27.2	23.2	31.7
980221	25.0	25.7	29.2
980222	25.7	30.3	31.7
980223	31.7	23.2	35.2
980224	30.3	23.2	31.7
980225	33.2	24.4	
980226	30.3	27.2	29.2
980227	22.7	25.0	25.7
980228	30.3	22.7	29.2
980301	30.3	25.0	33.2
980302	28.2	22.7	27.2
980303	37.7	25.0	33.2
980304	33.2	27.2	33.2
980305	25.7	25.0	29.2
980306	35.2	27.2	27.2
980307	37.7	21.8	30.3
980308	30.3	22.7	31.7
980309	25.7	23.2	28.2
980310	33.2	28.2	29.2
980311	31.7	26.4	33.2
980312	33.2	23.8	28.2
980313	30.3	25.7	29.2
980314	31.7	25.7	25.0
980315	29.2	23.2	31.7
980316	31.7	26.4	28.2
980317			
980318	19.9	21.8	24.4
980319	25.7	22.2	25.0
980320	25.0	23.8	21.4
980321	25.0	21.4	23.8
980322	27.2	22.2	22.2
980323	25.0	20.6	23.8

Date	SS	Night	SR
980324	20.6	18.9	21.0
980325	24.4	18.3	23.8
980326	28.2	27.2	21.8
980327	25.8	20.6	20.6
980328	29.2	19.9	28.2
980329	31.7	28.2	24.4
980330	19.5	17.8	19.5
980331	25.0	16.5	21.4
980401	18.6	18.1	22.7
980402	22.7	16.3	20.2
980403	22.2	19.5	23.2
980404	20.6	18.9	20.6
980405	24.4	17.8	21.8
980406	23.8	18.3	27.2
980407	24.4	(18.3)	23.8
980408	24.4	17.8	
980409	21.8	20.2	25.7
980410	27.2	25.0	24.4
980411	25.7	20.2	23.2
980412	31.7	25.0	23.2
980413	29.2	20.6	23.2
980414	22.2	19.5	21.4
980415	29.2	23.8	21.8
980416	21.8	18.1	22.2
980417	19.9	24.4	21.4
980418	17.8	21.8	25.0
980419	23.8	18.3	26.4
980420	29.2	19.5	23.2
980421	28.2	19.9	21.4
980422	22.2	21.4	
980423	21.4	19.5	19.9
980424	23.4	18.6	25.0
980425	24.4	25.0	18.6
980426	23.2	23.2	19.9
980427	24.4	22.2	22.7
980428	20.6	21.4	23.8
980429	28.2	21.0	23.2
980430	23.2	19.2	21.4
980501	28.2	23.2	25.0
980502	31.7	23.8	22.2
980503	20.6	24.4	23.2
980504	26.4	22.2	22.2
980505	28.2	24.4	24.4

Date	SS	Night	SR
980506	25.0	24.4	25.7
980507	29.2	18.1	28.2
980508	30.3	23.2	30.3
980509	28.2	21.0	28.2
980510	28.2	24.4	29.2
980511	27.2	25.0	24.4
980512	29.2		
980513	37.7	23.8	33.2
980514	19.9	18.1	26.4
980515	26.4	23.2	22.7
980516	24.4	22.7	23.8
980517	22.2	18.6	25.0
980518	31.7	29.2	28.2
980519	28.2	27.2	29.2
980520	29.2	26.4	29.2
980521	31.7	23.2	23.2
980522	28.2	23.2	25.0
980523	33.2	23.8	23.8
980524	28.2	21.0	29.2
980525	26.4	21.4	27.2
980526	21.8	22.2	31.7
980527	24.4	24.4	24.4
980528	25.0	22.2	31.7
980529	27.2	23.8	30.3
980530	27.2	23.2	26.4
980531	26.4	(21.4)	28.2
980601	28.2	19.5	31.7
980602	28.2	23.2	28.2
980603	33.2	24.4	27.2
980604	26.4	26.4	31.7
980605	26.4	26.4	28.2
980606	33.2	26.4	35.2
980607	35.2	21.4	37.7
980608	26.4	27.2	24.4
980609	29.2	23.2	28.2
980610	35.2	23.8	24.4
980611	26.4	24.4	28.2
980612	23.2	23.8	35.2
980613	18.1	24.4	30.3
980614	26.4	21.8	23.2
980615	23.2	24.4	27.2
980616	28.2	23.2	22.7
980617	26.4	20.6	24.4

Date	SS	Night	SR
980618	28.2	26.4	24.4
980619	35.2	19.9	30.3
980620	28.2	27.2	(26.4)
980621	25.7	20.6	31.7
980622	24.4	27.2	23.2
980623	30.3	21.8	25.0
980624	28.2	23.8	
980625	23.2	21.4	29.2
980626	26.4	23.2	27.2
980627	26.4	25.7	29.2
980628	25.0	22.7	27.2
980629	25.0	25.7	21.8
980630	29.2	24.4	29.2
980701	29.2	27.2	27.2
980702	29.2	21.8	23.2
980703	29.2	23.2	27.2
980704	24.4	23.8	31.7
980705	23.2	27.2	28.2
980706	33.2	22.7	23.2
980707	28.2	22.2	28.2
980708	25.0	21.0	25.0
980709	30.3	22.2	26.4
980710	25.0	21.4	23.2
980711	23.8	25.7	28.2
980712	27.2	23.2	23.2
980713	30.3	21.0	23.2
980714	25.0	19.9	23.2
980715	25.7	26.4	25.0
980716	26.4	23.8	25.7
980717	23.8	19.5	24.4
980718	30.3	24.4	25.0
980719	22.7	24.4	27.2
980720	37.7	21.0	27.2
980721	23.2	17.3	23.8
980722	27.2	21.0	24.4
980723	23.8	25.0	25.7
980724	25.0	23.8	31.7
980725	23.8	19.9	22.2
980726	33.2	19.5	22.7
980727	28.2	20.2	21.8
980728	23.8	28.2	25.0
980729	24.4	21.4	25.7
980730	28.2	21.8	23.2

Date	SS	Night	SR
980731			
980801	31.7	23.2	33.2
980802	31.7	21.4	33.2
980803	25.0	22.2	28.2
980804	24.4	23.2	31.7
980805	24.4	25.0	31.7
980806	29.2	25.0	27.2
980807	25.7	23.2	23.2
980808	28.2	22.7	33.2
980809	29.2	17.8	27.2
980810			
980811			
980812			
980813			
980814			
980815			
980816	33.2	22.7	30.3
980817	23.8	18.9	23.8
980818	19.5	21.4	27.2
980819	28.2	23.2	25.7
980820			
980821	30.3	22.2	28.2
980822	26.4	21.0	29.2
980823	29.2	21.8	28.2
980824	26.4	21.8	
980825			
980826	21.8	22.2	
980827			
980828	24.4		
980829	25.7	27.2	
980830	28.2	26.4	28.2
980831	33.2	22.7	31.7
980901	35.2	21.4	26.4
980902	28.2	23.2	
980903	27.2	18.3	27.2
980904	23.2	18.9	30.3
980905	22.2	22.2	29.2
980906			
980907			
980908			
980909			
980910			
980911			

Date	SS	Night	SR
980912			
980913	24.4	19.5	23.8
980914	21.0	19.2	27.2
980915	23.8	21.8	27.2
980916	25.7	21.0	28.2
980917	28.2	21.0	26.4
980918	24.4	21.8	26.4
980919	27.2	18.9	23.8
980920			(26.4)
980921	23.2	(20.2)	
980922	24.4	20.2	28.2
980923	26.4	(19.2)	28.2
980924	21.4	(21.4)	25.0
980925	27.2	21.8	28.2
980926	25.0	26.4	31.7
980927	28.2	19.2	31.7
980928	26.4	(17.3)	
980929			33.2
980930	(27.2)	(21.0)	(26.4)
981001	24.4	17.8	26.4
981002	24.4	22.7	21.8
981003	26.4	17.8	28.2
981004	23.8		(24.4)
981005	21.4	19.2	27.2
981006		(16.7)	26.4
981007	27.2	17.8	27.2
981008	21.4	(17.8)	24.4
981009	20.2	19.5	26.4
981010	26.4	21.0	26.4
981011	23.8	20.2	29.2
981012	30.3	(21.0)	
981013		19.5	25.0
981014	27.2	18.1	19.5
981015	31.7	18.6	23.8
981016	24.4	18.9	26.4
981017	26.4	19.9	
981018	33.2		37.7
981019	29.2	31.7	31.7
981020	29.2	23.8	31.7
981021	29.2	27.2	
981022	30.3	23.2	33.2
981023	35.2	21.4	27.2
981024	29.2	23.2	33.2

Date	SS	Night	SR
981025	33.2	21.4	27.2
981026	28.2	19.9	26.4
981027	21.0	18.6	31.7
981028	27.2	19.5	25.7
981029	30.3	19.5	23.2
981030	27.2	(19.5)	
981031	29.2	21.0	27.2
981101	31.7	18.1	28.2
981102	28.2	21.8	31.7
981103	30.3	19.5	24.4
981104	26.4	19.2	30.3
981105	18.3	23.8	25.0
981106	25.0	23.2	30.3
981107	27.2	(23.2)	29.2
981108	28.2	(21.4)	28.2
981109	24.4	23.8	23.2
981110	26.4	(24.4)	
981111	28.2	23.2	23.2
981112	26.4	24.4	27.2
981113	33.2	(23.8)	23.8
981114	27.2	19.9	26.4
981115	28.2	19.2	21.0
981116	24.4	21.8	21.8
981117	21.0	19.5	19.5
981118	33.2	19.2	19.2
981119	28.2	19.9	30.3
981120	30.3	21.4	21.8
981121	31.7	19.5	21.8
981122	25.0	19.9	22.7
981123	35.2	21.4	26.4
981124	31.7	22.7	22.2
981125	31.7	19.2	
981126	35.2	24.4	30.3
981127	28.2	20.2	28.2
981128	33.2	25.0	33.2
981129	35.2	19.5	29.2
981130	47.2	21.8	27.2
981201	31.7	21.4	37.7
981202	35.2	22.7	29.2
981203	30.3	24.4	31.7
981204	29.2		
981205	37.7	25.7	47.2
981206			

Date	SS	Night	SR
981207	35.2	20.2	29.2
981208	35.2	26.4	33.2
981209	33.2	23.8	35.2
981210	33.2	(19.2)	
981211	23.8	21.4	27.2
981212	22.2	20.6	23.8
981213	37.7	21.0	25.0
981214	33.2	(20.2)	
981215			
981216			
981217		22.2	23.2
981218	25.0	18.1	24.4
981219	23.8	16.9	23.2
981220			
981221	25.7	22.7	31.7
981222		20.6	35.2
981223	22.2	22.2	31.7
981224	20.2	23.8	33.2
981225	29.2	19.5	20.2
981226	30.3	19.5	26.4
981227	30.3	19.2	22.2
981228	31.7	22.2	29.2
981229	21.4	19.5	25.7
981230	35.2	21.4	35.2
981231	47.2	20.6	29.2