REPORT UAG - 58

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for
Solar-Terrestrial Physics

ATS6 RADIO BEACON ELECTRON CONTENT MEASUREMENTS AT BOULDER, JULY 1974 - MAY 1975

September 1976

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National Academy of Sciences

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by

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September 1976

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AT BOULDER, JULY 1974 - MAY 1975

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Introduction

The Radio Beacon Experiment aboard the synchronous satellite ATS6 [Davies *et al.*, 1975a] provided the first opportunity to routinely monitor the electron content of the earth's ionosphere and inner magnetosphere by both Faraday rotation and group delay (also known as modulation phase) techniques. Faraday rotation of polarization is an integrated measure of free electrons along the ray path between satellite and ground weighted by the earth's magnetic field strength and direction, while group delay is an integrated electron content measure without weighting. Content derived by Faraday measurements (i.e., Faraday content) is representative of the electron content of the ionosphere to a height of approximately 2000 km [Titheridge, 1972; Almeida, 1973; Davies *et al.*, 1976]. The difference between the total and Faraday contents then is a measure of the remaining plasmaspheric electron content. Routine monitoring of the plasmaspheric content was a primary objective of the ATS6 Radio Beacon Experiment (RBE) and this set critical requirements on transmitter and receiver stabilities [Grubb *et al.*, 1976].

The satellite transmitted linearly polarized signals on carrier frequencies of 40.016, 140.056, and 360.144 MHz, with modulations of 100.04 kHz and 1.004 MHz. This provided coarse and fine scales of measurements so that the cycle ambiguity in the phase measurements of both Faraday rotation and group delay could be resolved.

Description of Data

Procedures of data reduction, basic definitions and derivations, and evaluation of accuracy are summarized in papers by Davies *et al.* [1975b, 1976]. This report summarizes 140 MHz data recorded at the Boulder, Colorado ground station (40.13°N, 105.24°W) while ATS6 was positioned above 94° West longitude, between July 1974 and May 1975. The satellite appeared at an azimuth of 163 degrees, elevation 42 degrees, with the projection of the ray path near the ground as shown in Figure 1. All data were digitally recorded once per second.

Hourly values of the following quantities are presented in graphical and tabular form:

N_T : Total electron content along the oblique path between the satellite and the Boulder ground station. Units are electrons per square meter. N_T is derived from the group delay measurement by the equation:

$$N_T = \int_0^S N\,ds = -4.89 \times 10^{14}\ \phi^R_{141} \qquad (1)$$

where N is electron number density, S is range to the satellite, and ϕ^R_{141} is the group delay of the 1 MHz modulation on the 140 MHz carrier relative to 360 MHz. The negative sign is in accordance with the notation of Davies *et al.* [1975b].

F : Shape factor in units of MHz. This is defined by:

$$F = \int_0^S f_L\,N\,ds \Big/ \int_0^S N\,ds = -0.829\ \Omega_{140} \Big/ \phi^R_{141} \qquad (2)$$

where f_L is the component of the electron gyrofrequency along the ray path and Ω_{140} is the polarization rotation (one-half the phase difference between magnetoionic components).

* currently with Wave Propagation Laboratory, NOAA.

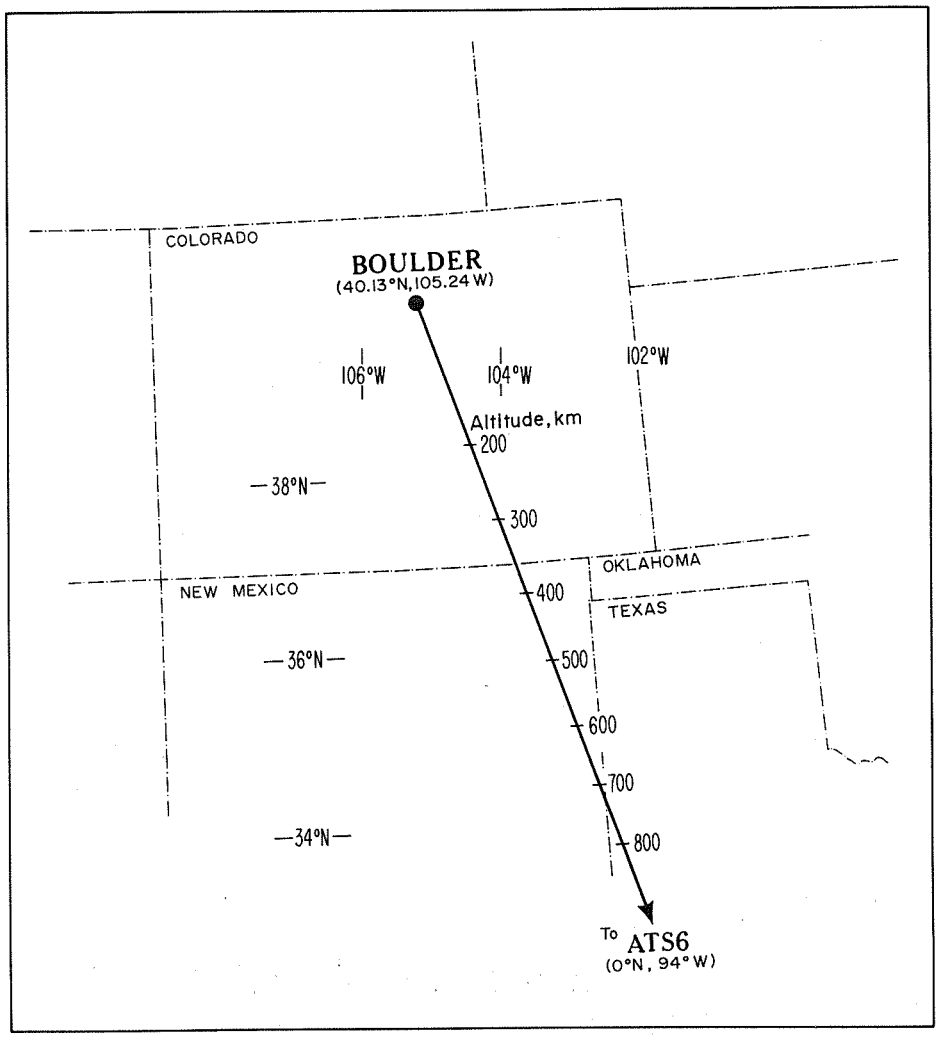

Fig. 1. Ground projection of the ATS6 - Boulder ray path.

N_P : Plasmaspheric or residual electron content, in units of electrons per square meter along the oblique ray path. This is the electron content above the Faraday content (N_F) and is determined by:

$$N_P = N_T - N_F = N_T \ (1-F/1.15) \qquad (3)$$

Because f_L can be related to a height along the ray path as shown in Figure 2, F can also be equated to an effective height (h_{eff}) in the ionosphere. This height scale is shown on the right side of the plots.

Preceding the daily plots and tables are similar presentations of the medians for each of the months July 1974 through May 1975. Regular observations began on 2 July 1974 and continued through 20 May 1975 when relocation of the satellite to 35° East longitude was begun. Times when no data appear on the daily plots are usually attributable to the transmitter being turned off because it had to share a limited spacecraft power budget with other experiments.

Acknowledgments

The assistance of Dr. K. Davies in interpretation of results, of Wm. M. Retallack in presentation of analyzed data, and of Helen E. Coffey for editorial guidance is acknowledged with appreciation. Our understanding of these results has benefited from discussions with many individuals in the international beacon satellite research community. This work has been supported by NOAA and NASA.

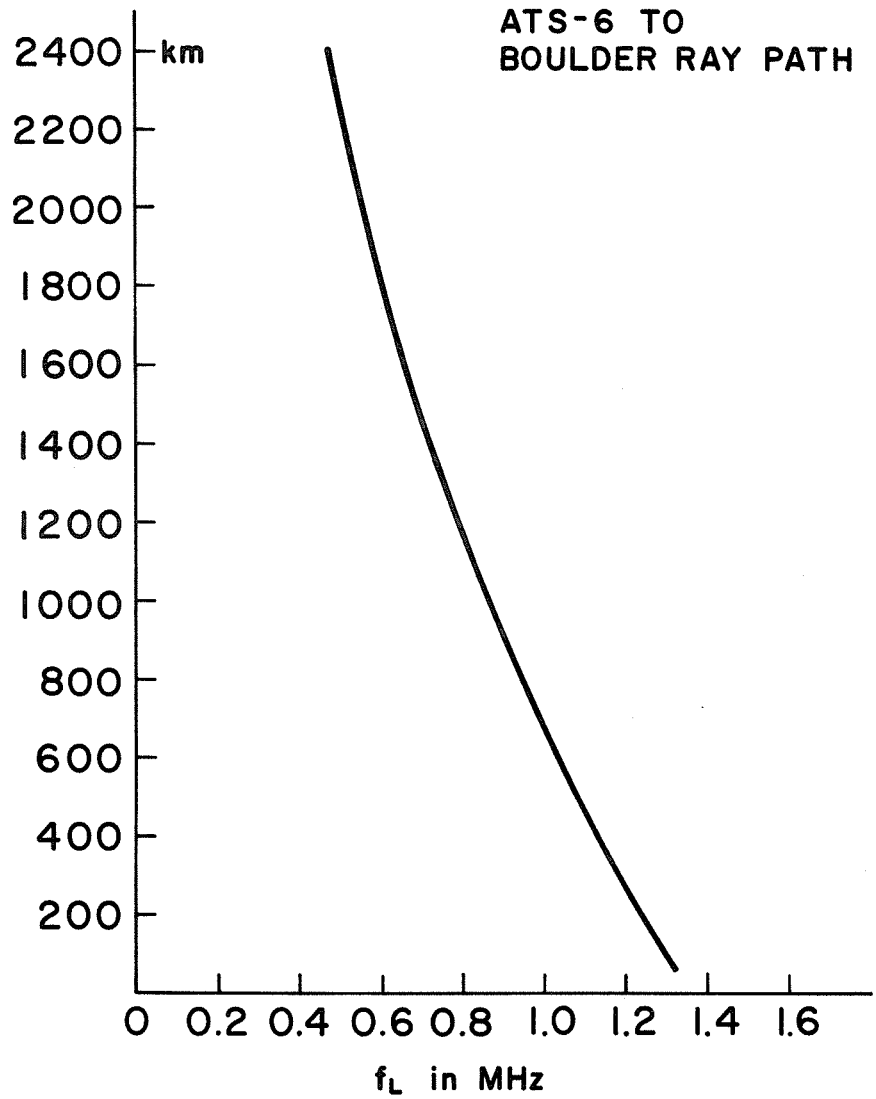

Fig. 2. Height variation of the electron longitudinal gyrofrequency along the ATS6 - Boulder ray path.

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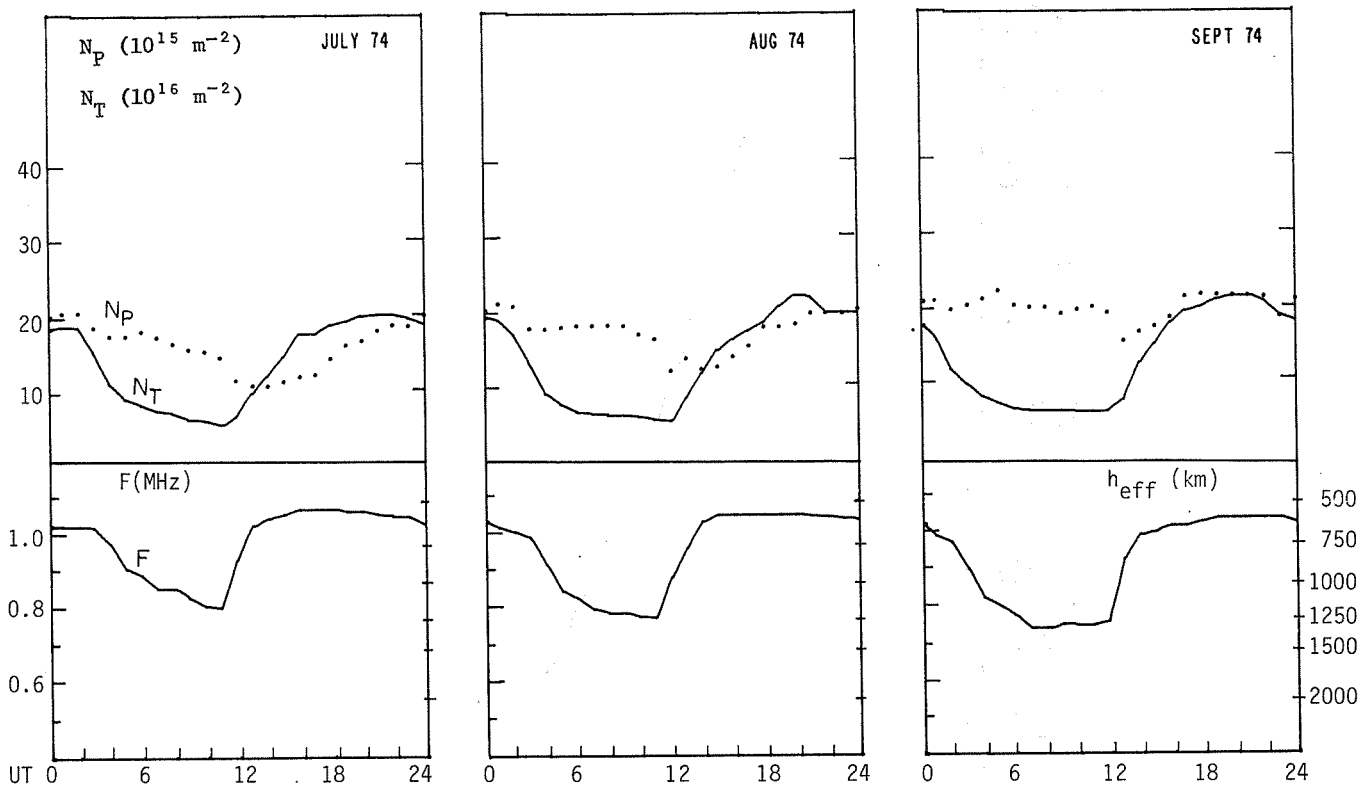
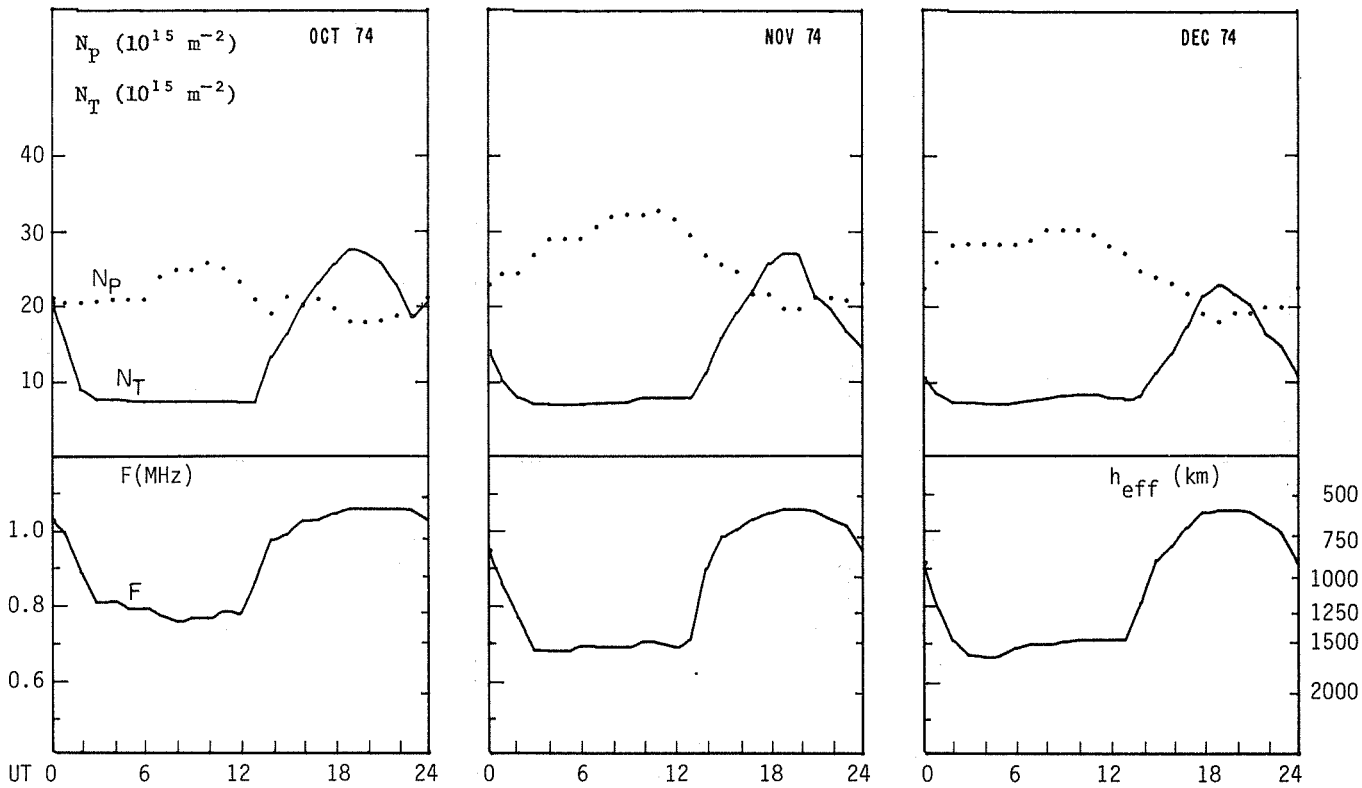
MONTHLY MEDIAN VALUES OF N_T, N_P, AND F in UT



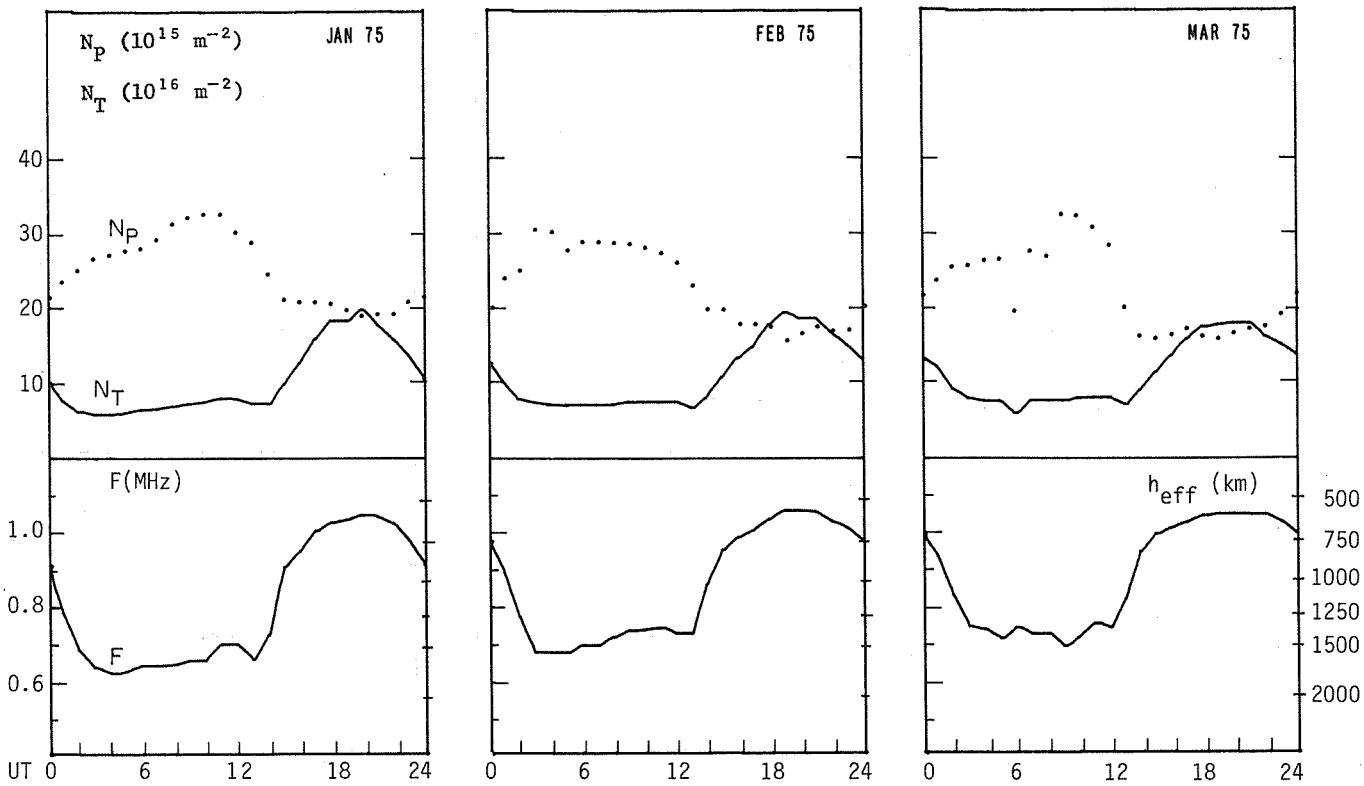
UT	JULY 1974 F(140) MHz	JULY 1974 N_T $10^{14}m^{-2}$	JULY 1974 N_P $10^{14}m^{-2}$	JULY 1974 N_P/N_T %	AUGUST 1974 F(140) MHz	AUGUST 1974 N_T $10^{14}m^{-2}$	AUGUST 1974 N_P $10^{14}m^{-2}$	AUGUST 1974 N_P/N_T %	SEPTEMBER 1974 F(140) MHz	SEPTEMBER 1974 N_T $10^{14}m^{-2}$	SEPTEMBER 1974 N_P $10^{14}m^{-2}$	SEPTEMBER 1974 N_P/N_T %	UT
00	1.022	1807	197	11	1.029	1927	203	11	1.016	1790	212	12	00
01	1.020	1838	202	11	1.012	1841	212	12	.984	1599	214	13	01
02	1.021	1771	201	11	.999	1648	203	12	.965	1154	195	17	02
03	1.016	1449	177	12	.985	1261	173	14	.895	946	206	22	03
04	.974	1024	166	16	.913	861	172	20	.818	782	215	27	04
05	.906	807	171	21	.841	707	180	25	.794	694	225	32	05
06	.888	729	177	24	.820	602	182	30	.769	609	201	33	06
07	.853	646	165	26	.791	577	180	31	.734	589	198	34	07
08	.861	614	155	25	.780	558	182	33	.734	592	200	34	08
09	.829	533	147	28	.781	558	177	32	.756	592	189	32	09
10	.806	514	145	28	.771	533	165	31	.742	575	200	35	10
11	.801	460	137	30	.768	499	159	32	.754	597	204	34	11
12	.936	616	106	17	.883	477	116	24	.763	641	190	30	12
13	1.028	924	99	11	.962	826	137	17	.927	787	153	19	13
14	1.051	1161	102	9	1.034	1159	118	10	.993	1260	170	13	14
15	1.061	1410	109	8	1.054	1467	126	9	1.004	1521	177	12	15
16	1.075	1716	116	7	1.054	1626	140	9	1.020	1804	189	10	16
17	1.073	1723	119	7	1.048	1746	154	9	1.019	1975	216	11	17
18	1.071	1848	139	8	1.052	1853	178	10	1.031	2029	220	11	18
19	1.058	1900	157	8	1.049	2059	180	9	1.040	2134	214	10	19
20	1.059	1971	164	8	1.049	2215	184	8	1.041	2178	218	10	20
21	1.050	1988	177	9	1.040	2137	197	9	1.040	2156	213	10	21
22	1.045	1943	185	10	1.037	1929	195	10	1.038	2054	211	10	22
23	1.044	1887	179	9	1.033	1958	195	10	1.031	1863	185	10	23

MONTHLY MEDIAN VALUES OF N_T, N_P, AND F

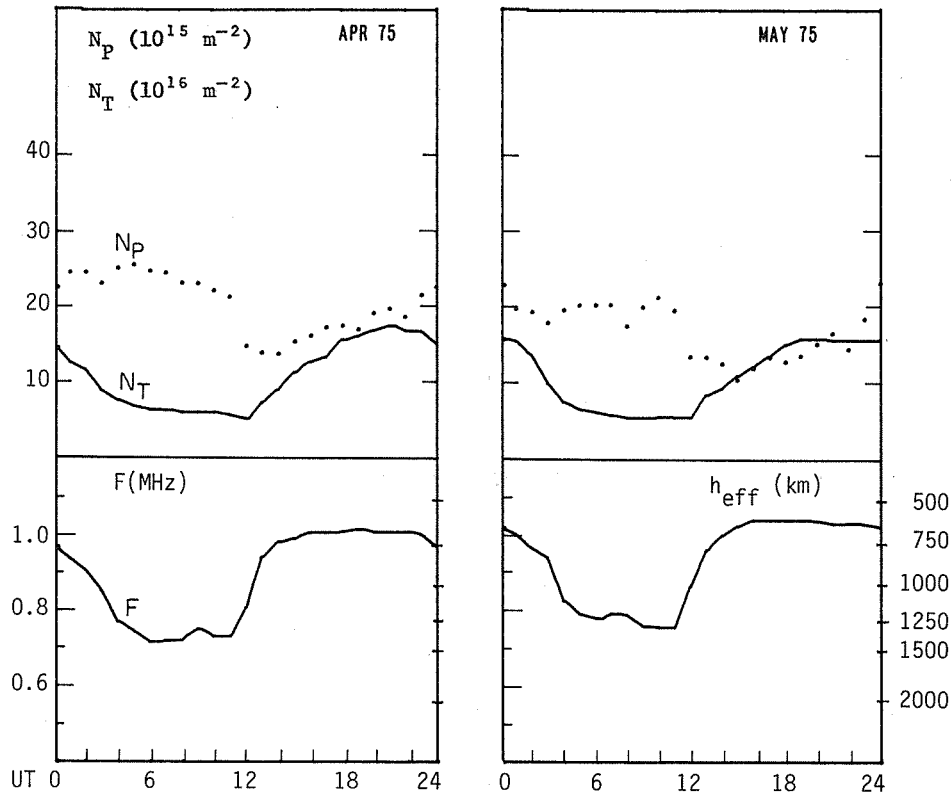


UT	OCTOBER 1974 F(140) MHz	N_T $10^{14}m^{-2}$	N_P $10^{14}m^{-2}$	N_P/N_T %	NOVEMBER 1974 F(140) MHz	N_T $10^{14}m^{-2}$	N_P $10^{14}m^{-2}$	N_P/N_T %	DECEMBER 1974 F(140) MHz	N_T $10^{14}m^{-2}$	N_P $10^{14}m^{-2}$	N_P/N_T %	UT
00	1.022	2068	214	10	.943	1433	233	16	.912	1079	228	21	00
01	.985	1540	202	13	.854	1002	247	25	.796	812	261	28	01
02	.885	866	204	24	.764	758	248	33	.704	699	284	41	02
03	.802	724	209	29	.677	677	271	40	.663	694	288	41	03
04	.814	758	212	28	.674	677	292	43	.657	685	283	41	04
05	.784	707	212	30	.679	704	294	42	.672	716	282	39	05
06	.795	686	209	30	.697	731	290	40	.692	756	287	38	06
07	.766	753	241	32	.684	748	309	41	.705	787	293	37	07
08	.751	746	251	34	.684	753	323	43	.702	812	306	38	08
09	.770	743	250	34	.689	760	327	43	.710	851	305	36	09
10	.764	753	261	35	.709	817	321	39	.716	866	305	35	10
11	.788	763	249	33	.694	807	332	41	.716	826	294	36	11
12	.768	690	230	33	.683	773	315	41	.708	758	279	37	12
13	.865	734	207	28	.714	773	293	38	.715	741	269	36	13
14	.976	1330	188	14	.899	1120	266	24	.810	846	246	29	14
15	.994	1638	214	13	.985	1589	253	16	.923	1139	237	21	15
16	1.030	2083	199	10	1.009	1927	245	13	.964	1399	229	16	16
17	1.035	2323	213	9	1.036	2227	215	10	1.014	1751	216	12	17
18	1.050	2575	195	8	1.052	2586	214	8	1.054	2161	189	9	18
19	1.063	2778	177	6	1.063	2738	195	7	1.062	2323	178	8	19
20	1.057	2690	181	7	1.057	2673	195	7	1.054	2147	195	9	20
21	1.062	2557	184	7	1.046	2122	214	10	1.046	2005	192	10	21
22	1.057	2264	190	8	1.025	1946	211	11	1.020	1628	203	12	22
23	1.048	1846	186	10	1.007	1648	206	13	.991	1457	203	14	23

MONTHLY MEDIAN VALUES OF N_T, N_p, AND F



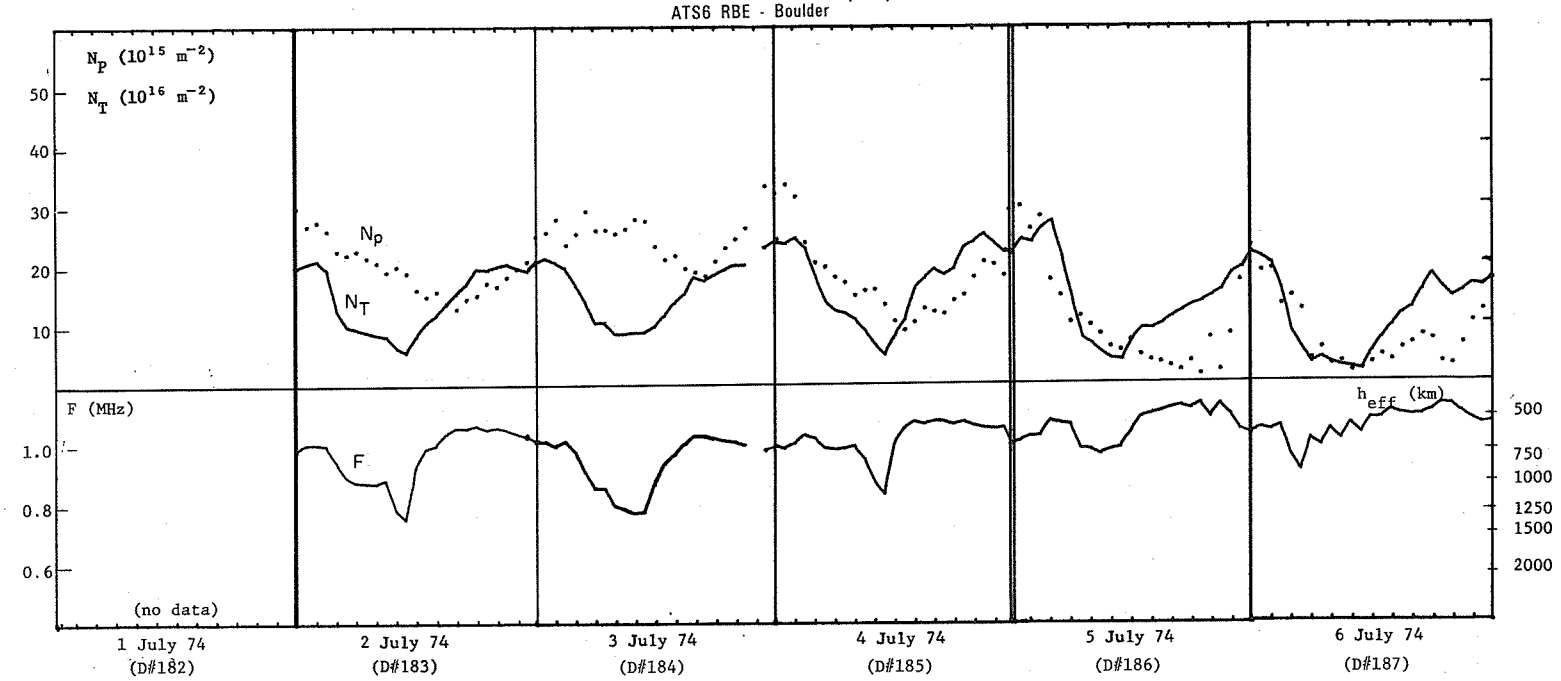
UT	JANUARY 1975 F(140) MHz	N_T $10^{14}m^{-2}$	N_p $10^{14}m^{-2}$	N_p/N_T %	FEBRUARY 1975 F(140) MHz	N_T $10^{14}m^{-2}$	N_p $10^{14}m^{-2}$	N_p/N_T %	MARCH 1975 F(140) MHz	N_T $10^{14}m^{-2}$	N_p $10^{14}m^{-2}$	N_p/N_T %	UT
00	.906	1024	217	21	.967	1271	201	16	.982	1318	217	16	00
01	.779	741	237	32	.896	998	240	24	.926	1164	237	20	01
02	.679	587	252	43	.767	741	251	34	.822	873	254	29	02
03	.632	553	268	48	.671	694	304	44	.737	734	257	35	03
04	.617	597	274	46	.670	690	298	43	.726	704	264	37	04
05	.632	631	279	44	.674	699	273	39	.705	724	266	37	05
06	.647	675	282	42	.699	716	289	40	.742	533	191	36	06
07	.648	690	294	43	.696	714	289	40	.715	753	274	36	07
08	.650	719	314	44	.720	729	283	39	.725	729	263	36	08
09	.660	751	324	43	.738	758	281	37	.683	748	323	43	09
10	.662	773	329	43	.741	758	276	36	.716	797	319	40	10
11	.703	822	327	40	.747	748	268	36	.753	807	302	37	11
12	.695	746	299	40	.719	724	256	35	.732	753	278	37	12
13	.652	690	285	41	.721	626	226	36	.816	653	196	30	13
14	.726	687	243	35	.858	804	194	24	.942	888	158	18	14
15	.907	993	209	21	.949	1073	194	18	.990	1125	157	14	15
16	.952	1271	205	16	.986	1330	174	13	1.010	1352	164	12	16
17	1.005	1594	209	13	1.006	1491	175	12	1.025	1570	172	11	17
18	1.029	1841	202	11	1.035	1770	170	10	1.042	1736	156	9	18
19	1.038	1816	194	11	1.058	1938	152	8	1.047	1775	153	9	19
20	1.050	2000	187	9	1.048	1809	167	9	1.043	1800	166	9	20
21	1.034	1741	194	11	1.045	1819	175	10	1.035	1770	171	10	21
22	1.014	1551	191	12	1.019	1628	164	10	1.035	1560	175	11	22
23	.971	1340	210	16	1.000	1467	171	12	1.015	1457	191	13	23

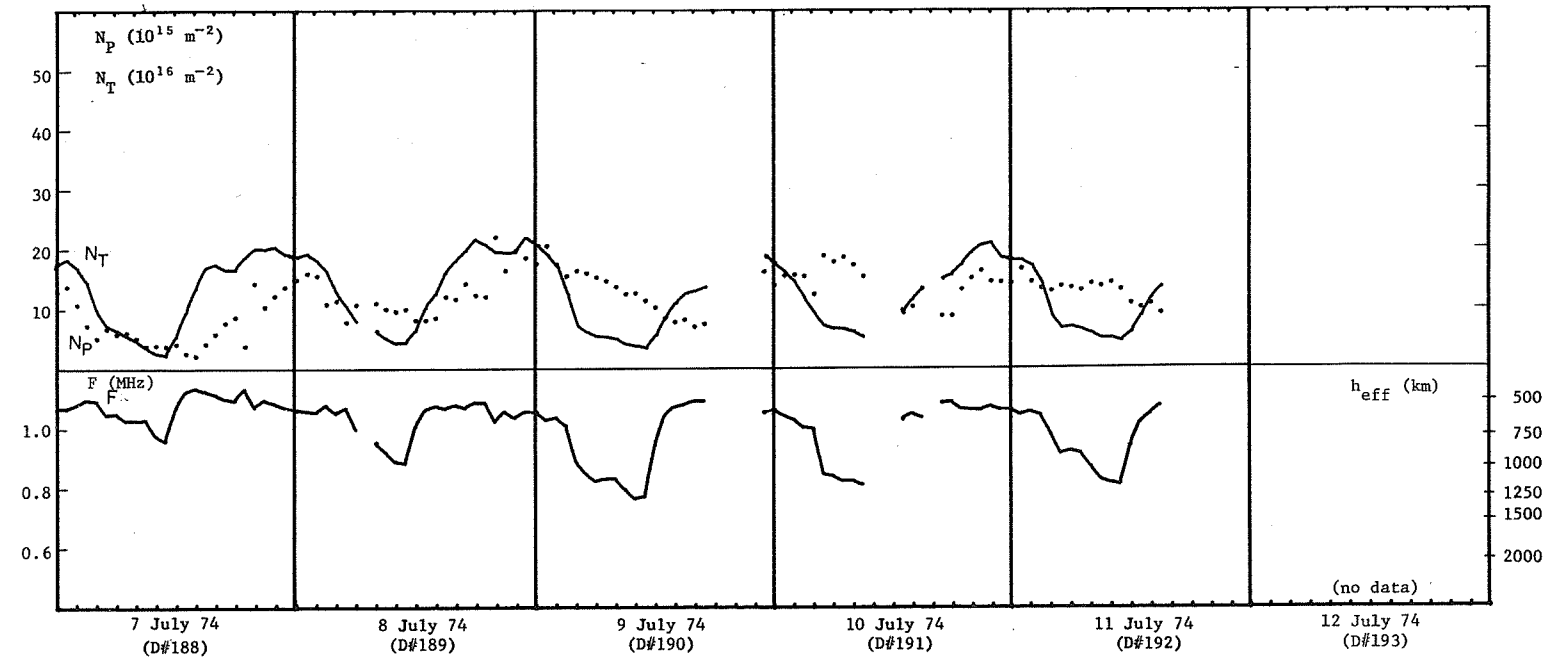


UT	APRIL 1975 F(140) MHz	N_T $10^{14}m^{-2}$	N_P $10^{14}m^{-2}$	N_P/N_T %	MAY 1975 F(140) MHz	N_T $10^{14}m^{-2}$	N_P $10^{14}m^{-2}$	N_P/N_T %	UT
00	.967	1518	232	15	1.019	1638	236	14	00
01	.936	1276	251	20	1.001	1565	200	13	01
02	.905	1171	251	21	.964	1374	195	14	02
03	.852	907	232	26	.939	1016	180	18	03
04	.771	775	256	33	.828	758	202	27	04
05	.744	699	262	37	.790	668	209	31	05
06	.715	653	248	38	.779	631	210	33	06
07	.731	643	246	38	.802	592	206	35	07
08	.732	616	233	38	.788	558	176	32	08
09	.759	641	232	36	.758	562	205	36	09
10	.730	621	223	36	.755	623	219	35	10
11	.732	582	215	37	.760	567	197	35	11
12	.813	528	150	28	.870	580	137	24	12
13	.946	785	141	18	.967	895	136	15	13
14	.989	973	139	14	1.008	993	126	13	14
15	1.000	1188	159	13	1.033	1154	105	9	15
16	1.016	1340	168	13	1.050	1276	125	10	16
17	1.009	1403	179	13	1.048	1418	140	10	17
18	1.019	1619	182	11	1.048	1560	129	8	18
19	1.024	1679	171	10	1.048	1645	142	9	19
20	1.005	1758	197	11	1.036	1633	157	10	20
21	1.011	1814	204	11	1.028	1574	171	11	21
22	1.014	1692	188	11	1.041	1582	146	9	22
23	.998	1682	220	13	1.028	1594	189	12	23

DAILY PLOTS AND TABLES OF N_T, N_p, and F in UT

ATS6 RBE - Boulder





DATE		183:74			184:74			185:74			186:74			187:74			DATE
HR		F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0		.977	1951	294	1.008	1995	247	.995	2367	319	.997	2186	291	1.029	2166	227	0
1		.999	2020	266	1.009	2078	254	.987	2352	334	1.009	2425	298	1.048	2103	187	1
2		.999	2064	271	.993	2015	275	1.002	2440	315	1.024	2381	261	1.041	1990	189	2
3		.996	1922	258	1.010	1917	234	1.030	2279	238	1.027	2616	281	1.054	1575	131	3
4		.942	1237	224	.975	1653	252	1.021	1819	205	1.076	2729	176	.959	861	143	4
5		.892	968	217	.906	1364	289	.988	1394	197	1.069	2127	150	.906	577	122	5
6		.873	924	223	.853	1002	259	.983	1237	180	1.065	1418	105	1.011	323	39	6
7		.871	875	213	.853	1002	259	.985	1193	171	.983	787	114	.989	406	57	7
8		.868	831	204	.794	817	253	.993	1090	149	.981	680	100	1.043	323	30	8
9		.880	802	189	.784	817	260	.951	900	156	.966	533	85	1.010	269	33	9
10		.783	616	197	.771	836	276	.877	670	159	.980	430	64	1.061	245	19	10
11		.750	538	187	.773	836	274	.833	489	135	.987	411	58	1.031	210	22	11
12	NO DATA	.921	797	159	.864	929	231	.997	797	106	1.036	743	74	1.079	504	31	12
13		.984	1022	148	.933	1110	209	1.051	1066	91	1.088	939	51	1.080	734	44	13
14		.995	1149	155	.964	1325	215	1.075	1584	104	1.099	939	42	1.105	934	37	14
15		1.032	1335	136	.998	1472	194	1.067	1760	127	1.107	1012	38	1.094	1139	55	15
16		1.054	1516	127	1.027	1760	188	1.077	1922	122	1.118	1130	32	1.090	1242	65	16
17		1.052	1672	143	1.027	1707	182	1.075	1834	119	1.126	1227	25	1.091	1531	78	17
18		1.061	1922	149	1.019	1800	204	1.066	1922	140	1.117	1330	38	1.104	1800	72	18
19		1.049	1917	168	1.011	1883	228	1.075	2284	149	1.135	1384	18	1.126	1599	34	19
20		1.054	1971	164	1.008	1961	242	1.064	2377	179	1.089	1482	79	1.126	1428	30	20
21		1.048	2010	179	.997	1956	260	1.056	2509	205	1.132	1579	25	1.101	1506	64	21
22		1.036	1946	193				1.053	2367	201	1.097	1858	85	1.078	1633	102	22
23		1.026	1902	205	.981	2254	331	1.055	2215	183	1.047	1951	174	1.064	1614	121	23

DATE	188:74			189:74			190:74			191:74			192:74				DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP		HR
0	1.065	1741	128	1.058	1858	149	1.052	2054	175	1.059	1746	138	1.060	1790	140		0
1	1.064	1819	136	1.055	1912	158	1.026	1902	205	1.041	1619	154	1.044	1790	165		1
2	1.077	1682	106	1.051	1804	155	1.033	1702	174	1.027	1452	155	1.053	1702	144		2
3	1.093	1438	72	1.074	1628	107	1.007	1242	155	1.001	1188	154	1.043	1423	133		3
4	1.090	963	50	1.048	1267	112	.886	709	163	.997	929	124	.980	870	128		4
5	1.045	714	65	1.065	1032	77	.846	601	159	.846	709	187	.913	655	135		5
6	1.047	641	57	.995	782	106	.821	533	152	.838	655	178	.922	675	134		6
7	1.025	548	59				.829	523	146	.823	650	185	.915	636	130		7
8	1.025	465	50	.950	621	108	.829	489	136	.822	606	173	.871	577	140		8
9	1.027	347	37	.919	494	99	.794	401	124	.809	518	153	.829	489	136		9
10	.975	249	38	.888	416	95	.764	372	125				.817	489	142		10
11	.958	220	37	.882	421	98	.770	342	113				.811	445	131		11
12	1.065	533	40	1.000	616	80	.936	548	102				.937	582	108	NO DATA	12
13	1.119	929	25	1.058	1007	80	1.037	856	84	1.028	905	96	1.015	861	101		13
14	1.132	1330	21	1.072	1227	84	1.068	1086	77	1.046	1130	102	1.044	1159	107		14
15	1.122	1672	40	1.064	1594	119	1.076	1247	80	1.034	1306	132	1.072	1345	92		15
16	1.113	1736	56	1.075	1785	116	1.088	1291	70								16
17	1.098	1653	75	1.067	1951	141	1.088	1355	73	1.082	1482	88					17
18	1.091	1648	85	1.085	2142	122				1.086	1555	87					18
19	1.128	1853	36	1.083	2064	120				1.062	1712	131					19
20	1.069	1995	141	1.021	1946	219				1.061	1917	149					20
21	1.091	1990	103	1.053	1932	164				1.059	2044	162					21
22	1.082	2029	121	1.034	1941	196				1.070	2083	144					22
23	1.069	1917	135	1.052	2171	185	1.051	1863	160	1.061	1853	144					23

Units of N_T and N_P are 10^{14} electrons-meter^{-2}. Hours are in UT. F140 is in MHz.

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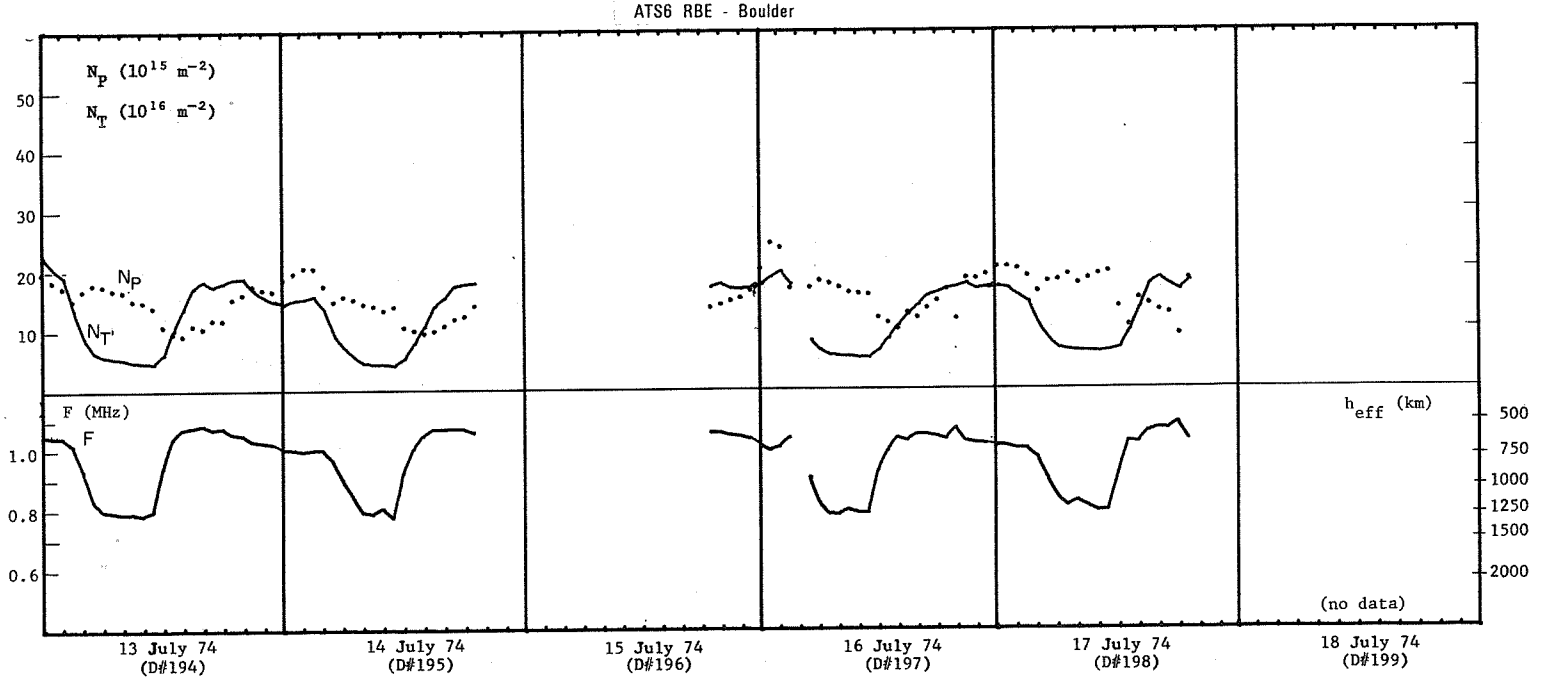
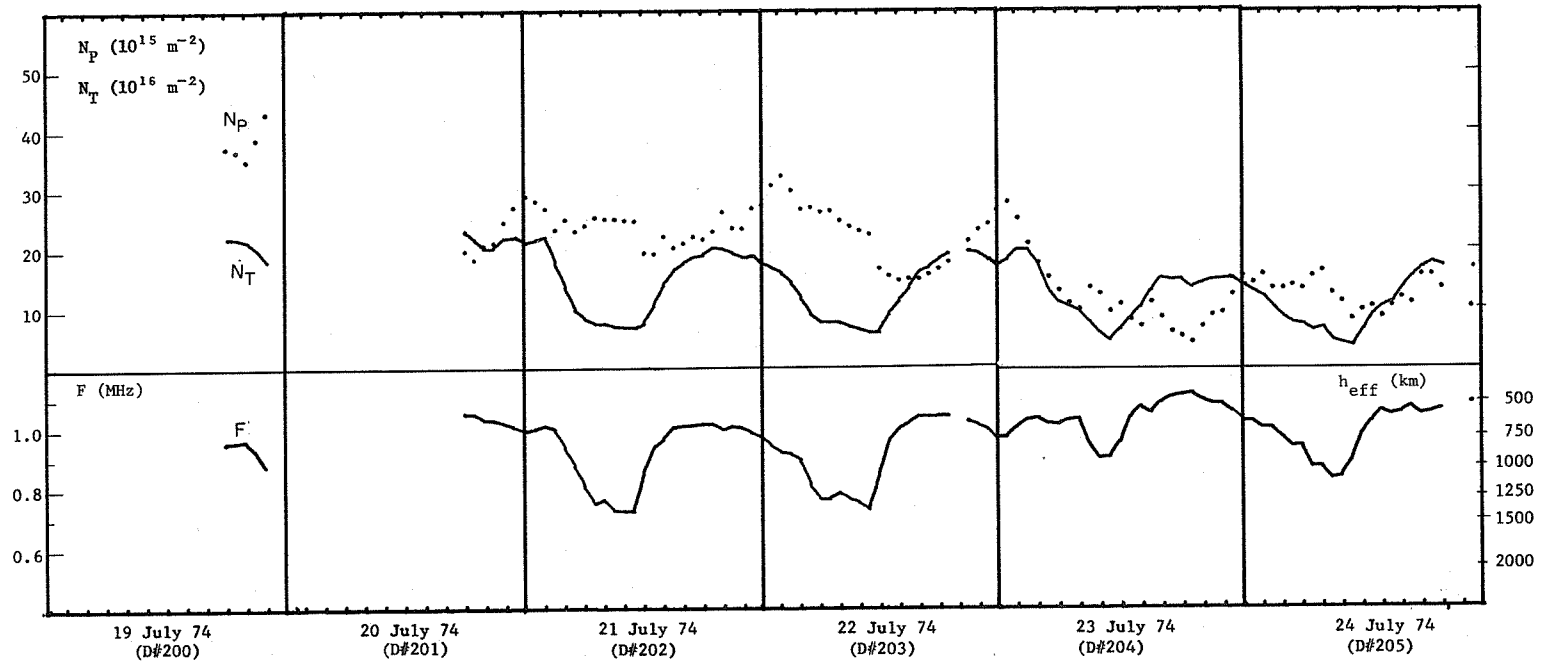


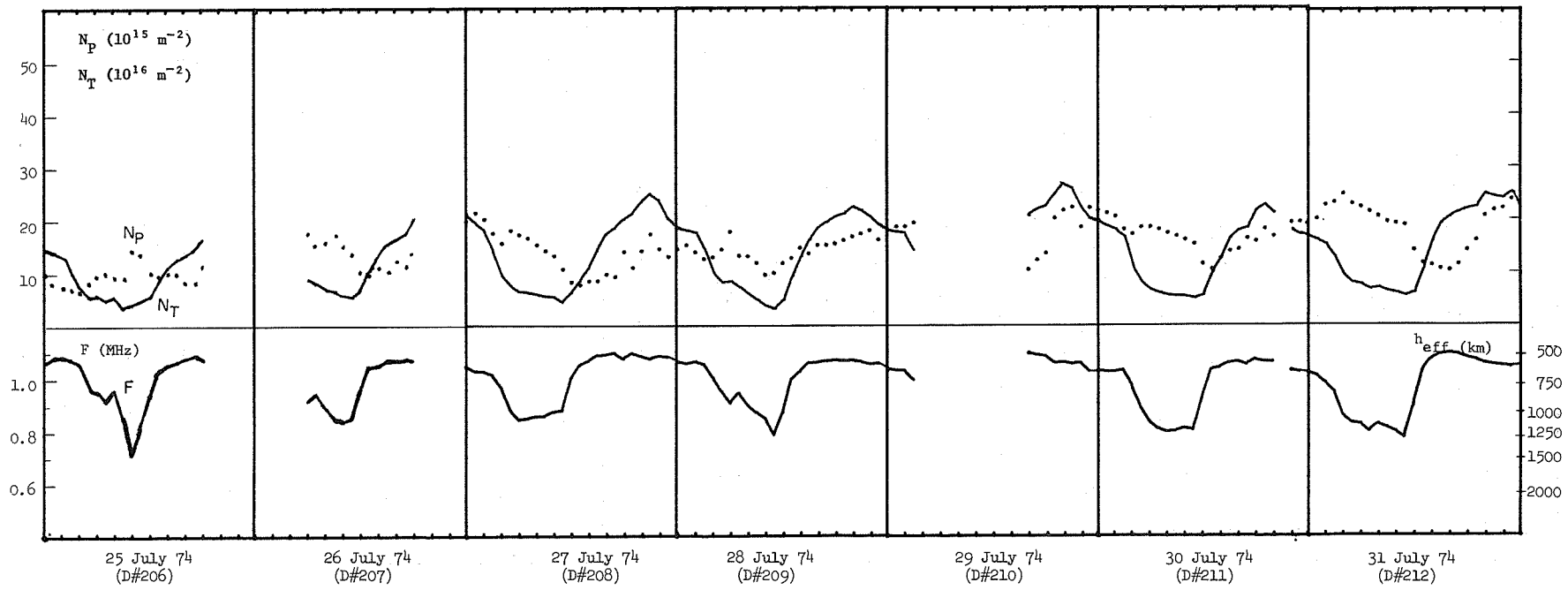


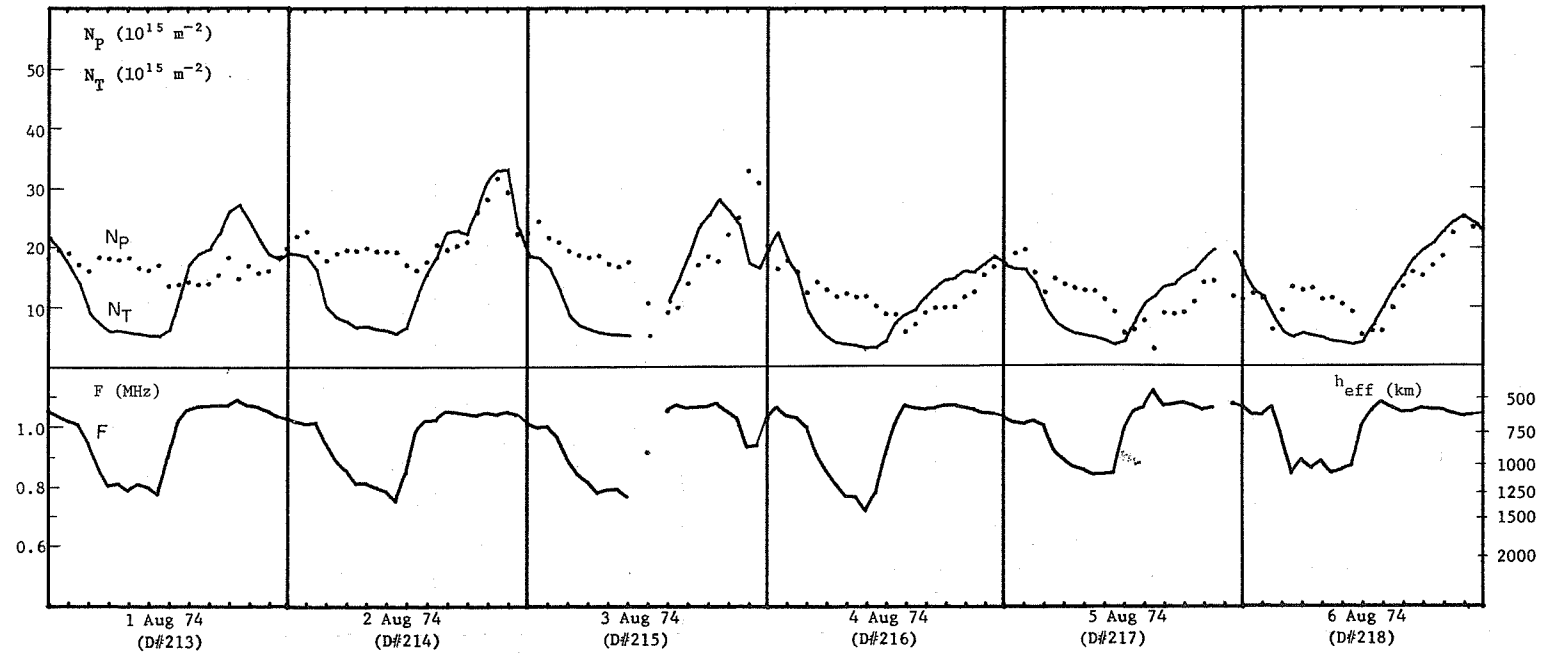
DATE	194:74			195:74			196:74			197:74			198:74				DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP		HR
0	1.048	2235	197	1.004	1457	185				1.016	1736	203	1.012	1702	204		0
1	1.046	2044	185	1.002	1521	195				.998	1858	245	1.010	1677	204		1
2	1.045	1912	174	.997	1540	204				1.009	1946	238	1.002	1560	201		2
3	1.021	1364	153	1.002	1584	204				1.037	1741	170	1.001	1452	189		3
4	.935	900	168	1.003	1374	176							.974	1066	164		4
5	.835	650	178	.969	944	149				.907	807	171	.902	831	179		5
6	.801	582	177	.904	734	157				.823	641	182	.841	675	181		6
7	.796	553	170	.850	587	153				.786	562	178	.810	645	191		7
8	.791	533	166	.794	469	145				.784	538	171	.826	626	176		8
9	.792	489	152	.788	450	141				.799	533	163	.809	621	184		9
10	.786	474	150	.806	450	134				.790	513	161	.793	616	191		10
11	.798	460	141	.777	430	140				.789	509	160	.794	631	195		11
12	.943	606	109	.923	538	106				.927	621	120	.914	670	138	NO DATA	12
13	1.039	1012	97	1.004	797	101				.993	826	113	1.023	963	107		13
14	1.071	1364	94	1.048	1076	96				1.037	1042	102	1.020	1345	152		14
15	1.077	1712	109	1.069	1408	99				1.029	1218	128	1.056	1736	143		15
16	1.083	1824	106	1.070	1555	108				1.049	1374	121	1.068	1844	132		16
17	1.071	1741	119	1.072	1746	119				1.049	1540	136	1.066	1731	127		17
18	1.074	1795	118	1.070	1780	123				1.043	1589	148	1.086	1643	92		18
19	1.055	1858	154	1.059	1795	141	1.057	1716	139	1.034	1653	167	1.032	1790	184		19
20	1.051	1873	161				1.057	1770	143	1.069	1682	119					20
21	1.031	1687	175				1.049	1697	149	1.027	1731	185					21
22	1.026	1575	170				1.045	1682	154	1.021	1648	185					22
23	1.021	1496	167				1.037	1702	167	1.019	1677	191					23

DATE	200:74			201:74			202:74			203:74			204:74			205:74			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0							.991	2098	289	.974	1785	273	.970	1687	265	1.021	1384	155	0
1							.999	2142	281	.942	1697	306	.971	1785	278	1.020	1281	144	1
2							1.010	2196	267	.920	1609	322	1.003	1961	251	1.000	1198	156	2
3							.998	1756	233	.914	1447	297	1.027	1956	209	.998	1017	134	3
4							.936	1347	251	.895	1198	266	1.033	1736	176	.968	846	134	4
5							.875	963	230	.811	914	269	1.015	1306	153	.937	748	138	5
6							.809	812	241	.764	778	261	1.012	1086	130	.938	724	133	6
7							.748	729	254	.768	797	265	1.026	1017	109	.868	626	154	7
8							.764	748	251	.788	782	247	1.030	939	98	.869	665	163	8
9							.725	680	251	.766	709	237	.945	753	134	.829	450	126	9
10							.723	670	249	.753	665	230	.900	572	124	.834	406	112	10
11							.722	665	247	.730	611	223	.903	440	95	.886	357	82	11
12							.848	738	194	.842	621	166	.952	611	105	.975	626	95	12
13							.935	1032	193	.957	919	154	1.034	802	81	1.018	890	102	13
14							.964	1379	223	1.002	1139	147	1.068	983	70	1.054	1027	86	14
15							1.006	1616	203	1.021	1350	151	1.050	1257	109	1.042	1095	103	15
16							1.011	1756	212	1.044	1638	151	1.084	1472	85	1.049	1335	117	16
17							1.012	1858	223	1.044	1716	158	1.102	1447	60	1.068	1521	109	17
18	.956	2201	371	1.052	2347	200	1.017	1883	217	1.046	1848	167	1.109	1457	52	1.044	1672	155	18
19	.958	2196	366	1.053	2201	186	1.018	2015	231	1.045	1946	178	1.113	1320	42	1.048	1756	155	19
20	.963	2152	350	1.032	2049	211	.998	1995	264				1.093	1389	69	1.059	1707	134	20
21	.930	2020	386	1.030	2073	216	1.009	1917	235	1.026	1985	214	1.081	1443	87				21
22	.879	1824	430	1.021	2235	250	1.003	1844	236	1.013	1951	233	1.078	1457	91				22
23				1.010	2254	275	.985	1883	270	.997	1829	243	1.054	1467	122	1.080	1677	102	23

Units of N_T and N_P are 10^{14} electrons-meter^{-2}.

ATS6 RBE - Boulder

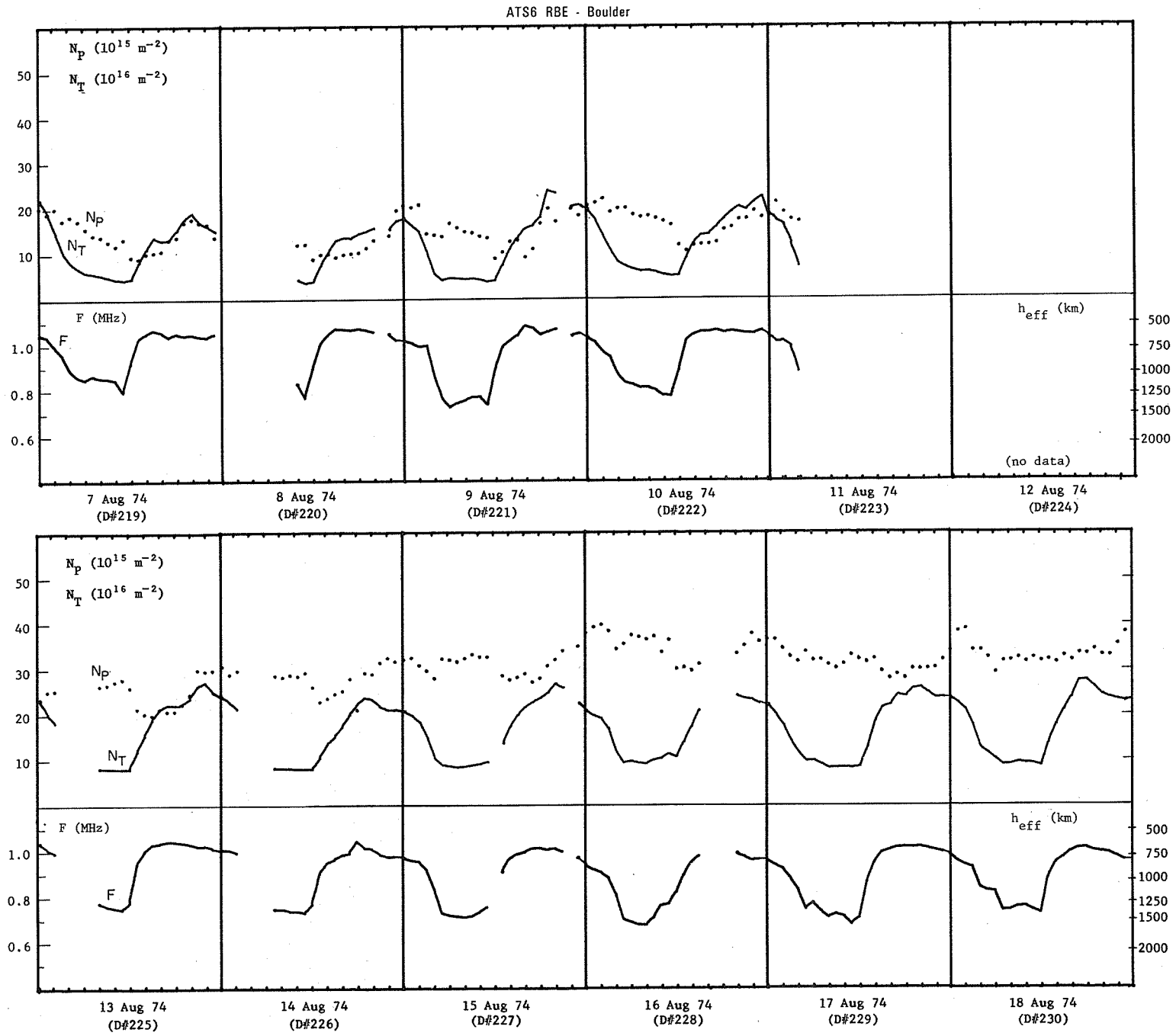




DATE	206:74			207:74			208:74			209:74			210:74			211:74			212:74			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	1.071	1467	101				1.043	2098	196	1.059	1824	144	1.032	1760	181	1.024	1951	213	1.020	1697	192	0
1	1.086	1403	78				1.025	1946	212	1.053	1785	151	1.027	1731	185	1.020	1863	210	1.009	1633	200	1
2	1.085	1301	74				1.023	1809	200	1.059	1746	138	1.025	1707	186	1.020	1795	203	.982	1550	226	2
3	1.072	1042	70				1.011	1438	174	1.049	1428	125	.991	1389	192	1.026	1658	179	.948	1315	231	3
4	1.047	743	66				.964	958	155	1.000	983	128				.971	1095	170	.856	968	247	4
5	.963	528	86				.880	758	178	.947	807	142				.887	797	182	.829	822	229	5
6	.954	567	97	.907	836	177	.842	636	170	.903	822	176				.832	660	183	.824	787	223	6
7	.914	499	102	.920	778	155	.845	621	165	.939	719	132				.805	597	179	.797	699	215	7
8	.961	567	93	.885	689	159	.853	587	151	.895	587	130				.792	553	172	.823	724	206	8
9	.841	347	93	.842	641	172	.855	548	141	.867	479	118				.795	538	166	.811	660	195	9
10	.712	381	145	.839	597	161	.870	538	131	.846	362	96				.806	533	159	.797	626	192	10
11	.807	460	137	.852	528	137	.875	440	105	.783	308	98				.801	499	152	.773	577	189	11
12	.934	543	102	.960	621	103	.996	606	81	.864	467	116				.913	553	114	.891	626	141	12
13	1.028	914	97	1.041	1022	97	1.045	826	76	.991	914	127				1.028	978	104	1.025	1076	117	13
14	1.048	1164	103	1.054	1340	111	1.062	1071	82	1.020	1286	146				1.036	1252	124	1.069	1599	113	14
15	1.058	1267	101	1.070	1531	106	1.083	1413	83	1.053	1604	136				1.053	1628	137	1.087	1927	106	15
16	1.077	1340	85	1.068	1682	121	1.086	1716	95	1.056	1834	151	1.091	2034	104	1.059	1775	141	1.092	2064	104	16
17	1.084	1477	84	1.076	1765	114	1.093	1829	91	1.061	1941	151	1.085	2142	122	1.048	1829	162	1.089	2152	114	17
18	1.072	1663	113	1.071	2020	139	1.071	1995	137	1.064	2044	153	1.080	2201	135	1.066	2152	156	1.077	2210	141	18
19							1.091	2098	108	1.062	2093	159	1.055	2425	201	1.059	2259	179	1.069	2249	159	19
20							1.081	2318	139	1.064	2225	166	1.056	2621	215	1.060	2117	166	1.055	2499	206	20
21							1.071	2474	171	1.058	2156	172	1.050	2548	221				1.049	2445	215	21
22							1.080	2357	143	1.050	2039	178	1.054	2201	184	1.027	1790	191	1.045	2416	220	22
23							1.077	2020	128	1.052	1892	162	1.023	1990	221	1.020	1707	193	1.042	2528	237	23

DATE	213:74			214:74			215:74			216:74			217:74			218:74			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	1.053	2161	182	1.029	1902	200	1.011	1848	223	1.030	1946	203	1.031	1672	172	1.067	1589	114	0
1	1.035	1951	196	1.017	1888	218	.997	1824	243	1.065	2240	165	1.016	1619	189	1.040	1286	123	1
2	1.019	1682	191	1.009	1853	226	1.000	1658	216	1.037	1804	178	1.010	1609	195	1.037	1178	116	2
3	1.008	1394	172	1.013	1628	194	.965	1296	208	1.031	1555	161	1.020	1394	158	1.064	836	62	3
4	.946	914	162	.946	1007	179	.890	861	194	1.001	968	126	1.006	998	125	.964	587	95	4
5	.862	734	184	.888	831	190	.841	694	187	.910	680	142	.922	743	148	.841	499	134	5
6	.802	601	182	.856	763	195	.816	631	183	.853	504	130	.892	616	138	.887	562	129	6
7	.809	606	180	.811	660	195	.780	577	186	.809	401	119	.867	538	133	.860	523	132	7
8	.787	577	182	.811	675	199	.788	548	172	.769	372	123	.857	504	128	.883	489	114	8
9	.807	557	166	.797	631	194	.791	538	168	.766	352	118	.842	474	127	.843	430	115	9
10	.799	533	163	.786	611	194	.768	528	176	.721	318	119	.843	425	113	.854	411	106	10
11	.775	523	171	.753	557	193				.778	318	103	.846	352	93	.867	377	93	11
12	.895	616	137	.845	645	171	.914	523	107	.906	421	89	.986	401	57	.997	411	55	12
13	1.015	1178	139	.983	1120	163				1.010	729	89	1.050	714	62	1.051	694	60	13
14	1.055	1716	142	1.018	1540	176	1.054	1100	92	1.071	870	60	1.064	1027	77	1.080	993	60	14
15	1.066	1892	139	1.021	1824	204	1.072	1452	99	1.063	944	71	1.120	1149	30	1.063	1301	99	15
16	1.068	1966	140	1.049	2245	196	1.064	1858	140	1.059	1154	91	1.072	1320	90	1.048	1526	135	16
17	1.070	2225	154	1.047	2274	203	1.066	2328	170	1.063	1315	99	1.075	1359	89	1.049	1800	159	17
18	1.069	2601	183	1.042	2225	209	1.066	2528	184	1.071	1443	100	1.081	1506	91	1.060	1951	153	18
19	1.087	2709	148	1.037	2621	257	1.077	2792	177	1.072	1477	100	1.071	1589	109	1.056	2064	169	19
20	1.070	2445	170	1.046	3095	281	1.053	2616	221	1.065	1594	117	1.059	1775	141	1.056	2259	185	20
21	1.065	2137	158	1.040	3281	315	1.030	2391	250	1.059	1579	125	1.065	1927	143	1.044	2425	224	21
22	1.052	1883	161	1.048	3296	293	.933	1736	328	1.046	1707	154				1.035	2523	251	22
23	1.033	1814	184	1.040	2333	223	.937	1658	308	1.045	1824	167	1.078	1883	118	1.039	2416	234	23

Units of N_T and N_p are 10^{14} electrons-meter^{-2}.


ATS6 RBE - Boulder
N_P (10^{15} m^{-2})
N_T (10^{16} m^{-2})
50
40
30
20
10
N_P
N_T
F (MHz)
F
1.0
0.8
0.6
h_{eff} (km)
500
750
1000
1250
1500
2000
(no data)
7 Aug 74 (D#219)
8 Aug 74 (D#220)
9 Aug 74 (D#221)
10 Aug 74 (D#222)
11 Aug 74 (D#223)
12 Aug 74 (D#224)
13 Aug 74 (D#225)
14 Aug 74 (D#226)
15 Aug 74 (D#227)
16 Aug 74 (D#228)
17 Aug 74 (D#229)
18 Aug 74 (D#230)

DATE	219:74			220:74			221:74			222:74			223:74				DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP		HR
0	1.045	2191	201				1.017	1780	206	1.030	1961	205	1.038	1897	184		0
1	1.036	1902	189				1.008	1633	202	1.011	1746	211	1.008	1741	214		1
2	.994	1472	199				.991	1491	207	.970	1399	219	1.016	1638	191		2
3	.957	1042	174				.994	1066	144	.946	1076	191	.986	1227	175		3
4	.891	812	183				.858	557	142	.869	812	198	.877	724	172		4
5	.861	689	173				.765	411	138	.832	719	199					5
6	.849	597	156				.725	450	166	.823	650	185					6
7	.864	572	142				.742	445	158	.809	606	180					7
8	.855	538	138				.754	430	148	.809	611	181					8
9	.854	494	127				.769	440	146	.797	577	177					9
10	.847	450	119	.829	430	120	.771	421	139	.775	523	171					10
11	.796	430	132	.767	362	120	.737	377	135	.772	494	163					11
12	.917	460	93	.891	391	88	.890	396	89	.881	504	118				NO DATA	12
13	1.024	822	90	.998	743	98	.988	729	103	1.013	890	106					13
14	1.046	1110	100	1.040	1037	99	1.016	1086	127	1.040	1213	116					14
15	1.063	1359	103	1.068	1291	92	1.039	1325	128	1.052	1384	118					15
16	1.056	1296	106	1.067	1355	98	1.081	1531	92	1.052	1408	120					16
17	1.035	1311	131	1.064	1345	100	1.071	1599	110	1.059	1560	123					17
18	1.047	1516	136	1.069	1438	102	1.043	1775	166	1.050	1736	151					18
19	1.040	1760	169	1.064	1487	112	1.054	2372	198	1.055	1892	156					19
20	1.043	1892	176	1.055	1560	129	1.065	2323	171	1.051	2010	173					20
21	1.036	1697	169	0.000	0	0	0.000	0	0	1.047	1946	175					21
22	1.032	1609	165	1.046	1540	139	1.038	2020	197	1.045	2108	192					22
23	1.046	1506	137	1.020	1721	195	1.047	2054	184	1.058	2225	179					23

DATE	225:74			226:74			227:74			228:74			229:74			230:74			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	1.034	2284	230	1.002	2381	307	.971	2054	319	.938	2049	378	.958	2186	365	.984	2347	338	0
1	1.005	1976	248	1.003	2249	288	.961	1976	324	.919	1951	391	.939	1990	365	.955	2249	381	1
2	.988	1780	250	.987	2093	297	.956	1829	308	.908	1888	396	.923	1751	346	.938	2098	386	2
3							.922	1496	296	.884	1658	383	.881	1403	328	.927	1756	340	3
4							.837	1027	280	.812	1169	344	.831	1144	318	.839	1257	340	4
5							.730	880	321	.702	910	354	.744	958	338	.825	1149	324	5
6							.720	856	320	.690	934	374	.770	968	320	.821	1017	291	6
7				.741	802	286	.715	836	316	.679	905	371	.736	890	321	.740	885	316	7
8	.770	787	260	.743	797	282	.712	846	322	.676	885	365	.708	807	310	.740	890	317	8
9	.755	768	264	.732	792	288	.716	875	331	.707	963	371	.722	812	302	.753	934	322	9
10	.748	773	270	.734	787	285	.732	900	327	.762	998	337	.712	817	311	.756	919	315	10
11	.743	778	275	.724	792	293	.754	949	326	.768	1095	364	.678	807	331	.742	910	323	11
12	.775	782	255	.764	778	261				.817	1037	300	.705	831	322	.728	861	316	12
13	.943	1159	209	.897	1037	228	.909	1364	286	.893	1359	304	.860	1252	316	.879	1350	319	13
14	.999	1516	199	.946	1335	237	.966	1721	276	.948	1687	296	.946	1819	323	.945	1760	313	14
15	1.029	1853	195	.960	1496	247	.986	1971	280	.976	2044	310	.990	2127	296	.968	2068	327	15
16	1.035	2098	210	.981	1724	254	.995	2147	289				1.002	2186	281	.994	2352	318	16
17	1.043	2191	204	.988	1985	280	1.012	2254	271				1.012	2411	289	1.009	2719	332	17
18	1.041	2176	206	1.041	2215	210	1.013	2342	278				1.015	2381	280	1.011	2734	331	18
19	1.035	2210	220	1.008	2362	293	1.007	2460	306				1.014	2543	301	.999	2597	341	19
20	1.030	2328	243	1.006	2323	291	1.012	2660	320	.989	2381	333	1.016	2572	300	.994	2430	329	20
21	1.020	2606	296	.982	2161	316	.998	2572	339	.976	2323	350	1.009	2460	301	.990	2357	328	21
22	1.025	2690	292	.970	2083	326				.961	2298	377	1.002	2347	303	.974	2313	353	22
23	1.012	2460	295	.975	2090	317	.970	2235	349	.963	2220	361	.994	2352	320	.959	2279	379	23

Units of N_T and N_P are 10^{14} electrons-meter^{-2}.

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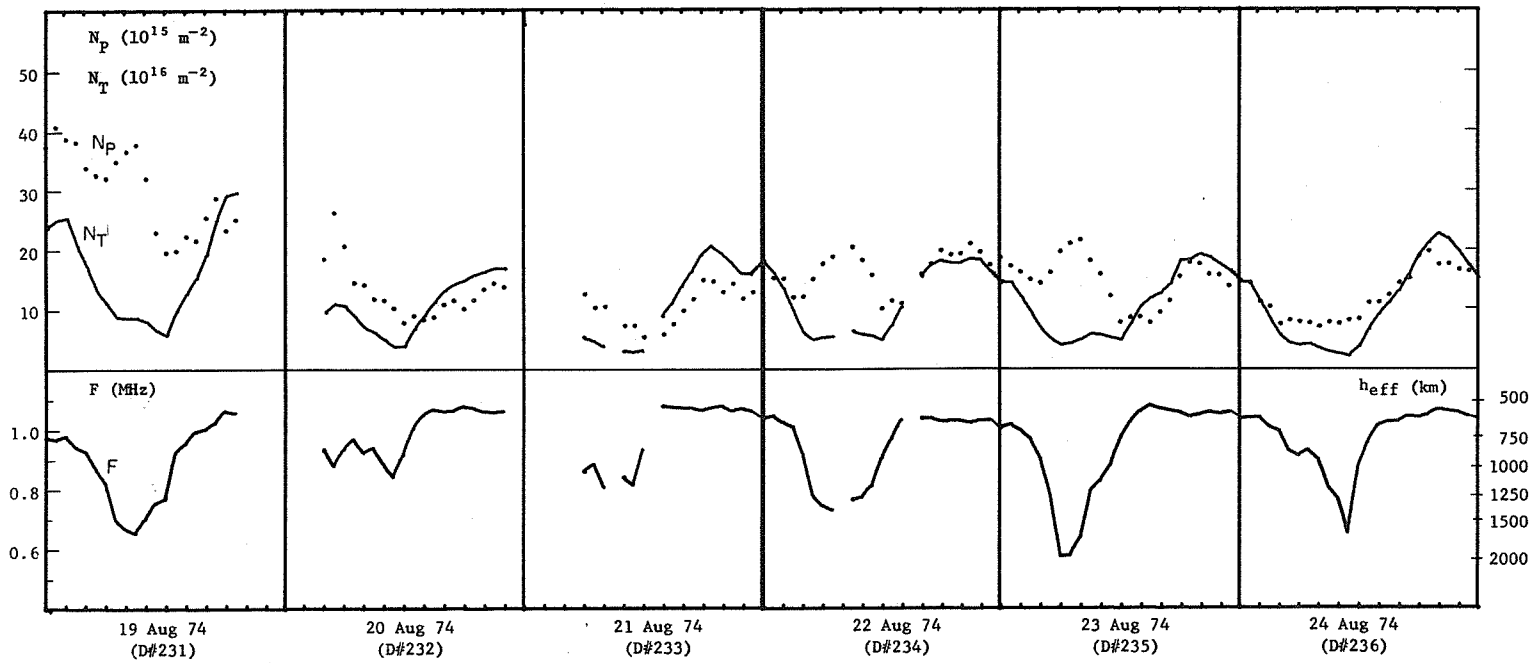

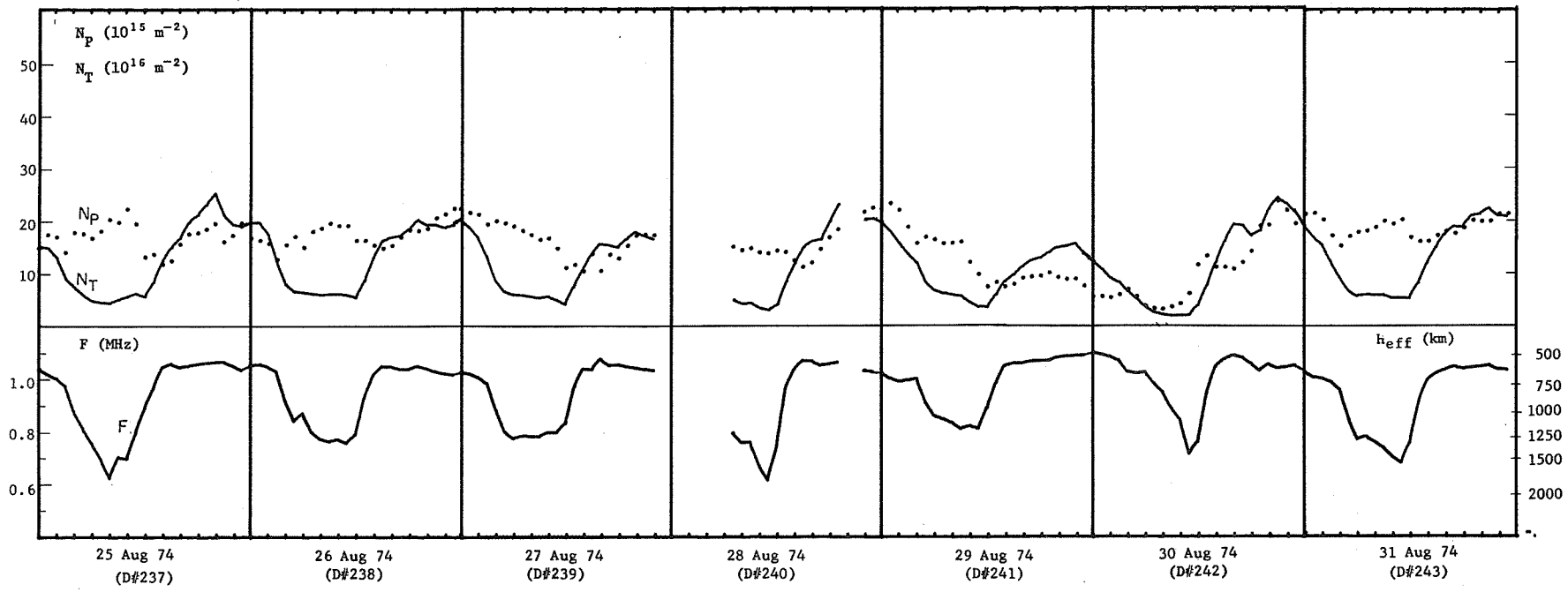

DATE	231:74			232:74			233:74			234:74			235:74			236:74			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	.970	2372	371							1.033	1756	178	1.002	1438	185	1.032	1418	146	0
1	.964	2499	405							1.040	1575	150	1.012	1428	171	1.034	1403	141	1
2	.975	2528	385							1.019	1311	149	.993	1183	161	1.034	1095	110	2
3	.939	2073	380							1.005	934	118	.965	924	149	1.005	807	102	3
4	.926	1721	336	.931	958	183				.913	577	119	.898	650	143	.990	528	73	4
5	.869	1325	324	.875	1090	260				.776	455	148	.770	484	160	.925	401	78	5
6	.820	1110	319	.928	1061	205	.858	489	124	.742	489	174	.572	386	194	.907	362	76	6
7	.698	880	346	.963	890	144	.880	435	102	.728	504	185	.575	416	208	.925	381	75	7
8	.667	866	363	.919	699	141	.805	342	103				.632	474	213	.895	308	68	8
9	.653	866	374	.933	621	117				.760	592	200	.786	567	179	.805	249	75	9
10	.699	812	318	.882	494	115	.837	264	72	.769	543	180	.822	553	158	.765	220	74	10
11	.752	660	228	.840	377	102	.812	245	72	.806	518	155	.873	504	121	.650	181	79	11
12	.766	582	194	.911	372	77	.927	269	52	.897	450	99	.963	469	76	.866	328	81	12
13	.920	983	197	.998	670	88				.962	685	112	1.018	738	84	.950	621	108	13
14	.950	1271	221	1.043	890	83	1.073	846	56	1.025	993	108	1.055	1032	85	1.007	875	109	14
15	.988	1526	214	1.062	1115	86	1.069	1046	74				1.075	1164	76	1.019	1056	120	15
16	.999	1922	253	1.056	1311	107	1.067	1335	96	1.032	1511	156	1.065	1247	92	1.022	1262	141	16
17	1.019	2499	285	1.058	1418	114	1.066	1579	115	1.033	1692	173	1.058	1399	112	1.038	1531	149	17
18	1.058	2900	231	1.072	1477	100	1.059	1858	147	1.023	1765	195	1.052	1785	153	1.035	1848	185	18
19	1.053	2944	249	1.067	1570	114	1.067	2010	145	1.025	1731	189	1.038	1804	176	1.042	2054	193	19
20				1.056	1623	132	1.073	1897	128	1.024	1736	190	1.044	1892	174	1.060	2215	172	20
21				1.053	1677	142	1.057	1741	140	1.018	1795	207	1.052	1844	157	1.057	2132	172	21
22				1.056	1677	137	1.064	1560	116	1.025	1785	193	1.047	1731	155	1.053	1932	164	22
23							1.056	1545	126	1.026	1604	173	1.052	1623	138	1.041	1702	161	23

DATE	237:74			238:74			239:74			240:74			241:74			242:74			243:74			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	1.036	1506	149	1.050	1922	166	1.022	1985	221				1.019	1932	220	1.096	1183	55	1.020	1858	210	0
1	1.016	1487	173	1.053	1927	162	1.018	1858	214				.999	1760	231	1.089	1037	55	1.003	1658	212	1
2	1.000	1301	169	1.045	1702	156	1.005	1663	210				.988	1545	218	1.080	870	53	.997	1506	200	2
3	.972	905	140	1.028	1183	126	.981	1306	192				.990	1335	186	1.066	787	58	.985	1183	170	3
4	.875	743	178	.917	758	153	.882	846	197				.997	1169	155	1.023	616	68	.956	895	151	4
5	.812	597	175	.839	621	168	.797	631	194				.908	792	166	1.017	474	55	.845	636	169	5
6	.754	484	167	.866	601	149	.772	572	188				.857	641	163	1.020	318	36	.768	528	176	6
7	.695	455	180	.798	582	178	.782	562	180	.791	479	150	.846	587	155	.980	215	32	.778	553	179	7
8	.622	440	202	.771	557	184	.780	533	172	.756	416	142	.833	562	155	.947	171	30	.758	543	185	8
9	.700	504	197	.762	572	193	.781	509	163	.758	425	145	.810	533	158	.884	147	34	.736	548	197	9
10	.696	562	222	.769	572	190	.795	533	165	.671	333	139	.819	416	120	.842	152	41	.702	494	192	10
11	.790	621	194	.756	553	189	.795	474	147	.615	293	137	.810	328	97	.712	156	60	.680	489	200	11
12	.886	572	131	.785	509	161	.829	391	109	.736	391	141	.886	318	73	.756	333	114	.754	484	167	12
13	.962	836	136	.925	826	162	.965	714	115	.957	826	139	.981	548	81	.940	714	131	.911	768	160	13
14	1.040	1237	118	1.011	1262	153	1.034	1027	103	1.029	1174	123	1.045	797	73	1.041	1159	110	.989	1139	159	14
15	1.055	1491	124	1.043	1579	147	1.032	1325	135	1.064	1482	110	1.055	924	76	1.069	1560	109	1.015	1447	170	15
16	1.042	1663	156	1.044	1648	152	1.072	1526	103	1.065	1604	118	1.056	1081	88	1.084	1873	107	1.029	1692	178	16
17	1.048	1966	175	1.036	1677	167	1.048	1516	134	1.049	1633	144	1.063	1203	91	1.077	1863	118	1.041	1844	174	17
18	1.054	2103	176	1.035	1795	180	1.051	1472	127	1.053	1971	166	1.065	1247	92	1.054	1667	139	1.035	1834	184	18
19	1.058	2298	183	1.045	1971	180	1.044	1623	150	1.059	2284	181	1.066	1350	98	1.027	1751	187	1.039	2049	198	19
20	1.061	2513	194	1.038	1883	184	1.039	1756	169				1.078	1447	90	1.049	2161	189	1.041	2083	197	20
21	1.063	2108	160	1.026	1883	203	1.033	1687	171				1.082	1472	87	1.036	2377	235	1.046	2191	197	21
22	1.048	1927	171	1.018	1834	210	1.029	1628	171	1.028	2015	213	1.084	1516	86	1.040	2269	217	1.032	2054	210	22
23	1.032	1897	195	1.014	1873	221				1.024	2020	222	1.086	1340	74	1.045	2103	192	1.031	2039	211	23

Units of N_T and N_P are 10^{14} electrons-meter^{-2}.

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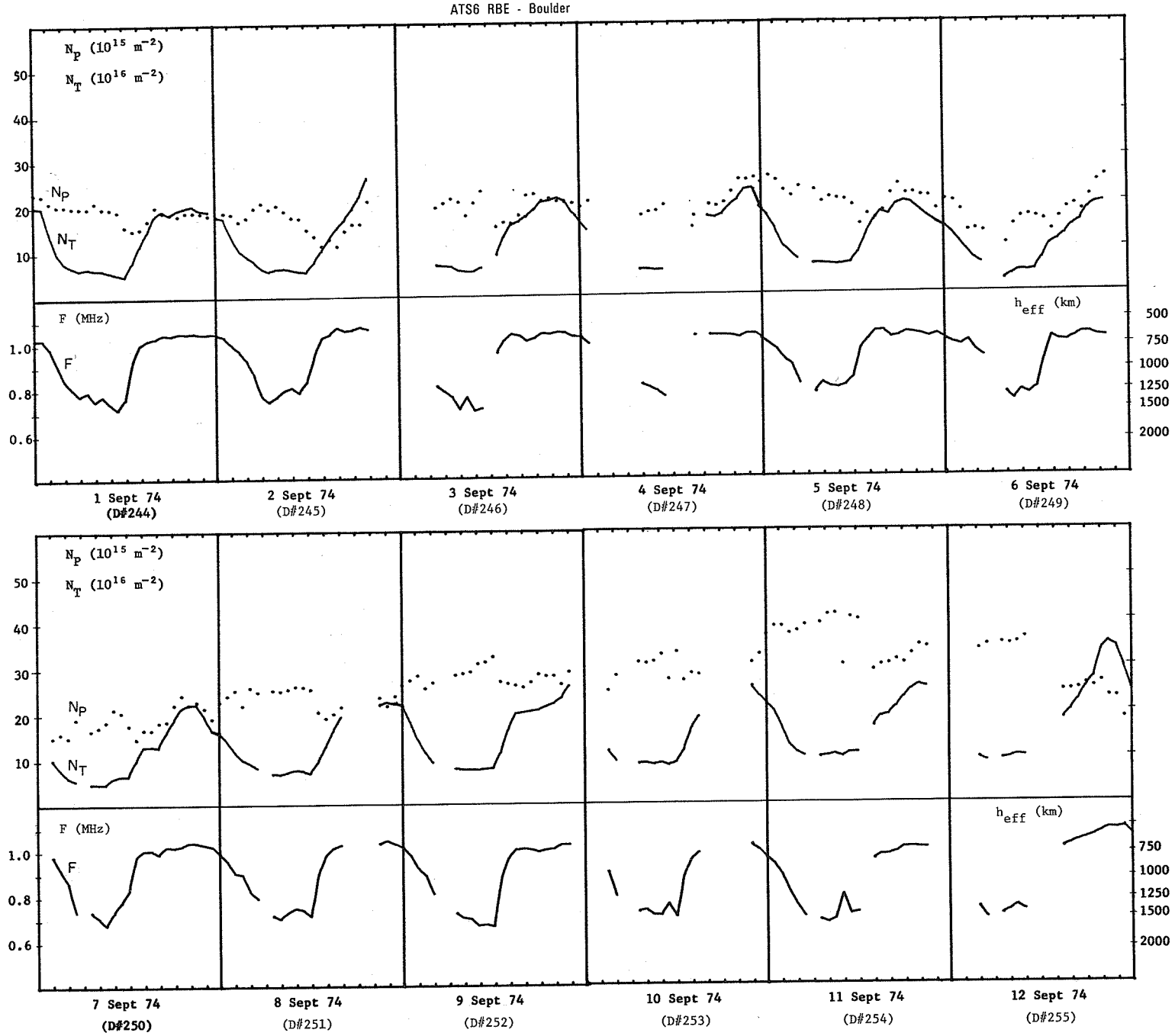

DATE	244:74			245:74			246:74			247:74			248:74			249:74			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	1.017	1980	228	1.034	1751	177				1.016	1677	195	1.005	1936	244	.994	1501	204	0
1	1.018	1966	226	1.026	1712	185				.989	1472	206	.981	1760	259	.980	1359	201	1
2	.980	1423	210	.992	1330	183							.956	1482	250	.970	1164	182	2
3	.907	958	202	.965	1032	166							.913	1105	227	.988	968	136	3
4	.837	743	202	.925	890	174							.889	949	215	.946	782	139	4
5	.801	655	199	.860	773	195	.804	645	194				.806	782	234	.921	680	135	5
6	.772	601	198	.766	616	205	.781	636	204										6
7	.787	626	198	.739	543	194	.758	626	213				.767	685	228				7
8	.747	597	209	.760	592	200	.704	533	207	.808	592	176	.808	680	202	.759	318	108	8
9	.767	592	197	.789	601	189	.754	513	177	.794	587	181	.790	675	211	.729	406	149	9
10	.736	543	196	.801	577	175	.696	518	205	.779	572	184	.786	660	209	.767	494	164	10
11	.711	499	190	.780	538	173	.707	597	230	.755	572	197	.796	670	206	.754	489	168	11
12	.753	455	157	.825	523	148							.829	694	194	.777	509	165	12
13	.921	748	149	.936	719	134	.949	875	153				.958	914	153	.907	753	159	13
14	.992	1105	152	1.018	978	113	1.003	1262	162				.995	1291	174	1.002	1066	137	14
15	1.013	1413	169	1.032	1227	126	1.030	1526	160	1.018	1511	173	1.032	1609	165	.987	1154	164	15
16	1.021	1765	198	1.063	1467	112	1.024	1604	176				1.035	1804	181	.985	1286	184	16
17	1.035	1878	187	1.049	1648	144	1.001	1707	221	1.020	1741	197	1.006	1751	219	1.001	1477	192	17
18	1.032	1795	184	1.053	1888	159	1.012	1853	223	1.020	1712	194	1.010	1966	239	1.019	1579	180	18
19	1.041	1892	179	1.065	2156	160	1.032	2029	209	1.020	1775	201	1.026	2034	219	1.019	1848	211	19
20	1.040	1941	186	1.056	2567	209	1.031	2059	213	1.018	1961	225	1.024	2000	220	1.007	1966	244	20
21	1.042	1980	186				1.037	2112	207	1.011	2083	252	1.017	1853	214	1.003	2000	255	21
22	1.037	1888	185				1.035	2054	205	1.025	2313	251	1.007	1716	213				22
23	1.039	1863	180				1.020	1795	203	1.025	2347	255	1.017	1604	185				23

DATE	250:74			251:74			252:74			253:74			254:74			255:74			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0				.984	1560	226	1.009	2132	262				.952	2137	367				0
1				.950	1374	239	.974	1785	273				.925	1976	386				1
2	.973	968	149	.898	1144	251	.917	1399	283				.878	1628	386				2
3	.914	763	157	.892	968	217	.886	1110	255	.893	1100	245	.804	1232	370				3
4	.860	592	149	.818	890	257	.806	895	267	.789	890	279	.743	1061	376	.732	919	334	4
5	.731	518	189	.788	787	248							.695	980	388	.686	851	343	5
6																			6
7	.730	450	164	.712	660	251	.719	758	284	.721	826	308	.679	958	393	.701	890	347	7
8	.705	440	170	.698	636	250	.699	734	288	.727	831	306	.667	978	410	.716	914	345	8
9	.672	440	183	.725	685	253	.694	734	291	.704	797	309	.681	1012	413	.737	968	348	9
10	.726	572	211	.743	734	259	.666	734	309	.703	836	325	.789	963	302	.719	958	359	10
11	.770	616	204	.736	719	259	.669	748	313	.751	782	271	.705	1046	405				11
12	.822	616	176	.709	660	253	.662	763	324	.696	836	330	.711	1051	401				12
13	.971	939	146	.890	900	204	.868	1100	270	.868	1095	269							13
14	.998	1257	166	.974	1242	190	.959	1604	266	.945	1589	283	.946	1633	290				14
15	1.000	1267	165	1.006	1589	199	.996	1961	262	.975	1839	281	.962	1839	300	.992	1775	243	15
16	.983	1247	181	1.020	1897	214	1.001	1990	258				.965	1883	303	1.006	1946	244	16
17	1.015	1560	183				.997	2015	268				.975	2051	312	1.019	2171	246	17
18	1.012	1829	220				.989	2039	285				.994	2254	305	1.030	2450	256	18
19	1.018	2098	240				.996	2112	282				.997	2430	324	1.042	2660	251	19
20	1.033	2181	221				1.001	2176	282				.994	2533	344	1.058	3262	262	20
21	1.031	2186	226	1.025	2156	234	1.018	2293	264				.993	2494	340	1.073	3443	229	21
22	1.024	1936	213	1.038	2220	216	1.019	2553	290	1.010	2504	306				1.072	3359	227	22
23	1.016	1633	190	1.025	2181	237				.988	2298	324				1.078	2910	183	23

Units of N_T and N_P are 10^{14} electrons-meter^{-2}.

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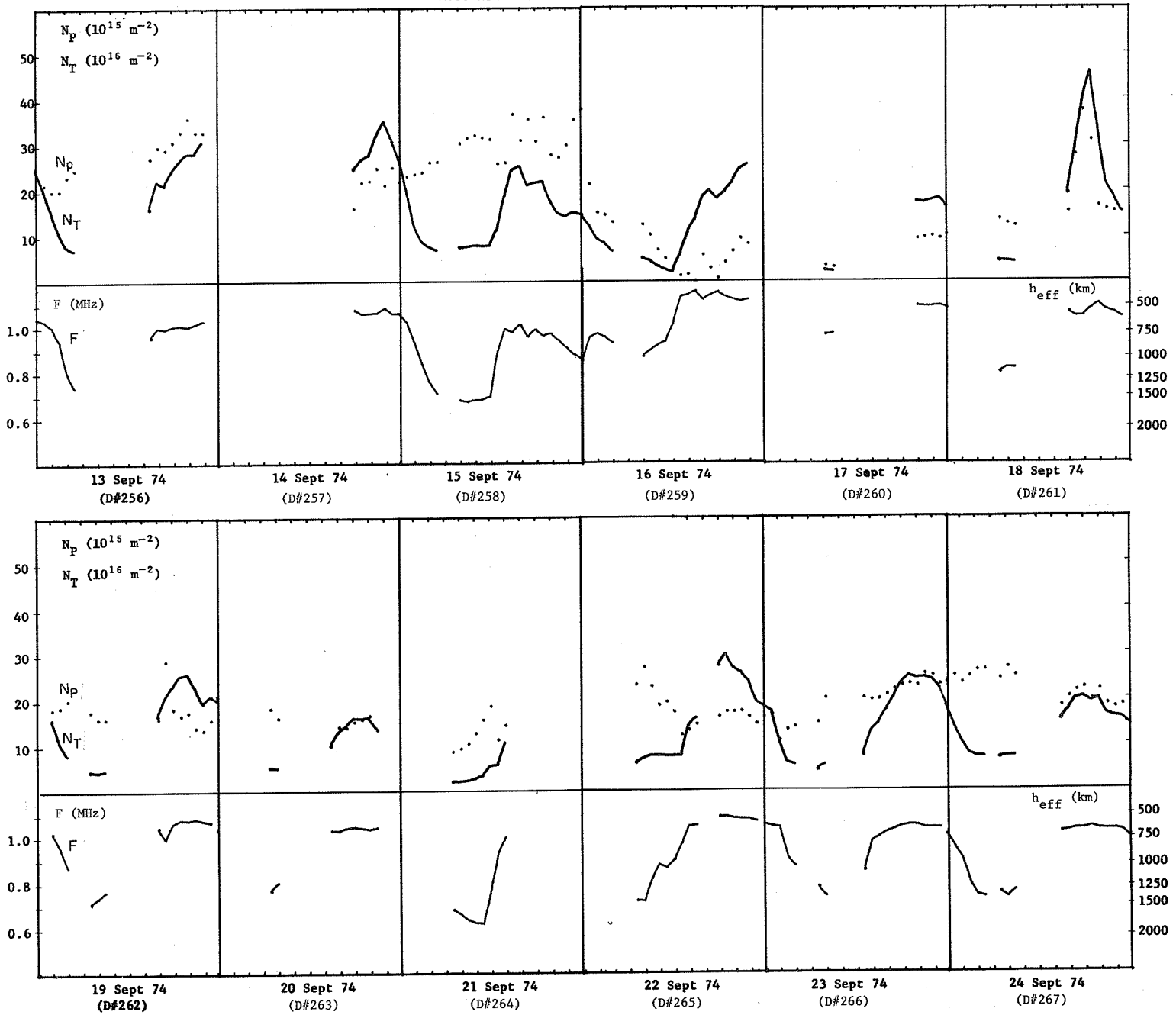

DATE	256:74			257:74			258:74			259:74			260:74			261:74			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	1.041	2474	234				1.058	2704	215	.849	1443	378				1.079	1619	99	0
1	1.029	2034	214				1.021	2034	228	.950	1227	214							1
2	1.004	1565	199				.932	1223	232	.965	939	151							2
3	.939	1086	199				.838	870	236	.951	846	146							3
4	.802	763	231				.756	753	258	.926	670	131							4
5	.737	680	244				.709	675	259										5
6																			6
7																.796	425	131	7
8							.680	734	300	.865	504	125	.964	210	34	.814	418	122	8
9							.672	748	311	.891	455	102	.967	191	30	.814	401	117	9
10							.680	778	317	.913	337	70							10
11							.681	768	313	.929	264	51							11
12							.693	778	309	1.005	196	25							12
13							.887	1120	256	1.126	567	12							13
14							.990	1844	257	1.134	1049	14							14
15	.953	1579	270				.978	2425	363	1.149	1335	1							15
16	.995	2186	295				1.010	2513	307	1.113	1824	58				1.060	1897	148	16
17	.991	2093	290				.957	2098	353	1.133	1980	29				1.040	2866	273	17
18	1.004	2401	305	1.074	2445	161	.987	2152	304	1.146	1804	7				1.042	3927	370	18
19	1.006	2621	328	1.056	2650	216	.961	2176	357	1.126	1941	41				1.073	4567	305	19
20	1.002	2787	359	1.058	2753	220	.970	1756	275	1.115	2147	65	1.088	1712	92	1.095	3374	161	20
21	1.014	2787	329	1.060	3179	247	.941	1482	269	1.106	2445	94	1.086	1697	95	1.068	2147	153	21
22	1.026	3037	328	1.080	3491	211	.910	1418	295	1.113	2548	82	1.086	1736	97	1.058	1853	149	22
23				1.058	3125	250	.880	1501	352				1.090	1780	93	1.038	1516	148	23

DATE	262:74			263:74			264:74			265:74			266:74			267:74			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0				1.032	2034	208							1.050	1863	162	1.004	1829	232	0
1													1.041	1751	166	.950	1423	247	1
2	1.018	1584	181										1.036	1115	110	.899	1066	232	2
3	.955	1090	185										.907	626	132	.796	797	245	3
4	.869	817	200										.868	567	139	.736	719	259	4
5																.729	709	260	5
6																			6
7	.710	460	176	.766	548	183	.680	210	86	.717	626	236	.776	455	148	.750	694	241	7
8	.732	440	160	.798	528	162	.659	215	92	.714	724	274	.734	557	201	.728	721	265	8
9	.760	469	159				.635	230	103	.811	787	232				.756	724	248	9
10							.622	274	126	.872	792	191							10
11							.619	337	156	.860	782	197							11
12							.763	553	186	.891	782	176							12
13							.927	582	113	.965	787	126	.845	763	202				13
14							.994	1066	144	1.041	1433	136	.973	1291	198				14
15				1.026	1017	109				1.044	1609	148	.993	1457	199	1.013	1521	181	15
16	1.040	1672	160	1.026	1315	142							1.013	1751	208	1.017	1726	200	16
17	.991	2073	286	1.038	1443	140							1.025	2034	221	1.025	1971	213	17
18	1.060	2318	182	1.042	1623	152				1.081	2763	165	1.038	2352	228	1.025	2020	220	18
19	1.075	2548	167	1.039	1623	157				1.083	3002	175	1.044	2509	231	1.034	1922	194	19
20	1.073	2592	174	1.034	1643	166				1.075	2714	176	1.043	2455	229	1.024	1976	217	20
21	1.080	2289	140	1.040	1413	135				1.072	2616	177	1.032	2469	254	1.022	1653	185	21
22	1.070	1941	135	0.000	0	0				1.072	2435	165	1.031	2425	250	1.022	1594	177	22
23	1.064	2088	156	0.000	0	0				1.063	1990	150	1.031	2245	232	1.016	1570	183	23

Units of N_T and N_P are 10^{14} electrons-meter^{-2}.

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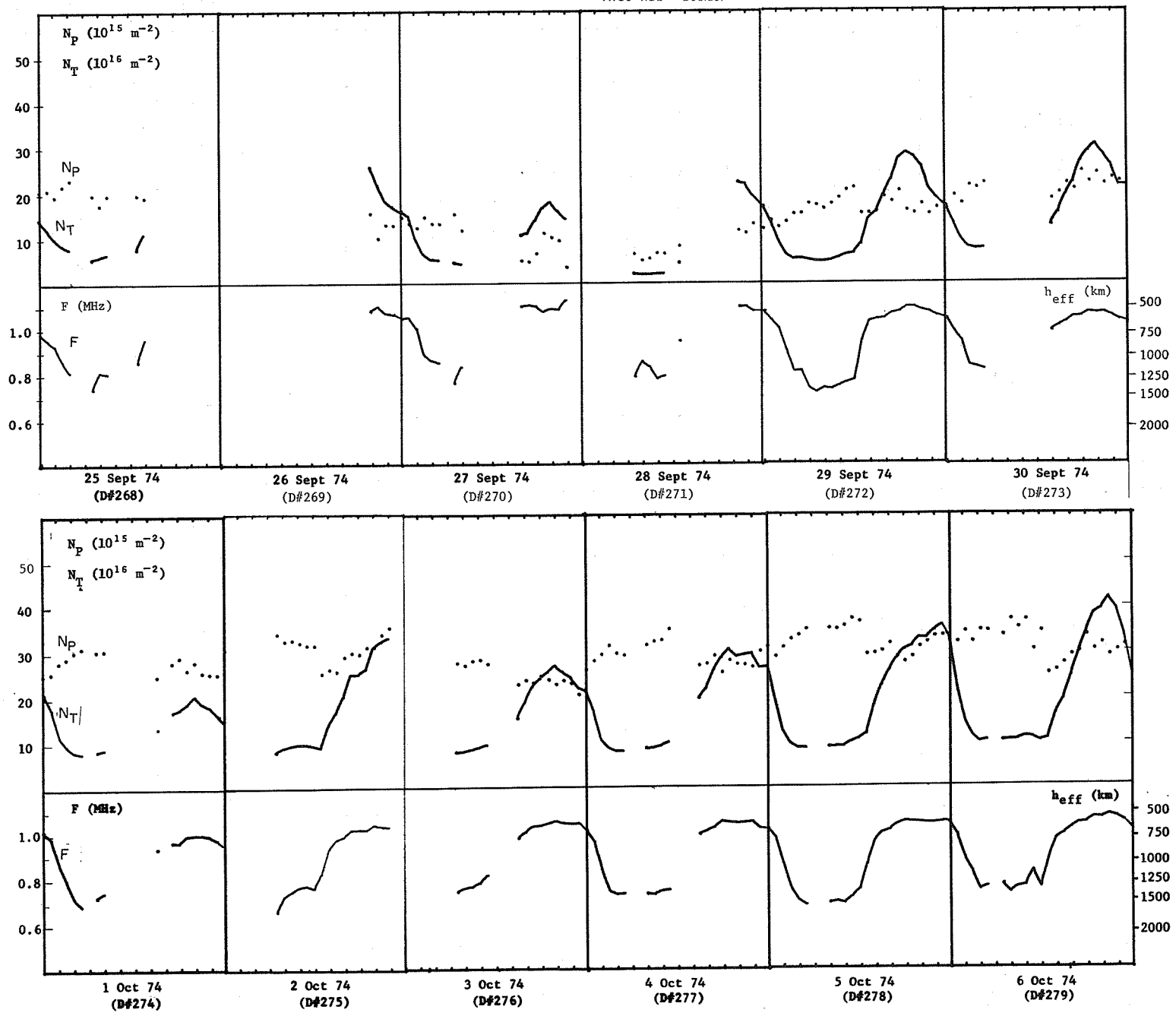

DATE	268:74			269:74			270:74			271:74			272:74			273:74			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	.983	1418	205				1.046	1589	144				1.066	1648	120	1.039	1653	160	0
1	.953	1218	209				1.049	1487	131				1.030	1320	138	.984	1306	188	1
2	.928	1007	195				1.002	949	122				.994	910	123	.942	949	171	2
3	.860	861	217				.886	636	146				.896	606	134	.834	763	209	3
4	.811	782	231				.860	523	132				.805	504	151	.826	729	205	4
5							.849	499	130				.805	509	153	.815	738	215	5
6													.732	479	174				6
7	.737	553	198				.761	450	152	.788	196	62	.712	450	171				7
8	.808	592	176				.829	416	116	.851	181	47	.729	445	163				8
9	.804	650	196							.829	181	51	.725	469	173				9
10										.776	191	62	.740	523	187				10
11										.788	196	62	.754	592	204				11
12													.764	621	209				12
13	.853	763	197							.942	430	78	.937	826	153				13
14	.950	1105	192										1.022	1384	154	.983	1247	181	14
15													1.032	1521	157	1.003	1511	193	15
16							1.096	1046	49				1.036	1902	189	1.020	1897	214	16
17							1.101	1095	47				1.058	2240	179	1.043	2176	202	17
18							1.096	1364	64				1.064	2704	201	1.045	2636	240	18
19							1.073	1643	110				1.085	2831	159	1.063	2856	217	19
20				1.080	2538	155	1.085	1768	100				1.086	2753	153	1.060	3017	236	20
21				1.097	2156	100	1.082	1579	94	1.092	2201	112	1.072	2543	172	1.063	2802	213	21
22				1.068	1800	129	1.122	1413	35	1.093	2171	107	1.065	2044	151	1.050	2572	224	22
23				1.062	1672	128				1.074	1912	127	1.048	1844	164	1.031	2122	219	23

DATE	274:74			275:74			276:$$			277:74			278:74			279:74			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	1.014	2083	247	.913	1467	302				1.011	2142	259	1.014	2636	311	1.038	3286	320	0
1	.985	1746	251							.963	1697	276	.975	1902	289	.985	2210	317	1
2	.876	1154	275							.838	1071	290	.859	1218	308	.885	1477	340	2
3	.801	934	284							.745	880	310	.752	944	327	.824	1120	318	3
4	.720	797	298							.731	807	294	.699	856	336	.743	968	343	4
5	.685	758	307							.732	797	289	.679	851	349	.756	998	342	5
6																			6
7	.721	807	301	.659	787	336	.744	782	277							.765	993	333	7
8	.740	846	301	.724	866	321	.758	797	272	.732	856	311	.687	870	350	.730	1005	367	8
9				.745	914	322	.764	836	281	.729	870	319	.693	880	350	.753	1012	350	9
10				.765	949	318	.781	885	284	.745	914	322	.687	885	356	.759	1076	366	10
11				.771	949	312	.814	944	276	.749	993	347	.713	978	372	.825	1064	300	11
12				.761	919	311							.745	1042	367	.753	988	341	12
13				.824	885	251							.855	1149	294	.874	1037	249	13
14				.932	1364	259							.960	1785	296	.964	1575	254	14
15	.933	1291	244	.971	1638	255	.976	1526	230	.993	1961	267	.994	2213	300	.985	1883	270	15
16				.985	2000	287	1.003	1873	239	1.007	2166	270	1.007	2543	317	1.012	2396	288	16
17	.961	1667	273	1.013	2484	295	1.029	2220	234	1.022	2582	287	1.032	2817	289	1.033	2895	295	17
18	.961	1726	284	1.015	2489	293	1.031	2396	248	1.048	2846	252	1.044	3007	277	1.036	3350	332	18
19	.989	1848	259	1.014	2601	307	1.041	2543	241	1.045	3034	278	1.043	3076	287	1.058	3775	301	19
20	.994	2020	275	1.035	3073	308	1.051	2690	231	1.043	2885	270	1.041	3269	310	1.057	3878	314	20
21	.994	1858	253	1.029	3198	336	1.043	2557	238	1.044	2917	268	1.037	3267	320	1.070	4127	288	21
22	.988	1780	250	1.027	3281	350	1.041	2450	233	1.047	2944	263	1.039	3433	332	1.062	3892	299	22
23	.972	1614	250				1.042	2225	209	1.021	2645	298	1.042	3548	335	1.044	3345	310	23

Units of N_T and N_P are 10^{14} electrons-meter^{-2}.

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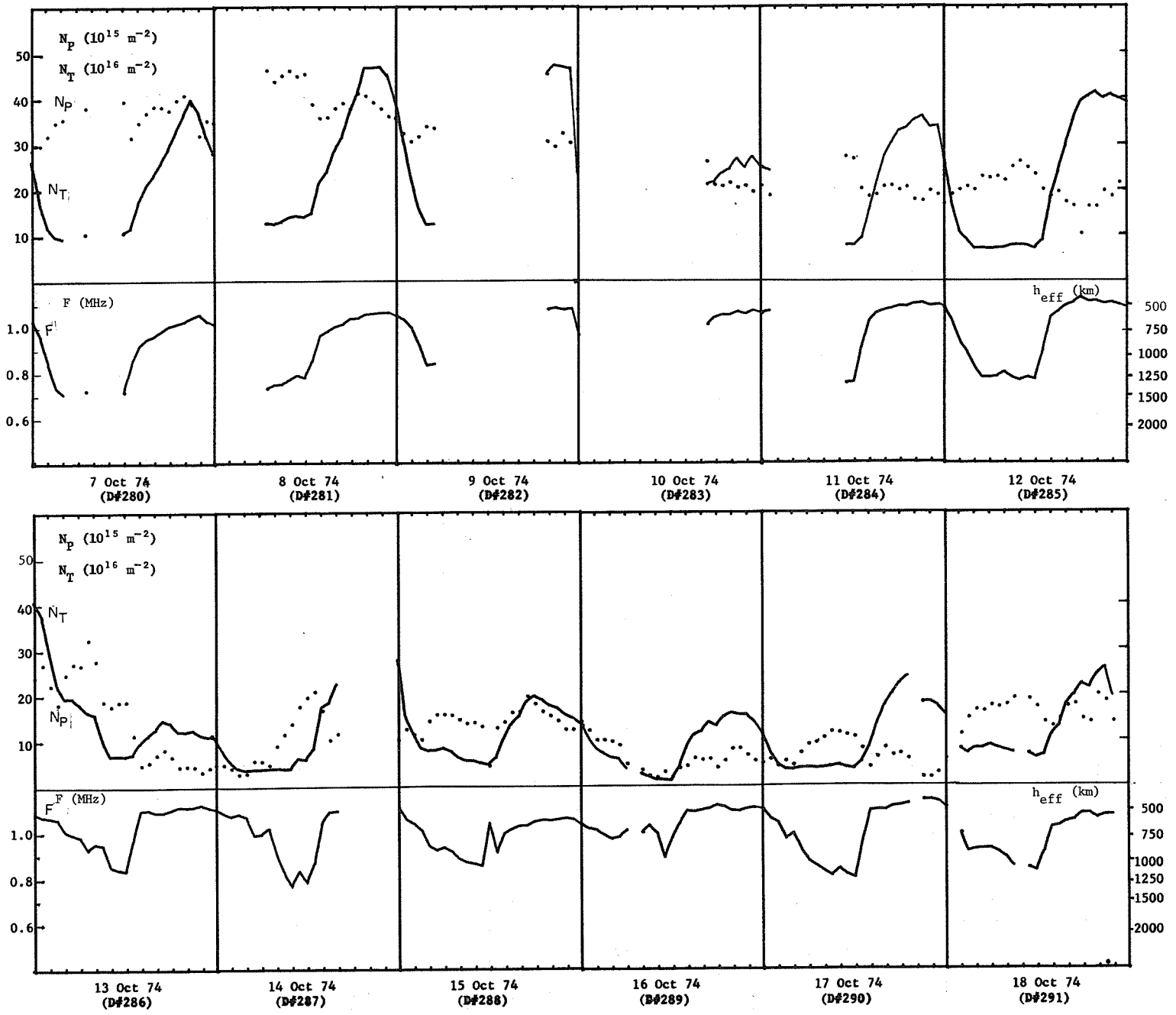

DATE	280:74			281:74			282:74			283:74			284:74			285:74			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	1.024	2582	284	1.006	2778	347	1.046	3922	356	.963	2318	377	1.055	2460	204	1.080	2699	165	0
1	.955	1726	293				1.029	3076	323				1.063	2401	182	1.023	1672	185	1
2	.841	1160	314				.994	2240	304							.936	1042	194	2
3	.738	958	343				.919	1560	314							.885	870	201	3
4	.706	910	351				.829	1208	337							.820	680	195	4
5							.834	1213	333							.772	680	223	5
6																.772	670	220	6
7	.720	1007	376	.728	1262	463										.776	685	223	7
8				.742	1237	439										.794	694	215	8
9				.745	1281	451										.772	743	244	9
10				.764	1379	462										.759	753	256	10
11				.783	1413	451							.749	763	266	.771	738	243	11
12	.715	1032	390	.774	1389	455							.751	753	261	.763	680	229	12
13	.833	1130	312	.846	1467	388							.901	905	196	.886	851	195	13
14	.911	1653	343	.956	2122	358							1.016	1540	180	1.030	1741	181	14
15	.942	2020	365	.975	2352	359							1.052	2137	182	1.057	2333	189	15
16	.957	2254	379	.996	2822	379							1.065	2699	200	1.083	2895	168	16
17	.978	2538	379	1.006	3115	390				1.006	2098	263	1.072	2998	202	1.097	3452	160	17
18	1.000	2851	371	1.031	3648	378				1.037	2147	211	1.082	3262	193	1.121	3878	99	18
19	1.010	3227	393	1.034	4064	412				1.047	2333	209	1.081	3320	199	1.105	4000	158	19
20	1.020	3589	404	1.050	4665	407	1.072	4513	305	1.048	2425	215	1.093	3491	173	1.106	4103	158	20
21	1.038	3951	386	1.053	4670	392	1.078	4699	293	1.061	2655	205	1.096	3575	169	1.094	3971	192	21
22	1.051	3677	316	1.057	4685	379	1.071	4670	322	1.052	2460	209	1.084	3340	190	1.099	4044	181	22
23	1.022	3139	349	1.057	4479	362	1.075	4631	302	1.066	2699	196	1.087	3364	183	1.089	3966	210	23

DATE	286:74			287:74			288:74			289:74			290:74			291:74			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	1.082	4049	238	1.099	1066	47	1.106	2763	105	1.034	1403	141	1.098	1125	51	1.108	1575	57	0
1	1.068	3751	266	1.082	792	47	1.055	1540	127	1.016	1061	123	1.057	729	59				1
2	1.063	2939	221	1.069	557	39	1.037	1178	116	1.009	831	102	1.040	462	44	.994	812	110	2
3	1.057	2230	180	1.078	416	26	1.008	851	105	.989	724	102	.969	347	55	.913	709	146	3
4	1.005	1936	244	1.066	377	28	.939	792	145	.970	631	99	.991	337	47	.921	817	163	4
5	.991	1941	269	.986	386	55	.921	797	159	.977	601	90	.922	369	73	.923	817	161	5
6	.981	1804	266	.990	391	55	.931	836	159	1.006	389	49	.872	377	91	.924	875	172	6
7	.925	1643	321	1.016	401	47	.915	778	159				.851	367	95	.911	817	170	7
8	.951	1584	275	.903	411	88	.883	641	149	.999	274	36	.829	379	106	.887	763	174	8
9	.944	1042	187	.824	401	114	.868	572	140	1.027	215	23	.809	401	119	.849	719	188	9
10	.850	675	176	.764	406	136	.861	565	142	.995	147	20	.838	435	118				10
11	.838	680	184	.829	626	175	.852	518	134	.888	137	31	.813	386	113	.841	694	187	11
12	.832	670	185	.782	606	194	1.036	479	47	.972	127	20	.801	357	108	.827	606	170	12
13	.967	704	112	.865	836	207	.910	626	131	1.034	386	39	.958	504	84	.909	655	137	13
14	1.094	949	46	1.040	1746	167	.992	1042	143	1.090	846	44	1.091	836	43	1.016	1095	128	14
15	1.097	1105	51	1.087	1853	101	1.011	1350	163	1.087	1115	61	1.095	1335	64	1.022	1281	143	15
16	1.087	1242	68	1.092	2259	114	1.026	1526	165	1.094	1193	58	1.094	1736	84	1.040	1780	171	16
17	1.087	1447	80				1.026	1853	199	1.101	1394	59	1.110	1995	69	1.048	1966	175	17
18	1.097	1394	65				1.043	1976	183	1.115	1320	41	1.113	2225	71	1.075	2205	143	18
19	1.109	1208	43				1.050	1902	166	1.108	1516	55	1.121	2377	61	1.077	2137	136	19
20	1.108	1198	44				1.049	1780	157	1.091	1599	81				1.057	2421	196	20
21	1.110	1232	43				1.053	1721	146	1.089	1565	83	1.137	1822	20	1.068	2562	183	21
22	1.118	1130	32				1.058	1584	127	1.100	1565	68	1.138	1824	19	1.069	1956	137	22
23	1.108	1090	40				1.054	1506	126	1.105	1418	56	1.131	1741	29				23

Units of N_T and N_p are 10^{14} electrons-meter^{-2}.

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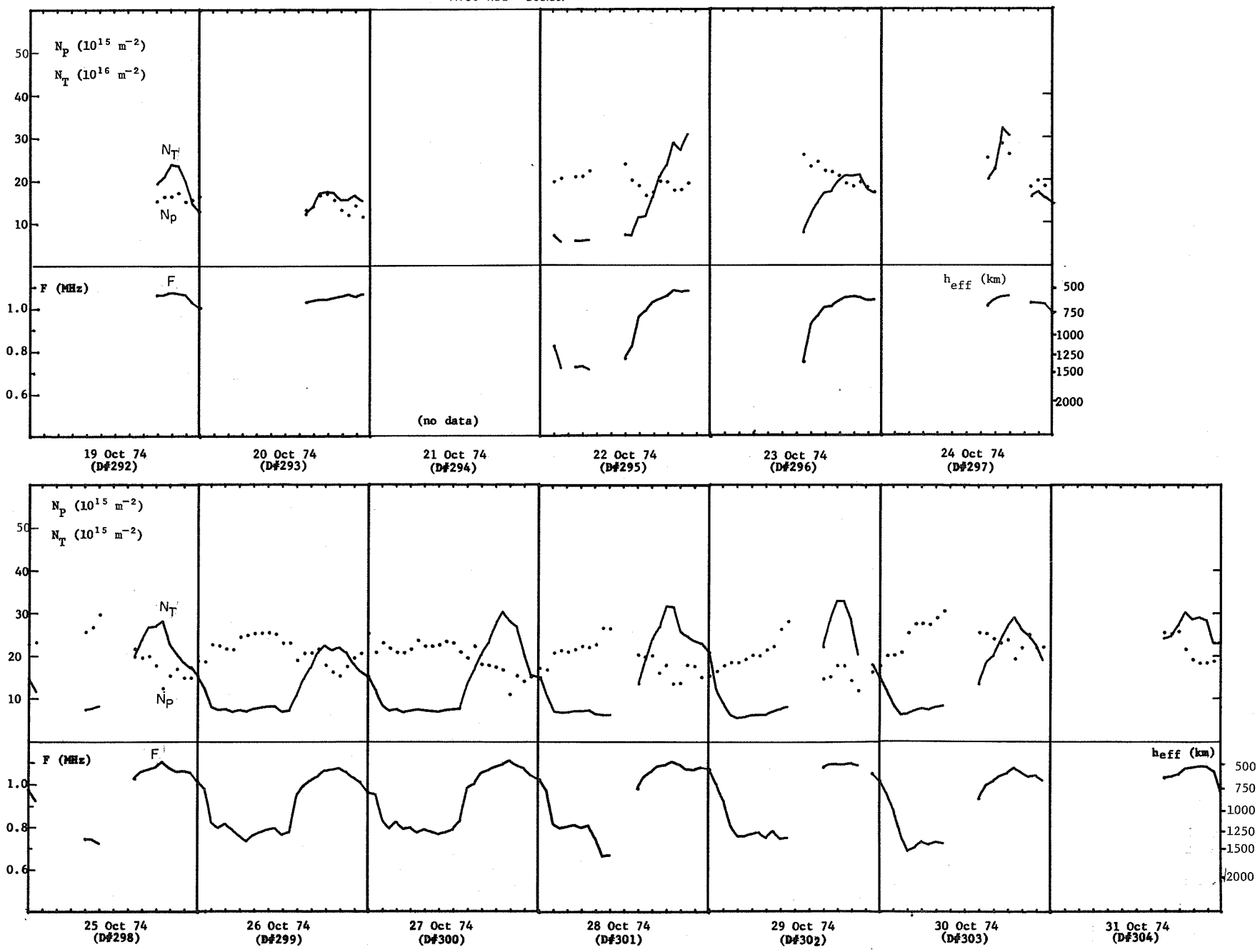

DATE	292:74			293:74				295:74			296:74			297:74			DATE
HR	F140	NT	NP	F140	NT	NP		F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0				1.002	1242	160											0
1																	1
2								.820	689	198							2
3								.717	543	204							3
4																	4
5								.720	557	208							5
6								.725	567	209							6
7								.711	582	222							7
8																	8
9																	9
10																	10
11																	11
12							NO DATA	.759	699	237							12
13								.814	689	201	.744	719	254				13
14								.955	1110	188	.913	1105	227				14
15				1.025	1178	128		.983	1134	165	.955	1399	237	1.006	2010	251	15
16				1.033	1340	136		1.024	1570	172	.998	1643	217	1.034	2240	227	16
17				1.038	1667	162		1.039	2054	198	1.003	1677	214	1.048	3213	285	17
18	1.060	1932	151	1.039	1702	165		1.052	2313	196	1.027	1922	205	1.051	3037	261	18
19	1.061	2083	162	1.046	1687	152		1.079	2851	177	1.045	2049	188				19
20	1.071	2372	163	1.053	1521	128		1.074	2690	178	1.048	2044	181				20
21	1.066	2342	171	1.062	1516	116		1.077	3046	193	1.045	2073	189	1.019	1614	184	21
22	1.062	1976	151	1.052	1619	138					1.033	1751	178	1.017	1712	197	22
23	1.027	1452	155	1.064	1501	112					1.034	1653	167	1.014	1575	186	23

DATE	298:74			299:74			300:74			301:74			302:74			303:74			304:74			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	.970	1433	224	1.007	1487	185	.955	1491	252	1.020	1496	169	1.065	2054	152	1.013	1506	179				0
1	.920	1139	228	.975	1208	184	.946	1178	209	.972	1066	165	.995	1198	162	.954	1183	202				1
2				.816	768	223	.824	812	230	.811	694	204	.918	866	175	.875	846	203				2
3				.792	709	221	.788	694	218	.793	675	210	.802	601	182	.760	616	209				3
4				.809	724	214	.818	724	209	.799	680	207	.752	528	183	.684	631	255				4
5				.783	665	212	.786	655	208	.806	709	212	.751	548	190	.699	704	276				5
6				.754	699	241	.791	689	215	.795	709	219	.762	592	200	.727	753	277				6
7				.729	670	245	.769	714	236	.804	724	218	.768	601	200	.715	729	276				7
8	.740	709	253	.757	729	249	.783	699	223	.746	636	223	.745	601	212	.726	787	290				8
9	.738	736	264	.770	758	250	.772	680	223	.661	616	262	.775	675	220	.720	822	307				9
10	.721	787	294	.783	787	251	.762	670	226	.666	621	261	.741	734	261							10
11				.788	790	249	.769	704	234				.744	790	279							11
12				.759	670	228	.781	719	231													12
13				.770	689	228	.821	734	210													13
14				.940	1027	188	.976	1296	196	.978	1345	201				.928	1330	257				14
15	1.023	1941	214	.986	1423	203	.994	1638	223	1.031	1892	195				.989	1814	254				15
16	1.055	2328	193	1.011	1692	204	1.046	2000	181	1.055	2401	198	1.074	2196	146	1.009	1980	243	1.027	2372	253	16
17	1.065	2641	196	1.030	2044	213	1.059	2269	179	1.082	2670	158	1.089	2802	149	1.035	2323	232	1.031	2421	251	17
18	1.074	2660	175	1.058	2210	176	1.075	2690	174	1.086	3159	175	1.088	3276	176	1.047	2660	238	1.040	2665	255	18
19	1.100	2778	121	1.063	2112	160	1.086	3007	168	1.101	3147	133	1.088	3276	176	1.072	2890	195	1.067	2978	214	19
20	1.073	2245	151	1.070	2171	151	1.104	2797	111	1.090	2562	134	1.093	2856	141	1.053	2628	221	1.073	2822	190	20
21	1.056	2020	165	1.053	2059	173	1.084	2665	153	1.068	2460	175	1.083	2024	117	1.033	2474	252	1.077	2861	182	21
22	1.057	1819	146	1.027	1800	192	1.071	2059	141	1.065	2352	174	0.000	0	0	1.038	2264	221	1.075	2797	181	22
23	1.051	1692	146	1.006	1619	203	1.038	1545	151	1.076	2293	148	1.046	1790	161	1.015	1902	223	1.055	2264	186	23

Units of N_T and N_P are 10^{14} electrons-meter^{-2}.

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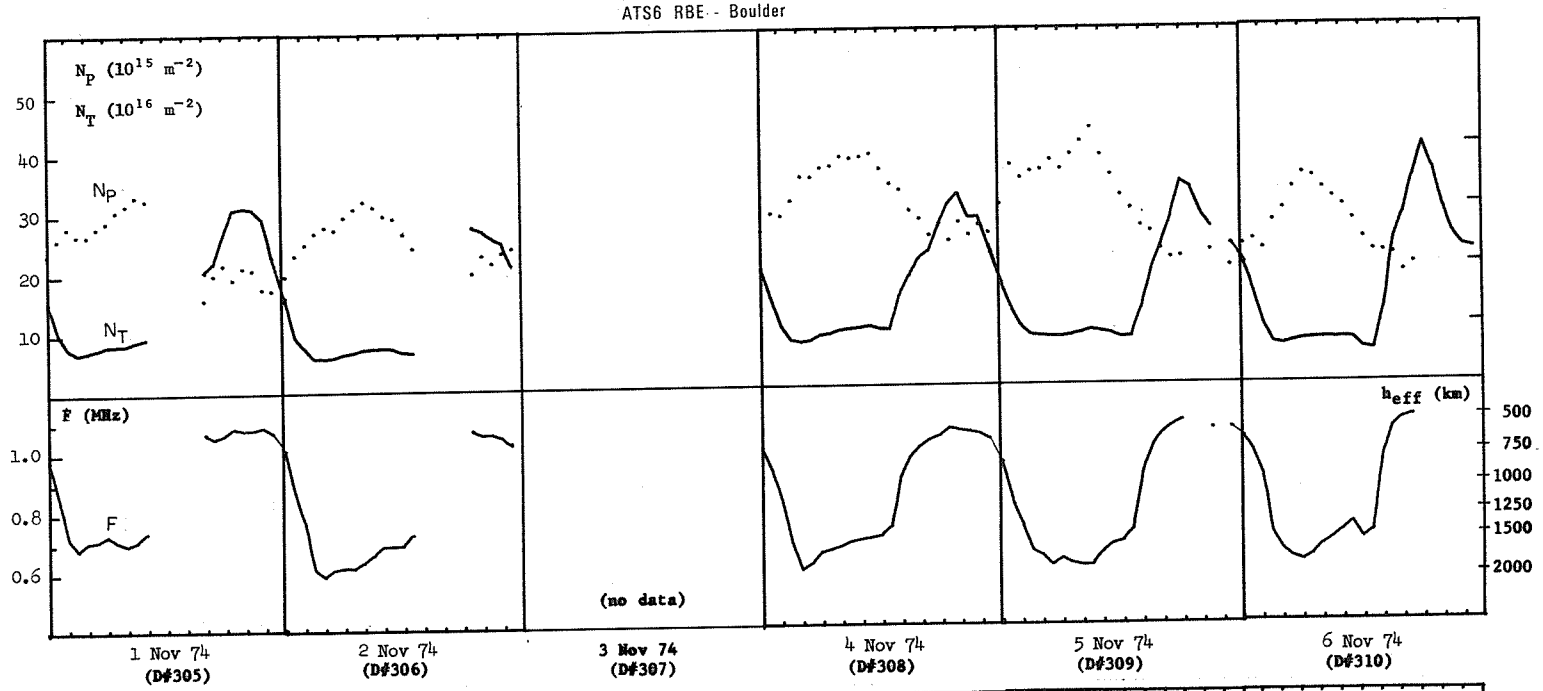

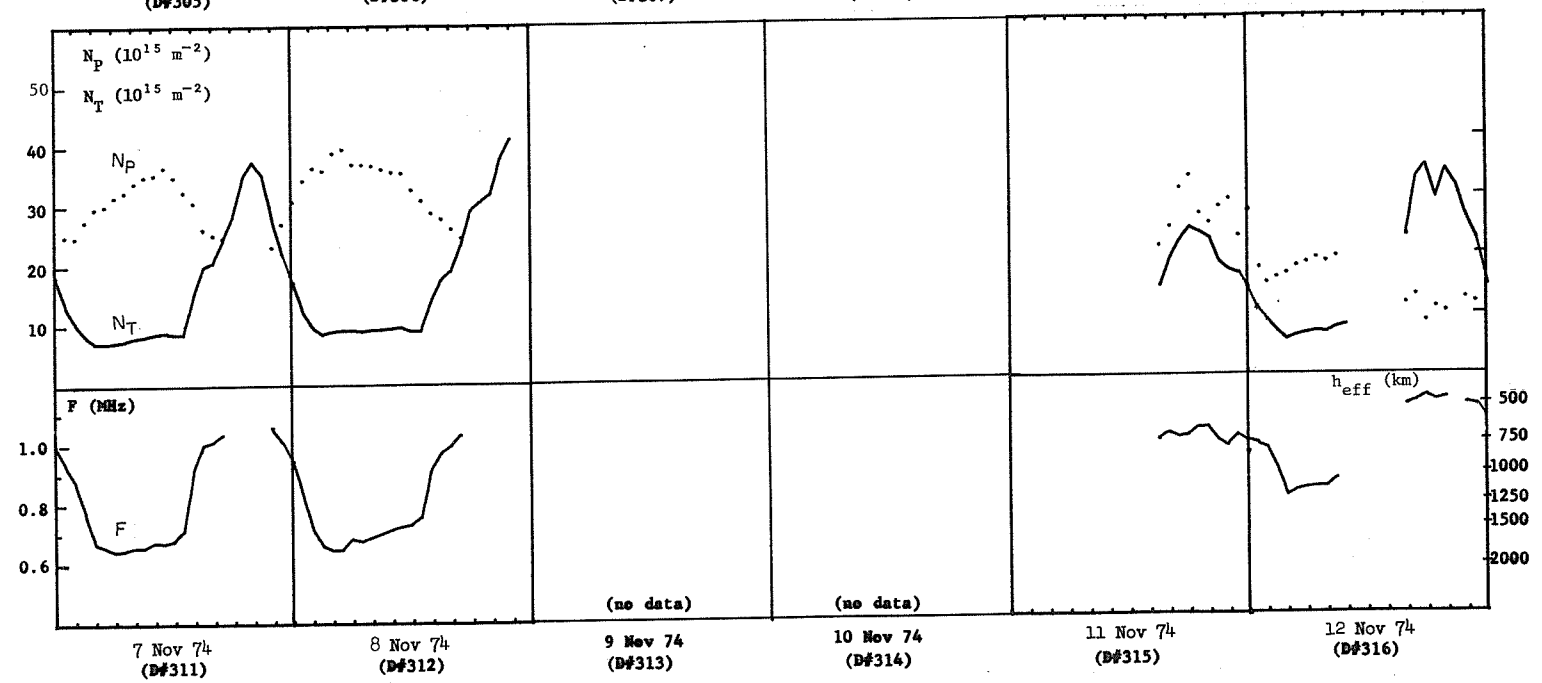

DATE	305:74			306:74				308:74			309:74			310:74			DATE
HR	F140	NT	NP	F140	NT	NP		F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	.974	1496	229	1.007	1594	198		.995	1936	260	.945	1682	300	1.017	2015	233	0
1	.854	988	255	.866	939	232		.919	1443	290	.815	1262	367	.971	1545	241	1
2	.714	724	274	.764	743	250		.819	993	286	.736	958	345	.888	993	226	2
3	.676	636	262	.609	572	269		.676	753	311	.647	812	355	.693	685	272	3
4	.702	670	261	.584	567	279		.587	719	352	.629	792	359	.637	655	292	4
5	.706	709	274	.606	582	275		.607	743	351	.597	778	374	.612	699	327	5
6	.723	763	283	.612	631	295		.644	831	366	.618	778	360	.600	734	351	6
7	.704	775	302	.611	660	309		.654	856	369	.603	807	384	.618	748	346	7
8	.692	782	312	.629	709	321		.664	910	384	.595	841	406	.651	753	327	8
9	.704	841	326	.653	724	313		.679	934	382	.597	890	428	.672	748	311	9
10	.733	885	321	.683	734	298		.687	954	384	.638	861	383	.698	758	298	10
11				.683	724	294		.692	978	389	.666	831	350	.725	743	274	11
12				.685	660	267	NO DATA	.698	929	365	.675	763	315	.674	587	243	12
13				.720	650	243		.728	924	339	.714	773	293	.696	562	222	13
14								.895	1482	329	.906	1242	264	.946	1242	220	14
15								.963	1804	294	.991	1839	254	1.045	2357	216	15
16	1.062	1995	153					.997	2103	280	1.037	2293	225	1.073	2812	187	16
17	1.046	2142	194					1.019	2225	253	1.062	2748	210	1.083	3438	200	17
18	1.057	2611	211					1.032	2636	270	1.078	3367	211		3995		18
19	1.079	3032	187	1.066	2738	200		1.057	3012	243		3265			3589		19
20	1.073	3066	205	1.052	2682	229		1.051	3183	273		2848			2943		20
21	1.074	3042	202	1.053	2562	216		1.046	2787	253	1.052	2604	221		2489		21
22	1.082	2885	171	1.042	2479	233		1.040	2792	268					2279		22
23	1.064	2245	168	1.018	2093	241		1.023	2320	256	1.053	2318	196		2245		23

DATE	311:74			312:74					315:74			316:74			DATE
HR	F140	NT	NP	F140	NT	NP			F140	NT	NP	F140	NT	NP	HR
0	1.000	1809	235	.943	1707	307						.931	1452	277	0
1	.936	1340	249	.831	1232	342						.962	1086	178	1
2	.878	1042	247	.715	958	363						.949	861	150	2
3	.773	836	274	.660	841	358						.883	680	158	3
4	.672	709	295	.646	885	388						.791	528	165	4
5	.658	699	299	.647	900	394						.809	597	177	5
6	.644	714	314	.681	905	369						.816	631	183	6
7	.648	738	322	.674	890	368						.820	665	191	7
8	.657	787	338	.686	910	367						.820	645	185	8
9	.657	812	348	.699	919	361						.846	729	193	9
10	.674	851	352	.712	934	356							773		10
11	.672	875	364	.723	954	354									11
12	.679	851	349	.729	890	326	NO DATA	NO DATA							12
13	.712	851	324	.754	895	308									13
14	.914	1487	306	.909	1369	287									14
15	.998	1971	261	.966	1731	277			.985	1511	217				15
16	1.009	2049	251	.991	1888	261			1.004	1966	249	1.092	2269	115	16
17	1.032	2411	246	1.028	2313	246			.991	2269	314	1.104	3237	128	17
18		2807			2900				.994	2474	335	1.121	3438	85	18
19		3457			3042				1.020	2401	272	1.107	2905	108	19
20		3731			3169				1.022	2308	256	1.115	3369	101	20
21		3516			3760				.979	1902	282	1.109	3115	112	21
22	1.055	2782	230		4088				.958	1770	295	1.096	2611	123	22
23	1.010	2201	269						.992	1712	235	1.090	2249	117	23

Units of N_T and N_p are 10^{14} electrons-meter^{-2}.

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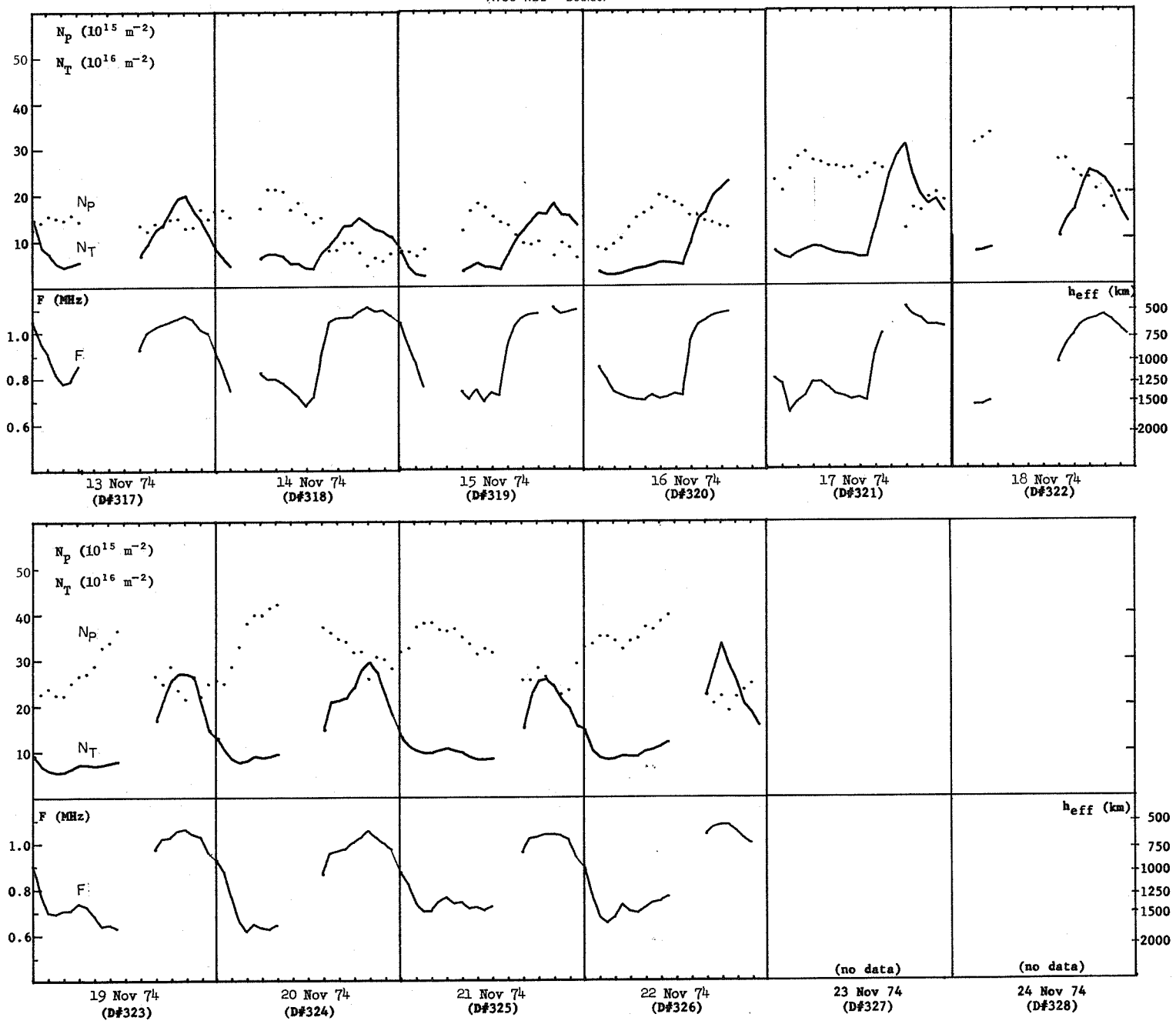

DATE	317:74			318:74			319:74			320:74			321:74			322:74			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	1.051	1487	128	.923	822	162	1.040	787	75										0
1	.966	900	144	.842	616	165	.943	425	76				.793	734	228				1
2	.910	753	157	.749	430	150	.866	274	68	.848	313	82	.770	621	205				2
3	.825	543	153				.763	245	82	.796	249	77	.645	572	251	.677	748	308	3
4	.781	465	149							.740	249	89	.689	694	278	.677	773	318	4
5	.789	509	160							.725	274	101	.715	763	289	.692	826	329	5
6	.854	567	146	.826	597	168				.711	328	125	.775	831	271				6
7				.800	689	210				.706	379	146	.777	822	266				7
8				.800	689	210	.741	347	123	.703	401	156	.753	748	258				8
9				.782	641	205	.707	430	166	.725	450	166	.724	694	257				9
10				.754	484	167	.747	518	182	.709	509	195	.716	670	253				10
11				.725	489	181	.695	440	174	.716	504	190	.702	655	255				11
12				.682	386	157	.734	425	154	.730	491	179	.708	604	232				12
13				.720	372	139	.723	381	142	.724	465	172	.696	611	241				13
14	.926	709	138	.905	694	148	.928	699	135	.961	924	152	.899	1198	261	.859	1076	272	14
15	.999	954	125	1.046	851	77	1.021	1012	113	1.029	1443	151	.987	1785	253	.933	1445	273	15
16	1.021	1257	141	1.065	1056	78	1.059	1223	96	1.049	1594	140		2440		.977	1643	247	16
17	1.036	1379	136	1.067	1301	93	1.075	1418	93	1.070	1951	136		2824		1.024	2132	234	17
18	1.048	1687	150	1.068	1320	94	1.079	1604	99	1.080	2108	128	1.103	3037	123	1.043	2499	232	18
19	1.061	1958	152	1.093	1472	72		1589		1.086	2269	126	1.068	2355	167	1.052	2435	207	19
20	1.075	2020	132	1.113	1364	44	1.106	1819	69				1.054	1946	163	1.067	2323	167	20
21	1.060	1702	133	1.094	1232	60	1.080	1570	96				1.025	1756	190	1.046	2081	188	21
22	1.016	1482	172	1.098	1183	54	1.086	1555	87				1.025	1848	200	1.015	1692	199	22
23	1.001	1169	152	1.075	1071	70	1.095	1355	64				1.018	1609	185	.984	1399	202	23

DATE	323:74			324:74			325:74			326:74					DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP			HR
0	.900	914	199	.926	1301	254	.871	1301	315	.888	1433	326			0
1	.779	694	224	.876	1037	247	.816	1115	324	.768	1002	333			1
2	.696	597	235	.764	846	284	.734	1022	370	.676	846	349			2
3	.691	557	223	.664	773	327	.701	968	378	.650	802	349			3
4	.705	572	221	.614	812	378	.702	973	379	.674	822	340			4
5	.706	641	248	.644	900	396	.742	1027	364	.727	875	322			5
6	.734	729	263	.630	875	396	.761	1066	361	.700	866	339			6
7	.724	724	268	.624	900	412	.735	1012	365	.694	870	345			7
8	.684	704	286	.641	949	420	.739	973	347	.715	978	370			8
9	.637	729	325				.713	875	332	.737	1017	365			9
10	.643	763	336				.719	826	310	.745	1086	382			10
11	.629	802	363				.705	831	322	.764	1178	396			11
12							.721	841	314				NO DATA	NO DATA	12
13															13
14				.861	1472	370									14
15				.952	2078	358									15
16	.970	1692	264	.963	2117	344	.956	1511	254	1.034	2210	222			16
17	1.018	2147	247	.971	2171	338	1.016	2186	254	1.066	2768	203			17
18	1.022	2560	284	.999	2391	315	1.023	2533	281	1.075	3325	218			18
19	1.051	2704	233	1.020	2792	316	1.033	2572	261	1.075	2861	187			19
20	1.059	2704	214	1.050	2949	257	1.034	2411	243	1.051	2513	217			20
21	1.037	2650	260	1.022	2738	304	1.029	2127	224	1.018	2024	232			21
22	1.026	2034	219	.997	2254	300	1.013	1946	231	.996	1834	246			22
23	.957	1467	246	.971	1800	280	.936	1555	290		1550				23

Units of N_T and N_p are 10^{14} electrons-meter^{-2}.

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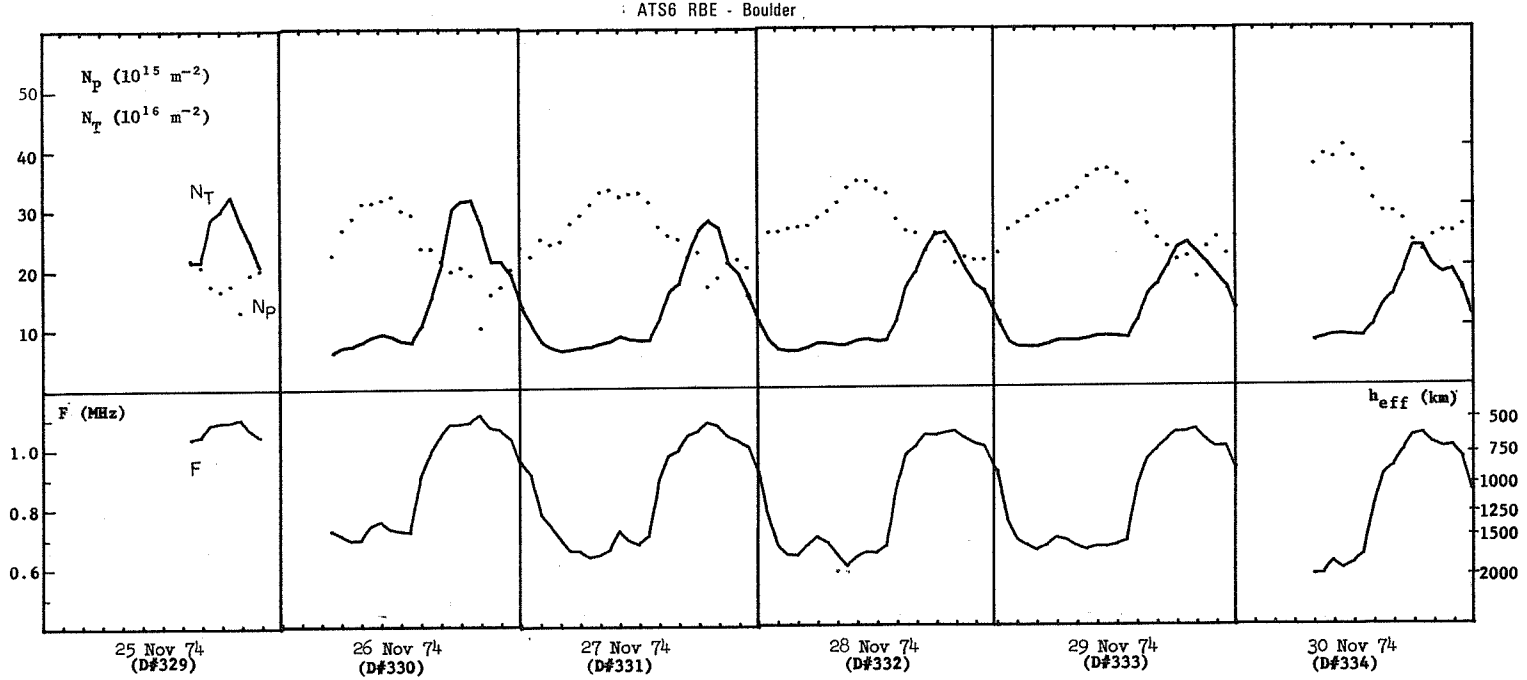

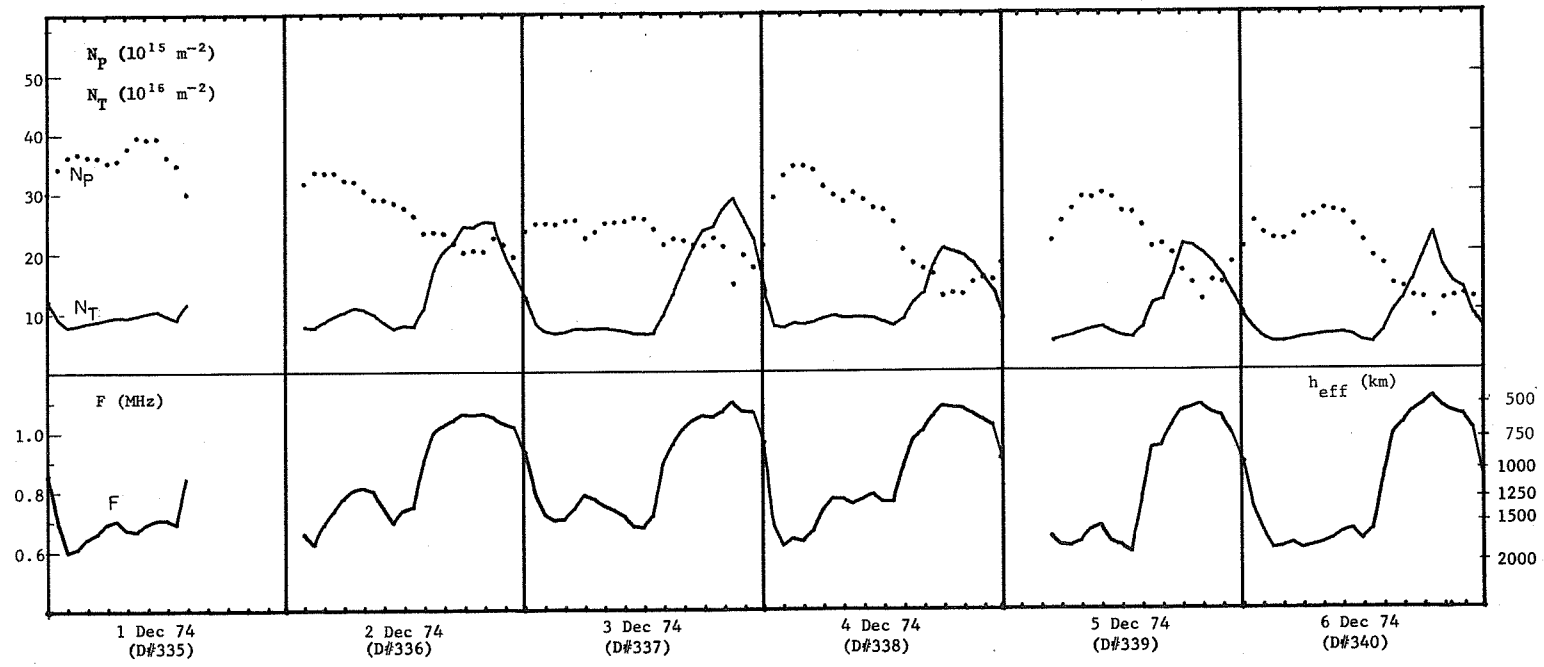

DATE	329:74			330:74			331:74			332:74			333:74			334:74			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0							.952	1340	231	.913	1081	222	.914	1095	225	.925	1262	246	0
1							.911	1042	217	.766	768	257	.752	763	264				1
2							.781	763	245	.667	611	257	.686	680	274				2
3							.741	665	237	.636	587	262	.667	675	284				3
4							.696	611	241	.634	592	266	.651	677	294				4
5				.720	597	223	.655	631	271	.666	636	267	.665	724	305				5
6				.705	685	265	.654	660	285	.695	709	281	.691	778	310				6
7				.689	709	284	.634	675	303	.677	709	291	.684	782	317				7
8				.690	773	309	.640	729	323	.637	685	306	.665	785	331	.569	724	366	8
9				.736	863	311	.656	763	327	.598	689	331	.653	812	351	.570	758	383	9
10				.751	910	316	.722	851	317	.627	753	342	.663	856	362	.610	807	379	10
11				.727	873	321	.690	802	321	.644	778	342	.662	861	365	.587	812	398	11
12				.720	797	298	.676	782	322	.641	743	329	.669	851	356	.603	797	379	12
13				.716	773	291	.704	792	307	.664	763	322	.682	839	342	.632	790	356	13
14				.893	1051	235	.879	1130	266	.850	1068	279	.853	1120	290	.783	968	309	14
15	1.033	2093	212	.973	1521	234	.968	1589	251	.968	1643	259	.949	1560	273	.898	1315	288	15
16	1.040	2098	201	1.032	2078	213	.987	1726	245	.994	1888	255	.983	1721	250	.926	1477	287	16
17	1.080	2807	170	1.074	2978	197	1.039	2230	215	1.035	2269	226	1.016	2020	236	.979	1844	275	17
18	1.087	2939	161	1.076	3130	202	1.052	2621	222	1.034	2523	255	1.045	2333	214	1.030	2289	239	18
19	1.089	3183	169	1.081	3149	190	1.081	2778	165	1.042	2557	240	1.046	2418	218	1.038	2289	223	19
20	1.097	2758	127	1.107	2709	102	1.072	2665	180	1.048	2308	205	1.056	2254	185	1.006	1976	247	20
21	1.061	2421	187	1.064	2117	157	1.037	2078	205	1.026	1980	214	1.020	2078	235	.992	1844	254	21
22	1.039	2010	194	1.058	2122	169	1.022	1897	211	1.008	1707	210	.996	1878	251	.996	1892	253	22
23				1.030	1907	199	1.004	1555	198	.998	1594	211	.997	1687	224	.959	1594	265	23

DATE	335:74			336:74			337:74			338:74			339:74			340:74			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	.857	1178	301				.931	1232	235	.960	1271	210	.908	851	179	.888	900	205	0
1	.702	880	343				.796	802	247	.689	724	290				.735	689	249	1
2	.598	753	362	.655	734	316	.718	660	248	.612	699	327				.659	538	229	2
3	.607	778	367	.620	729	336	.700	631	247	.636	768	343				.600	460	220	3
4	.641	822	363	.684	826	335	.704	650	252	.628	758	344				.604	460	218	4
5	.659	846	361	.729	914	335	.737	704	253	.660	792	338	.642	489	216	.615	484	225	5
6	.692	885	353	.773	983	322	.783	699	223	.731	851	310	.612	533	249	.599	528	253	6
7	.703	914	356	.802	1056	320	.772	709	233	.770	895	296	.609	572	269	.607	548	259	7
8	.672	905	376	.809	1027	304	.749	709	247	.770	861	284	.623	631	289	.615	577	269	8
9	.667	939	394	.799	949	289	.735	689	249	.754	866	298	.662	680	288	.629	587	266	9
10	.691	983	392	.745	822	289	.716	665	251	.768	866	287	.677	719	296	.652	606	263	10
11	.705	1017	393	.693	714	284	.680	626	256	.784	861	274	.623	631	289	.662	572	243	11
12	.706	939	363	.733	758	275	.674	616	255	.760	797	270	.611	567	266	.628	474	215	12
13	.692	875	348	.744	743	262	.712	626	238	.760	738	250	.590	543	264	.660	445	189	13
14	.842	1120	300	.890	1032	233	.886	924	212	.870	836	203	.754	704	242	.826	626	176	14
15				.991	1692	234	.950	1271	221	.965	1120	180	.937	1110	206	.979	958	142	15
16				1.016	1995	233	1.002	1692	218	.995	1271	172	.943	1169	210	1.015	1169	138	16
17				1.034	2137	216	1.031	2044	211	1.043	1751	163	1.009	1589	195	1.055	1487	122	17
18				1.054	2411	201	1.047	2347	209	1.079	2020	125	1.059	2103	166	1.077	1888	120	18
19				1.053	2406	203	1.044	2406	222	1.074	1966	129	1.069	2073	145	1.105	2274	88	19
20				1.057	2499	202	1.061	2699	209	1.073	1912	128	1.081	1956	118	1.072	1726	117	20
21				1.046	2489	224	1.092	2875	145	1.055	1785	147	1.055	1795	148	1.054	1457	121	21
22				1.026	1985	214	1.063	2562	194	1.036	1565	155	1.044	1575	145	1.044	1364	125	22
23				1.014	1633	193	1.061	2240	174	1.017	1325	153	.987	1267	179	1.000	924	120	23

Units of N_T and N_p are 10^{14} electrons-meter^{-2}.

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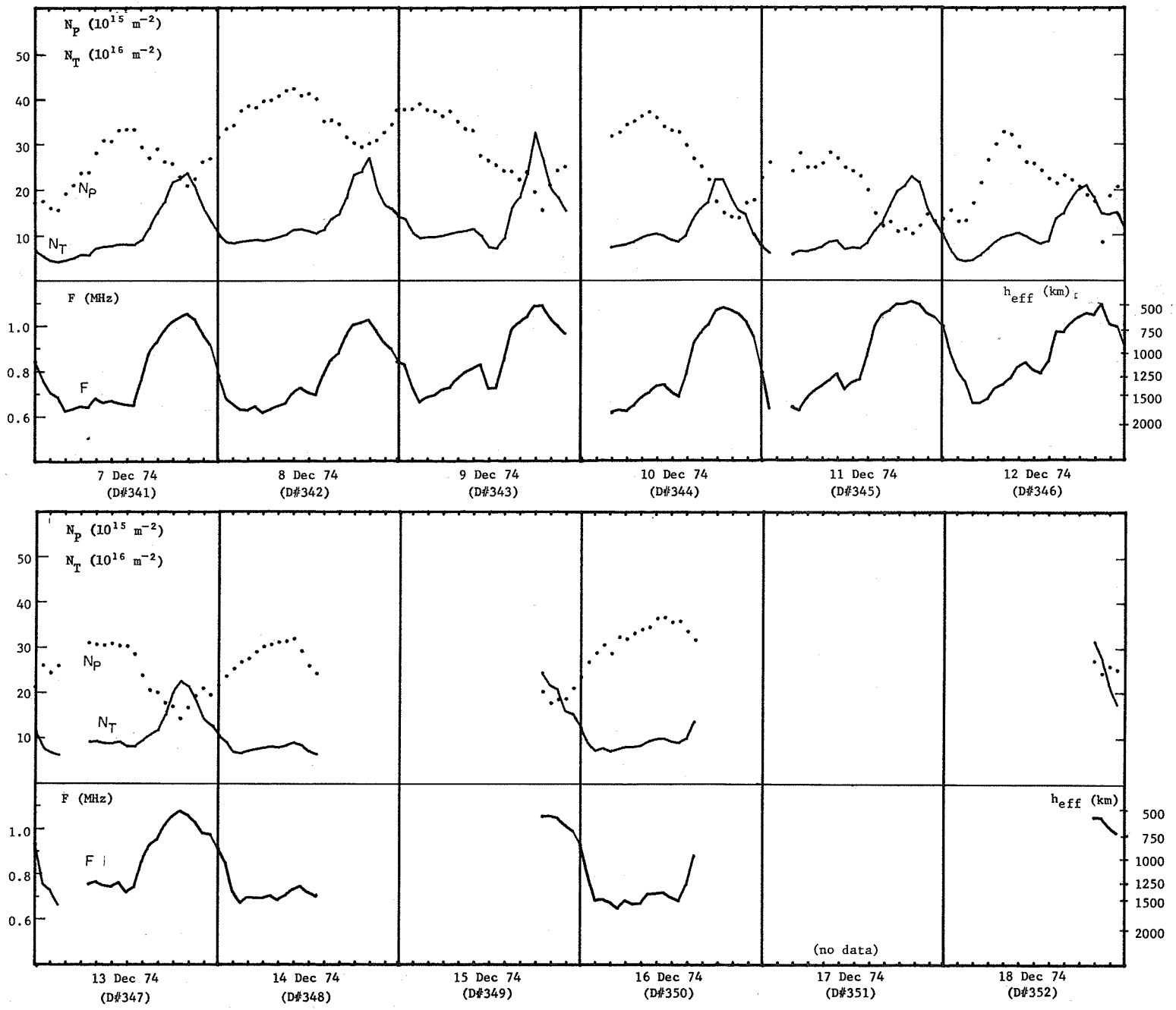

DATE	341:74			342:74			343:74			344:74			345:74			346:74			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	.839	621	168	.776	963	313	.838	1374	373				.789	709	223	.991	963	133	0
1	.761	509	172	.679	812	332	.826	1330	375				.629	567	257	.874	631	151	1
2	.704	406	157	.650	782	340	.725	1017	376							.789	406	127	2
3	.684	377	153	.625	817	372	.659	905	386							.746	367	129	3
4	.622	411	189	.623	836	383	.681	919	375	.613	675	315	.635	533	239	.651	386	168	4
5	.628	455	206	.640	856	380	.689	924	371	.622	704	323	.620	601	277	.651	489	212	5
6	.641	528	234	.612	841	393	.714	949	360	.616	734	340	.671	592	246	.667	626	263	6
7	.637	528	236	.626	870	396	.723	998	370	.641	787	348	.705	636	246	.716	787	297	7
8	.676	675	278	.641	914	405	.762	1032	348	.675	870	359	.726	689	254	.731	890	324	8
9	.659	714	305	.652	963	417	.789	1056	332	.697	934	368	.751	802	278	.760	939	318	9
10	.667	724	304	.699	1076	422	.807	1100	328	.726	968	357	.780	826	266	.811	988	292	10
11	.656	763	327	.721	1090	407	.823	958	273	.733	929	337	.713	645	245	.829	924	258	11
12	.650	758	330	.702	1051	410	.719	699	262	.701	841	328	.741	670	238	.797	831	255	12
13	.646	753	330	.692	1002	400	.721	675	252	.682	797	325	.755	660	227	.783	753	240	13
14	.758	856	292	.776	1076	350	.840	890	240	.780	919	295	.858	773	196	.832	802	222	14
15	.874	1115	267	.841	1311	352	.975	1565	238	.913	1286	266	.989	1037	145	.964	1306	211	15
16	.921	1438	287	.871	1413	343	1.008	1785	220	.961	1516	249	1.040	1223	117	.964	1413	229	16
17	.973	1687	259	.947	1775	314	1.032	2303	236	.997	1653	220	1.059	1579	125	1.004	1726	219	17
18	1.012	2117	254	.999	2284	301	1.081	3208	192	1.059	2161	171	1.087	1902	104	1.029	1936	204	18
19	1.032	2191	226	1.007	2347	292	1.084	2655	152	1.072	2166	146	1.088	2020	109	1.045	2034	185	19
20	1.048	2323	206	1.020	2650	299	1.031	2005	207	1.063	1814	138	1.099	2240	100	1.040	1790	172	20
21	1.025	2020	220	.975	2005	306	.997	1800	240	1.046	1501	135	1.087	2117	117	1.084	1423	82	21
22	.964	1594	258	.923	1638	323	.961	1506	248	1.012	1403	168	1.048	1594	142	.999	1394	183	22
23	.914	1291	265	.895	1540	342				.945	978	174	1.032	1247	128	.989	1447	203	23

DATE	347:74			348:74			349:74			350:74				352:74			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP		F140	NT	NP	HR
0	.932	1120	212	.911	1037	215				.929	1218	234					0
1	.757	763	261	.847	895	236				.799	875	267					1
2	.728	665	244	.717	670	252				.683	709	288					2
3	.663	611	259	.671	641	267				.687	758	305					3
4				.695	694	275				.674	694	287					4
5				.693	729	290				.648	738	322					5
6				.693	758	301				.681	782	319					6
7	.755	900	309	.703	787	306				.667	787	331					7
8	.765	914	306	.684	768	311				.669	812	339					8
9	.747	870	305	.703	807	313				.710	900	345					9
10	.743	870	308	.729	870	319				.713	958	364					10
11	.761	900	304	.743	826	292				.717	973	367					11
12	.718	807	303	.717	689	259				.697	905	357	NO DATA				12
13	.741	802	286	.702	623	243				.682	880	358					13
14	.853	924	239							.752	973	337					14
15	.925	1051	205							.879	1345	317					15
16	.950	1154	201														16
17	1.014	1501	178														17
18	1.052	1985	170														18
19	1.077	2235	143				1.054	2416	202								19
20	1.060	2132	167				1.055	2147	178					1.050	3110	271	20
21	1.028	1804	192				1.047	2059	185					1.047	2729	243	21
22	.980	1413	209				1.015	1584	187					1.009	2108	259	22
23	.975	1281	195				.991	1516	210					.982	1724	252	23

Units of N_T and N_p are 10^{14} electrons-meter^{-2}.

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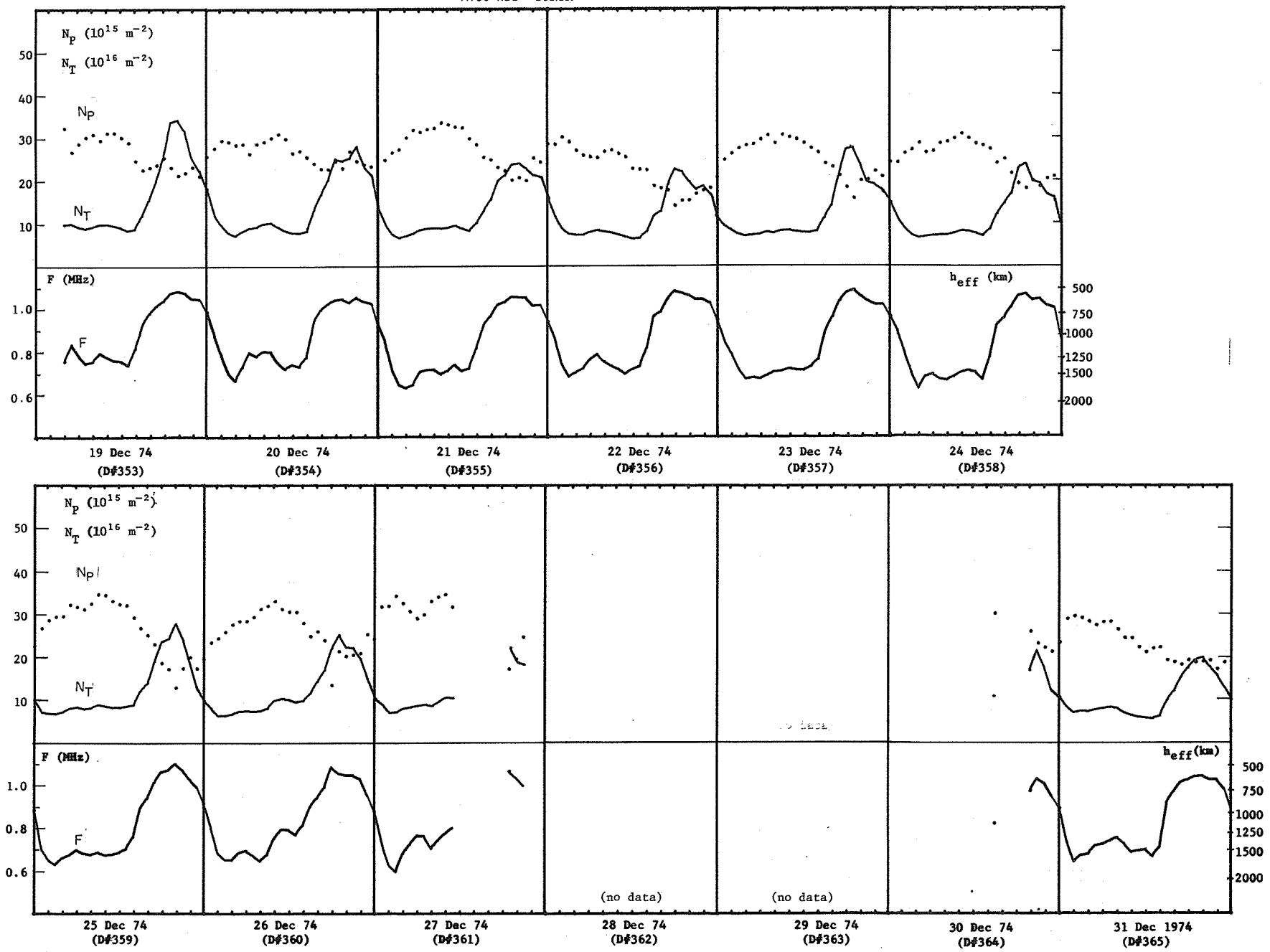

DATE	353:74			354:74			355:74			356:74			357:74			358:74			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0				.985	1765	253	.933	1345	254	.937	1526	283	.943	1134	204	.959	1438	239	0
1				.880	1159	272	.850	944	246	.860	1120	283	.846	929	245	.893	1071	239	1
2				.785	914	290	.719	699	262	.736	831	299	.784	817	260	.790	831	260	2
3				.699	734	288	.643	611	269	.679	704	288	.713	714	272	.694	675	268	3
4	.756	941	323	.664	665	281	.628	655	297	.699	685	269	.667	665	279	.622	616	283	4
5	.831	963	267	.725	763	282	.640	709	314	.716	680	257	.674	680	281	.676	636	262	5
6	.781	890	285	.793	836	260	.702	797	311	.758	743	253	.670	699	292	.687	655	264	6
7	.743	851	301	.778	870	282	.712	831	317	.783	787	251	.685	748	302	.666	670	282	7
8	.751	885	307	.799	939	287	.713	841	319	.749	758	264	.701	729	284	.660	670	286	8
9	.790	939	294	.797	963	295	.693	836	332	.730	734	268	.705	782	303	.675	709	293	9
10	.773	949	311	.747	870	305	.708	856	329	.714	689	261	.716	792	299	.694	768	304	10
11	.758	914	312	.718	782	294	.737	900	323	.692	636	253	.710	768	294	.703	758	294	11
12	.755	875	301	.737	729	262	.708	836	322	.713	592	225	.709	743	285	.696	714	282	12
13	.735	802	289	.728	724	265	.718	787	296	.725	606	224	.725	738	273	.662	655	278	13
14	.809	831	246	.771	763	252	.810	954	282	.810	753	223	.758	773	263	.763	802	270	14
15	.923	1139	225	.933	1252	237	.915	1232	252	.959	1120	186	.894	1066	238	.913	1154	238	15
16	.975	1511	230	.991	1619	224	.960	1496	247	.981	1227	180	.957	1364	229	.948	1399	246	16
17	1.010	1936	236	1.019	1956	223	1.014	1936	229	1.041	1848	176	1.032	2039	210	1.000	1628	213	17
18	1.033	2474	252	1.037	2450	241	1.027	2064	220	1.078	2210	139	1.072	2670	181	1.052	2225	189	18
19	1.070	3325	230	1.042	2406	226	1.052	2323	199	1.070	2156	151	1.084	2719	156	1.062	2323	178	19
20	1.078	3379	212	1.027	2469	265	1.050	2352	204	1.059	1927	152	1.054	2347	197	1.034	1936	195	20
21	1.070	3125	217	1.048	2743	242	1.048	2235	197	1.040	1746	167	1.031	1917	198	1.038	1878	182	21
22	1.044	2484	230	1.032	2279	234	1.012	2083	250	1.040	1819	175	1.016	1868	218	1.008	1619	200	22
23	1.041	2210	210	1.024	2093	230	1.014	2039	241	1.023	1638	181	1.015	1756	206	.998	1555	205	23

DATE	359:74			360:74			361:74					364:74			365:74			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP			F140	NT	NP	F140	NT	NP	HR
0	.882	958	223	.913	939	193	.877	1012	240						.888	1022	232	0
1	.701	680	266	.803	768	232	.737	880	316						.735	797	288	1
2	.648	650	284	.682	592	241	.625	694	317						.639	660	294	2
3	.626	641	292	.649	587	255	.593	704	341						.668	694	291	3
4	.657	685	293	.648	626	273	.678	792	325						.675	685	283	4
5	.671	768	320	.682	689	281	.720	817	305						.714	724	274	5
6	.694	797	316	.691	704	281	.760	851	289						.721	753	281	6
7	.679	758	310	.668	694	291	.760	875	297						.736	782	282	7
8	.673	778	323	.645	704	309	.702	846	330						.752	763	264	8
9	.684	851	345	.672	763	317	.739	949	339						.725	660	244	9
10	.672	826	343	.750	944	329	.771	1046	345						.684	601	244	10
11	.674	797	330	.790	993	311	.798	1032	316						.691	557	223	11
12	.683	792	322	.789	968	304				NO DATA	NO DATA				.696	533	210	12
13	.700	817	320	.767	910	303									.665	518	219	13
14	.755	846	291	.810	939	278									.705	572	221	14
15	.889	1174	266	.895	1110	246						.819	1042	300	.914	934	192	15
16	.936	1345	250	.937	1389	257									.965	1164	187	16
17	1.009	1868	229	.985	1653	238									1.009	1484	182	17
18	1.059	2323	185	1.079	2161	133									1.021	1702	191	18
19	1.068	2391	170	1.052	2474	211	1.061	2205	171						1.036	1888	187	19
20	1.096	2743	128	1.045	2191	201	1.031	1873	193			.969	1648	259	1.039	1951	189	20
21	1.067	2377	172	1.043	2171	202	.995	1819	245			1.024	2108	230	1.023	1731	191	21
22	1.023	1785	197	1.027	1932	206						1.005	1751	221	1.023	1555	171	22
23	.988	1223	172	.951	1457	252						.946	1193	211	.980	1262	186	23

Units of N_T and N_p are 10^{14} electrons-meter^{-2}.

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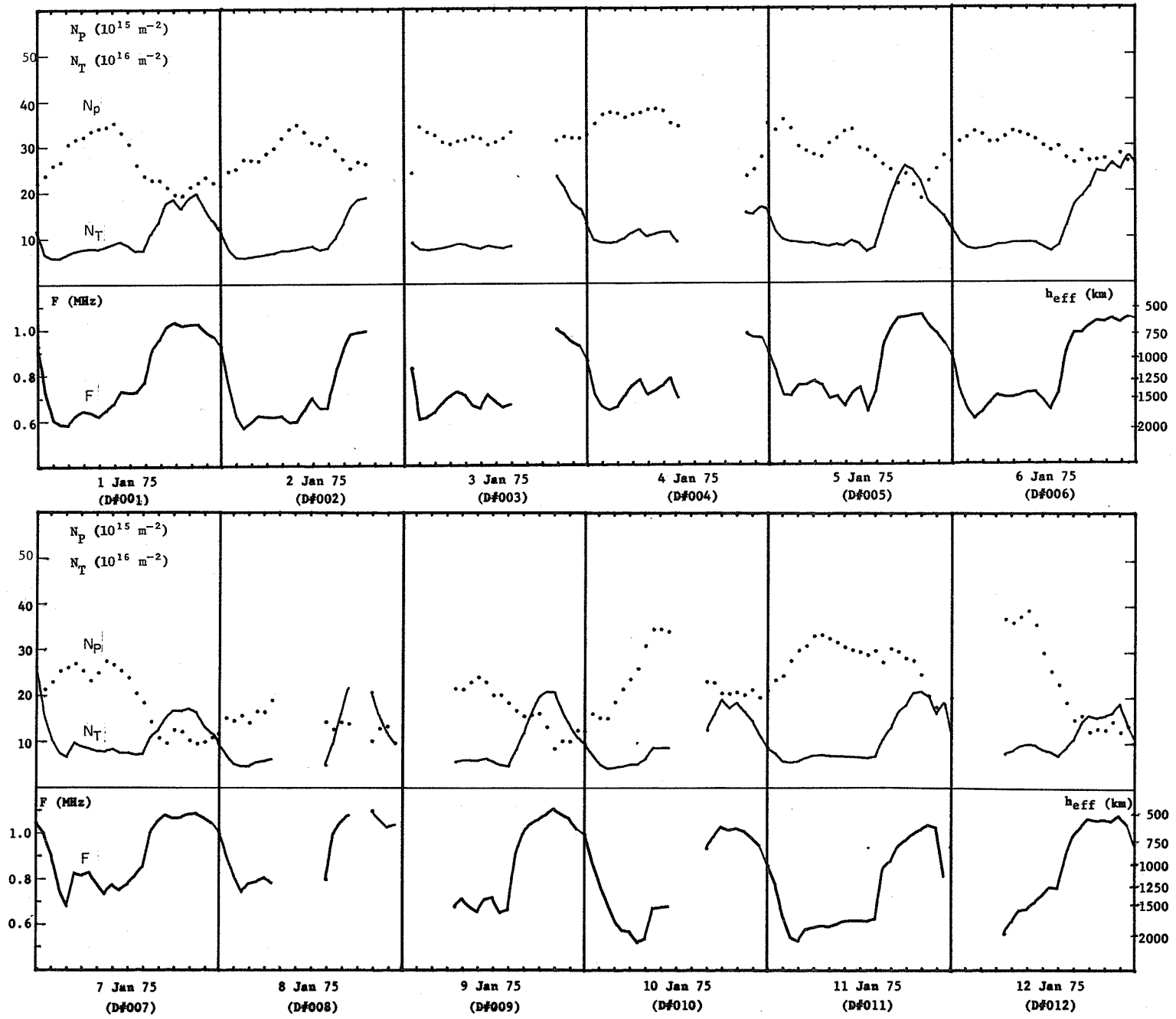

DATE	1:75			2:75			3:75			4:75			5:75			6:75			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	.929	1134	218	.923	1076	212	0.000	0	0	.858	1267	322	.894	1550	345	.878	1110	262	0
1	.724	636	236	.755	709	244	.827	851	239	.710	905	346	.809	1115	331	.727	831	306	1
2	.605	543	257	.618	538	249	.602	714	340	.655	851	366	.704	910	353	.640	709	314	2
3	.584	538	265	.564	528	269	.609	699	329	.640	836	371	.701	856	334	.596	680	327	3
4	.582	616	304	.591	553	269	.630	714	323	.654	856	369	.747	841	295	.625	704	322	4
5	.622	685	314	.618	577	267	.669	734	307	.702	924	360	.750	817	284	.663	719	305	5
6	.641	724	320	.615	606	282	.700	773	302	.745	1042	367	.765	826	277	.699	778	305	6
7	.635	743	333	.614	631	294	.721	826	308	.771	1125	370	.748	778	272	.691	792	316	7
8	.619	734	339	.619	685	316	.706	807	312	.707	978	377	.688	748	300	.691	822	328	8
9	.644	778	342	.591	689	335	.661	748	318	.724	1022	379	.699	792	311	.699	826	324	9
10	.673	846	351	.593	714	346	.650	724	315	.745	1066	375	.655	758	326	.710	831	318	10
11	.728	900	330	.642	748	330	.707	782	301	.778	1076	348	.713	870	331	.712	817	311	11
12	.723	822	305	.696	778	307	.680	748	306	.695	861	341	.736	807	290	.677	719	296	12
13	.725	704	260	.652	699	303	.654	729	314				.630	631	285	.636	641	286	13
14	.766	704	235	.652	734	318	.665	778	328				.716	719	271	.707	763	294	14
15	.905	1061	226	.794	939	290							.915	1247	255	.890	1193	270	15
16	.952	1306	225	.901	1247	271							.993	1780	243	.970	1663	260	16
17	1.010	1726	210	.973	1628	250							1.039	2196	213	.971	1824	284	17
18	1.027	1819	194	.981	1795	263							1.043	2499	232	1.001	2029	263	18
19	1.014	1623	192	.987	1834	260							1.051	2416	209	1.023	2386	264	19
20	1.019	1839	210				.995	2298	310				1.055	2181	180	1.020	2367	268	20
21	1.020	1941	219				.972	2054	318	.972	1491	231	1.005	1736	218	1.034	2548	256	21
22	.989	1648	231				.939	1716	315	.957	1457	245	.973	1589	244	1.018	2425	279	22
23	.966	1374	220				.922	1589	315	.954	1599	272	.929	1423	274	1.038	2704	263	23

DATE	7:75			8:75			9:75			10:75			11:75			12:75			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	1.043	2601	241	1.008	939	116				.996	910	122	.858	831	211	.939	1066	195	0
1	.997	1604	213	.904	704	151				.877	675	160	.779	724	234				1
2	.900	1051	228	.813	494	145				.782	474	152	.635	543	243				2
3	.754	734	252	.741	435	155				.696	381	151	.542	523	276				3
4	.679	636	260	.778	435	141				.617	401	186	.528	553	299				4
5	.823	944	269	.786	518	164				.572	425	214	.578	621	309				5
6	.813	866	254	.803	543	164				.567	465	235	.586	675	331				6
7	.827	826	232	.781	587	188	.678	523	215	.521	474	259	.594	689	333	.561	719	368	7
8	.776	763	248				.709	557	214	.534	577	309	.590	670	326	.610	768	361	8
9	.732	753	274				.675	553	228	.670	826	345	.600	665	318	.660	875	373	9
10	.772	812	267				.654	557	240	.674	836	346	.614	660	308	.666	919	387	10
11	.748	729	254				.707	597	230	.678	831	341	.617	650	301	.694	900	357	11
12	.773	729	239				.715	533	202				.617	641	297	.725	797	295	12
13	.808	689	205				.650	465	202				.615	626	291	.762	753	254	13
14	.849	704	184	.794	460	142	.661	435	185				.625	655	299	.758	660	225	14
15	.995	1061	143	.992	919	126	.902	778	168				.843	1027	274	.889	817	186	15
16	1.048	1213	108	1.046	1560	141	.995	1159	156	.932	1223	232	.875	1271	304	.982	1007	147	16
17	1.076	1487	96	1.075	2132	139	1.036	1594	158	.981	1560	229	.940	1628	298	1.019	1374	156	17
18	1.063	1643	124				1.055	1946	161	1.024	1888	206	.966	1765	283	1.059	1540	122	18
19	1.065	1638	121				1.076	2059	132	1.012	1707	205	.994	2044	278	1.053	1496	127	19
20	1.081	1692	102	1.093	2054	101	1.102	2054	85	1.019	1824	208	1.013	2073	247	1.056	1535	125	20
21	1.083	1614	94	1.056	1555	127	1.079	1628	100	1.007	1628	202	1.033	1976	201	1.048	1594	142	21
22	1.065	1315	98	1.023	1193	132	1.063	1325	100	.980	1438	213	1.024	1594	175	1.072	1790	121	22
23	1.043	1164	108	1.034	958	97	1.016	1061	123	.946	1110	197	.812	1819	534	1.036	1340	133	23

Units of N_T and N_P are 10^{14} electrons-meter^{-2}.

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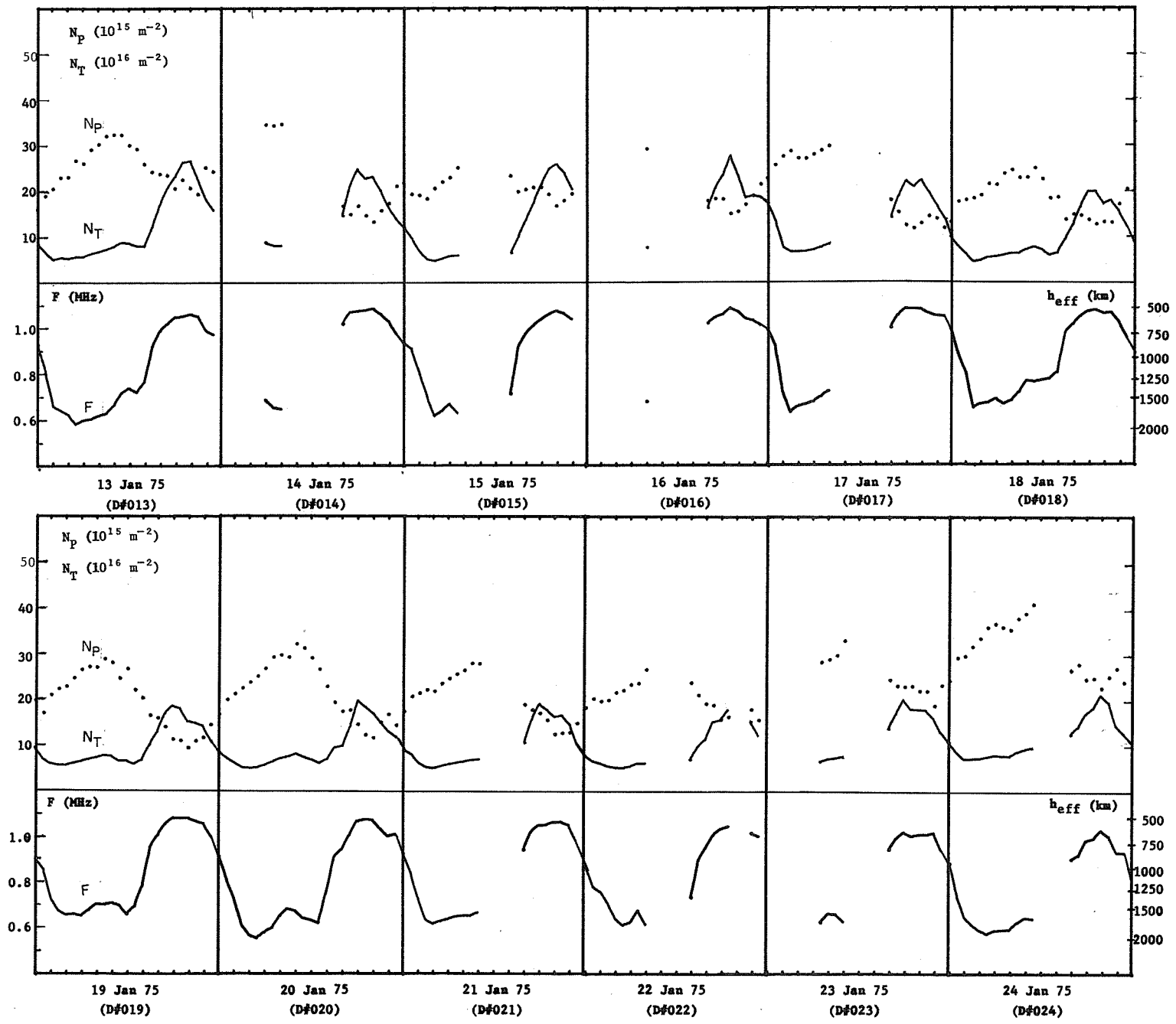
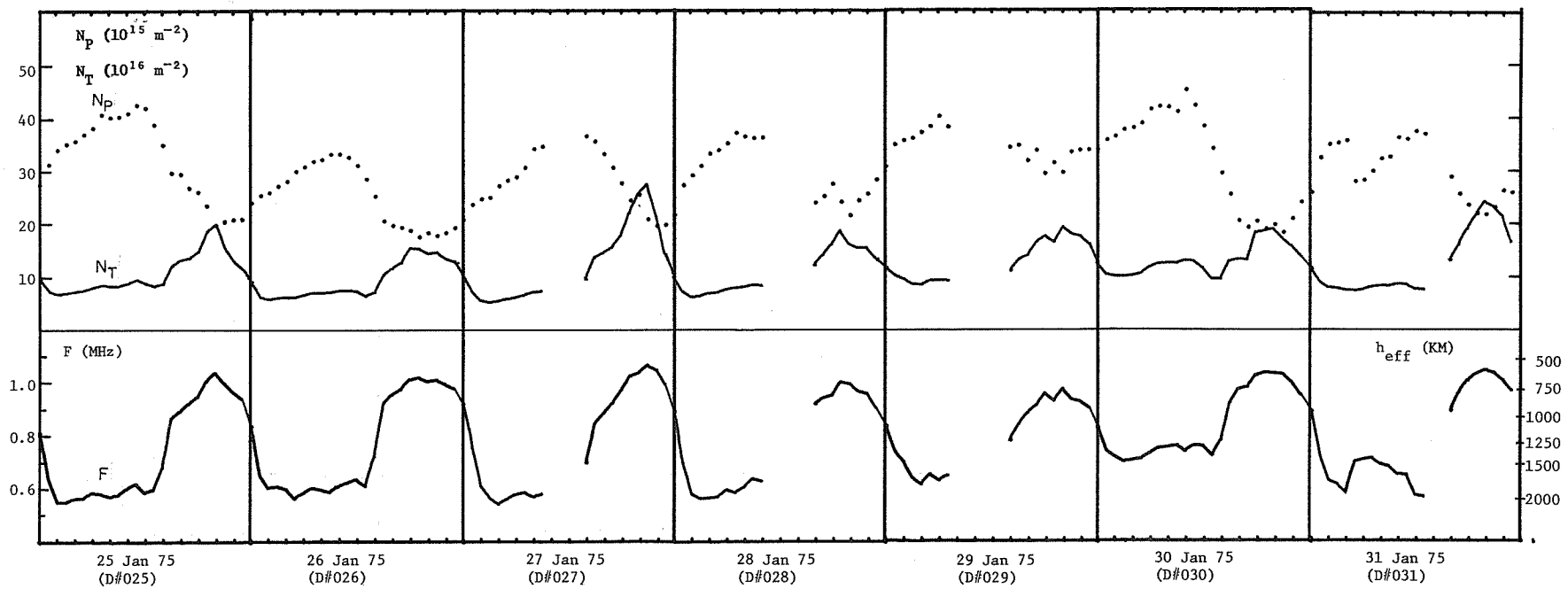


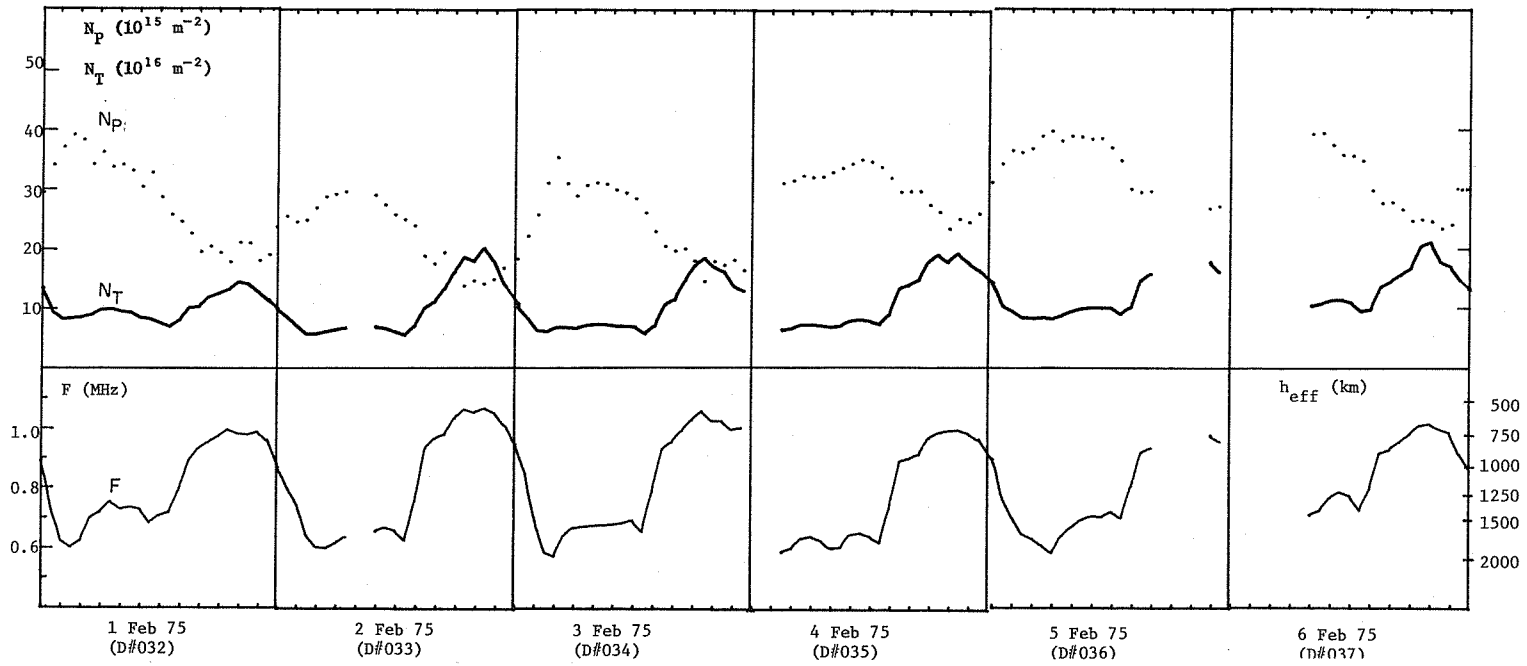
DATE	13:75			14:75			15:75			16:75			17:75			18:75			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	.927	826	160				.935	1169	219				.995	1682	226	.995	963	130	0
1	.807	631	188				.909	934	195				.924	1301	256	.885	758	175	1
2	.660	479	204				.807	645	193				.718	729	274	.805	592	177	2
3	.641	518	229				.706	479	185				.630	631	285	.649	416	181	3
4	.624	504	230				.615	445	207				.655	631	271	.665	445	188	4
5	.580	538	266				.636	494	221				.664	641	270	.670	509	212	5
6	.597	543	261	.686	851	343	.666	548	230				.676	675	278	.686	523	211	6
7	.604	611	290	.652	792	343	.629	557	253				.699	734	288	.665	557	235	7
8	.617	650	301	.646	787	345				.680	709	290	.722	797	297	.678	592	243	8
9	.628	704	320													.713	597	226	9
10	.662	763	324													.766	680	227	10
11	.715	856	323													.763	734	247	11
12	.737	836	300													.769	675	224	12
13	.720	782	292													.774	557	182	13
14	.763	773	260				.711	616	235							.802	606	183	14
15	.915	1183	242				.909	958	201							.976	895	135	15
16	.987	1672	238	1.017	1438	167	.974	1340	205	1.021	1584	178	1.000	1384	180	1.012	1218	146	16
17	1.017	2034	235	1.068	2093	149	1.008	1697	209	1.046	2000	181	1.054	1839	154	1.047	1609	144	17
18	1.046	2279	206	1.072	2450	166	1.036	2108	209	1.059	2284	181	1.084	2171	125	1.070	1941	135	18
19	1.051	2597	224	1.076	2259	146	1.058	2440	195	1.086	2709	150	1.084	2054	119	1.076	1951	125	19
20	1.060	2636	207	1.084	2293	133	1.074	2553	170	1.073	2293	154	1.083	2191	129	1.062	1682	129	20
21	1.050	2215	194	1.060	2000	156	1.063	2367	179	1.043	1809	168	1.064	1922	143	1.065	1751	129	21
22	.990	1809	251	1.030	1643	171	1.039	2010	194	1.034	1853	188	1.053	1648	139	1.024	1531	168	22
23	.971	1565	243	.975	1384	210	0.000	0	0	1.015	1819	213	1.050	1374	119	.957	1203	202	23

DATE	19:75			20:75			21:75			22:75			23:75			24:75			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	.901	905	196	.911	792	165	.922	870	172	.868	734	180				.882	1032	240	0
1	.856	665	170	.811	670	198	.842	768	205	.780	621	200				.740	817	291	1
2	.724	562	208	.725	567	209	.727	577	212	.758	572	195				.644	670	295	2
3	.673	533	221	.611	474	222	.634	489	219	.705	509	197				.613	675	315	3
4	.656	528	227	.567	465	235	.617	469	217	.639	479	213				.589	685	334	4
5	.659	572	244	.554	479	248	.628	513	233	.611	465	218				.573	714	358	5
6	.652	606	263	.578	533	265	.637	548	245	.624	504	230				.588	748	366	6
7	.677	655	269	.598	606	291	.648	582	254	.675	567	234	.625	616	281	.590	738	359	7
8	.703	689	268	.649	675	294	.652	606	263	.615	567	264	.661	675	287	.593	729	353	8
9	.702	734	286	.681	714	291	.652	641	278				.660	694	296	.622	822	377	9
10	.709	729	279	.674	773	320	.666	660	278				.627	724	329	.642	880	388	10
11	.699	626	245	.642	704	311										.639	919	408	11
12	.659	621	265	.634	645	289													12
13	.693	553	219	.622	577	265													13
14	.784	636	202	.752	655	227				.732	650	236							14
15	.952	954	164	.907	910	192				.890	924	209							15
16	1.003	1237	159	.940	949	173	.938	1022	188	.950	1090	190	.941	1340	244	.899	1213	264	16
17	1.053	1648	139	1.004	1379	175	1.017	1531	177	1.005	1477	187	.991	1663	230	.918	1369	276	17
18	1.079	1814	112	1.064	1932	144	1.045	1863	169	1.032	1516	155	1.017	1966	228	.980	1653	245	18
19	1.079	1765	109	1.072	1800	122	1.048	1746	154	1.044	1736	160	1.001	1765	228	.991	1780	247	19
20	1.078	1482	93	1.070	1663	115	1.061	1599	124				1.007	1756	219	1.024	2064	225	20
21	1.066	1447	106	1.033	1452	148	1.061	1623	125				1.007	1746	218	1.000	1917	250	21
22	1.055	1389	114	1.000	1267	165	1.048	1433	127	1.015	1496	176	1.014	1570	186	.930	1399	267	22
23	.998	1081	143	1.007	1149	143	.980	993	147	1.002	1198	155	.941	1267	230	.928	1232	238	23

Units of N_T and N_P are 10^{14} electrons-meter^{-2}.

ATS6 RBE - Boulder





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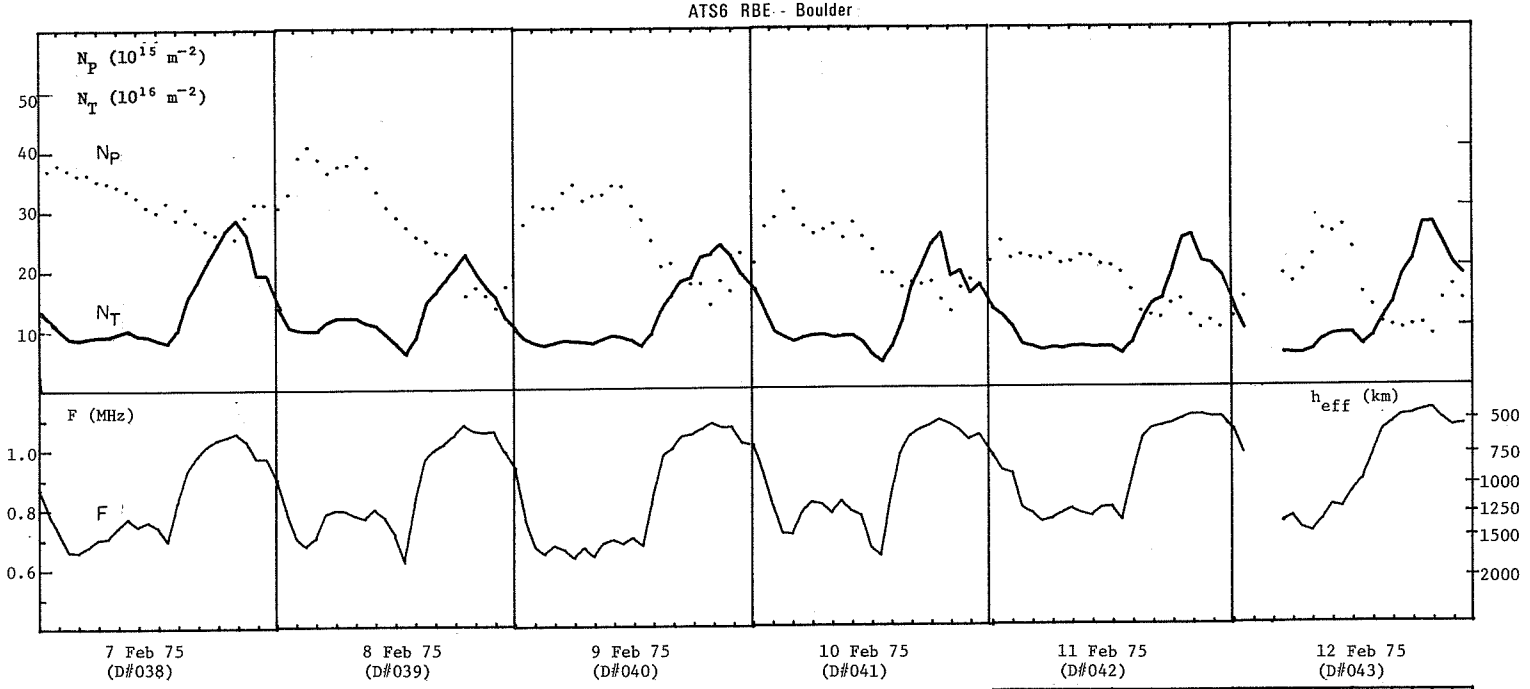
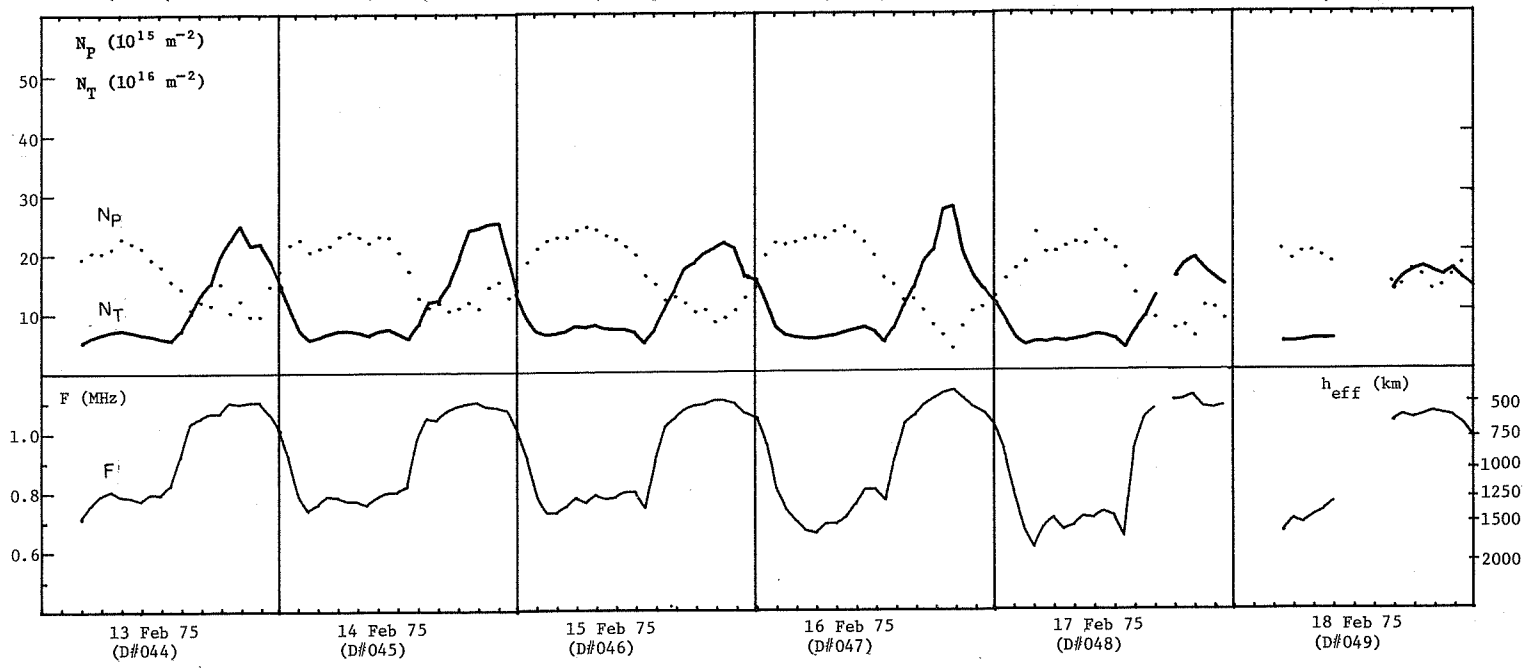
0	.809	914	271	.834	861	237	.919	1017	205	.889	949	215	.835	1105	303	.827	1193	335	.888	1130	257	0
1	.641	699	310	.650	577	251	.772	709	233	.697	689	272	.739	963	345	.739	988	353	.728	880	323	1
2	.550	645	337	.603	538	256	.610	518	243	.578	582	289	.698	895	352	.716	954	360	.628	768	348	2
3	.549	665	348	.607	567	268	.565	484	246	.563	601	307	.636	797	356	.699	949	372	.614	753	351	3
4	.563	694	354	.597	577	277	.542	509	269	.564	650	331	.613	787	368	.703	968	376	.581	719	356	4
5	.564	719	366	.562	577	295	.560	543	278	.567	665	337	.650	870	379	.707	998	384	.698	709	279	5
6	.583	768	378	.582	616	304	.577	572	285	.594	724	350	.628	875	398	.728	1120	411	.707	729	281	6
7	.581	817	404	.602	660	315	.586	616	302	.584	753	371	.646	866	379	.747	1188	416	.712	782	298	7
8	.571	792	399	.596	660	318	.569	670	339	.605	768	364				.751	1198	415	.690	802	321	8
9	.576	802	400	.587	670	328	.579	689	342	.636	807	361				.758	1193	407	.682	797	325	9
10	.600	851	407	.609	699	329				.628	797	362				.736	1247	449	.652	836	362	10
11	.618	914	423	.622	704	323										.758	1232	420	.650	826	359	11
12	.586	851	417	.634	685	307										.756	1105	379	.573	743	373	12
13	.596	802	386	.610	601	282										.721	905	337	.568	729	369	13
14	.678	846	347	.720	670	250	.697	919	362				.779	1056	341	.777	895	290				14
15	.862	1174	294	.915	993	203	.841	1315	353				.837	1262	343	.915	1227	251				15
16	.889	1286	292	.950	1120	194	.881	1408	330	.917	1178	239	.880	1345	315	.968	1271	202	.891	1276	288	16
17	.918	1320	266	.971	1227	191	.919	1511	304	.939	1364	250	.909	1594	334	.977	1257	189	.962	1560	256	17
18	.943	1438	259	1.008	1496	185	.968	1726	274	.949	1560	273	.953	1697	290	1.020	1760	199	1.005	1863	235	18
19	1.003	1819	233	1.017	1491	173	1.021	2161	242	.998	1814	240	.926	1589	310	1.031	1795	185	1.032	2127	218	19
20	1.034	1946	196	1.002	1403	180	1.035	2513	252	.993	1579	215	.969	1863	293	1.029	1834	193	1.046	2386	217	20
21	.996	1506	202	1.008	1418	176	1.062	2690	206	.965	1506	242	.931	1741	331	1.026	1658	179	1.035	2298	229	21
22	.962	1262	206	.991	1301	180	1.044	2108	193	.956	1511	254	.924	1702	334	.996	1521	204	1.009	2122	261	22
23	.938	1120	207	.975	1247	189	.991	1413	195	.904	1320	282	.902	1555	335	.948	1345	236	.969	1638	258	23

DATE	32:75			33:75			34:75			35:75			36:75			37:75			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	.892	1311	294	.873	973	235	.947	1046	185				.895	1384	307				0
1	.729	929	340	.805	841	252	.853	861	223				.765	1012	339				1
2	.623	807	370	.747	694	243	.696	655	259				.699	919	361				2
3	.601	817	390	.644	557	245	.587	636	311	.592	641	311	.645	817	358				3
4	.622	834	383	.606	562	266	.575	709	355	.603	665	316	.631	807	364				4
5	.699	870	342	.601	597	285	.642	704	311	.636	724	324	.608	817	385				5
6	.717	958	361	.619	626	289	.668	694	291	.643	729	321	.582	797	393				6
7	.751	973	338	.639	660	294	.674	743	308	.630	714	323	.638	851	379				7
8	.729	929	340				.677	758	312	.604	694	330	.668	919	385	.711	1027	392	8
9	.734	914	331				.679	758	310	.608	714	337	.693	968	385	.724	1066	394	9
10	.729	831	304	.658	675	289	.681	738	301	.650	792	344	.706	988	381	.766	1125	376	10
11	.683	807	327	.671	655	273	.685	734	296	.655	817	351	.703	983	382	.786	1134	359	11
12	.706	743	287	.661	601	256	.695	724	287	.645	792	348	.719	980	367	.773	1090	357	12
13	.716	685	258	.629	548	248	.658	616	264	.624	743	340	.701	885	346	.726	949	349	13
14	.790	787	246	.756	694	238	.788	738	233	.739	900	322	.804	993	298	.796	973	300	14
15	.888	993	226	.933	993	187	.931	1090	207	.894	1340	298	.916	1438	292	.913	1350	278	15
16	.929	1017	196	.967	1100	175	.956	1183	200	.904	1399	299	.932	1550	293	.927	1443	279	16
17	.950	1174	204	.982	1315	193	.993	1491	203	.918	1482	299				.952	1560	268	17
18	.969	1232	194	1.034	1589	160	1.029	1736	183	.971	1780	277				.978	1663	249	18
19	.992	1296	178	1.064	1844	137	1.058	1873	149	.990	1902	265				1.008	2029	251	19
20	.980	1423	210	1.056	1785	146	1.029	1726	182	.997	1785	237				1.015	2108	248	20
21	.976	1389	210	1.069	1995	141	1.027	1648	176	.999	1927	252				.997	1775	236	21
22	.986	1267	181	1.054	1780	148	.999	1403	184	.990	1785	248	.975	1741	266	.986	1702	242	22
23	.956	1130	190	1.013	1408	168	1.005	1335	168	.968	1658	262	.956	1594	269	.913	1467	302	23

Units of N_T and N_p are 10^{14} electrons-meter^{-2}.

ATS6 RBE - Boulder



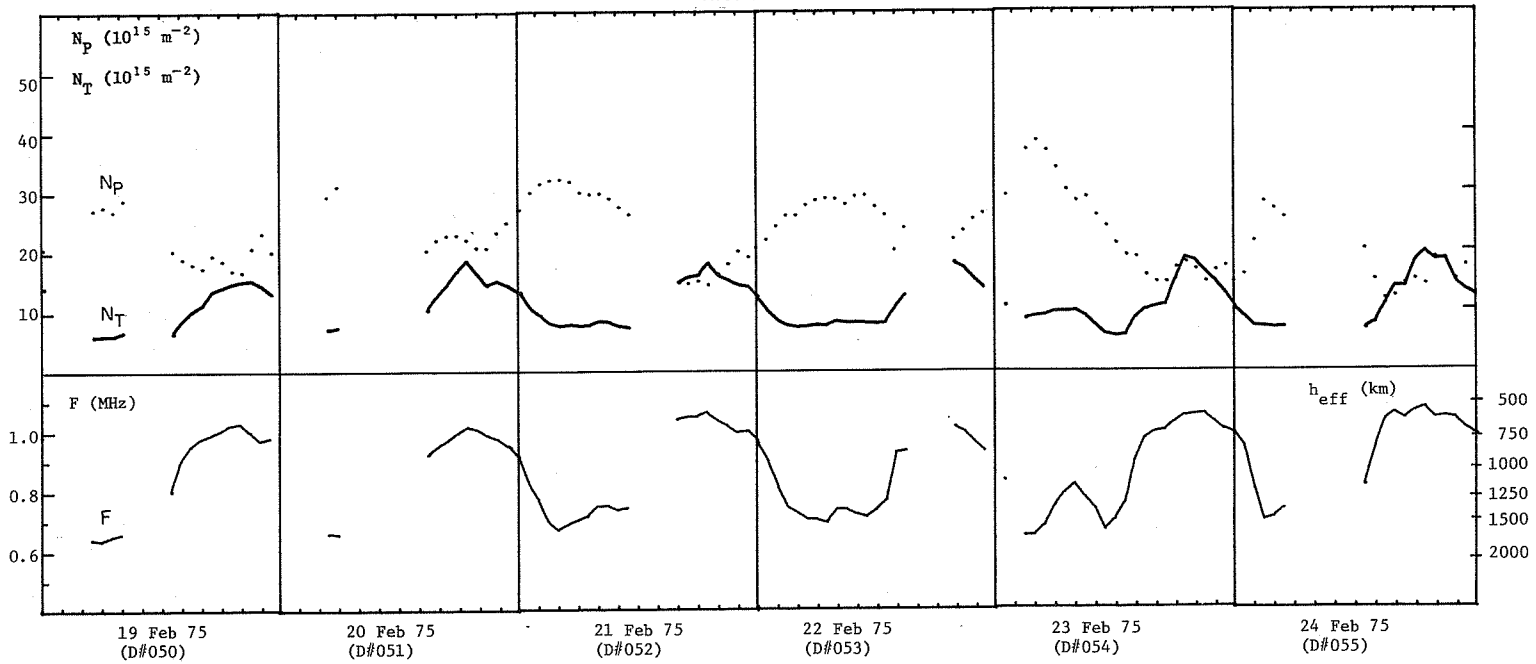


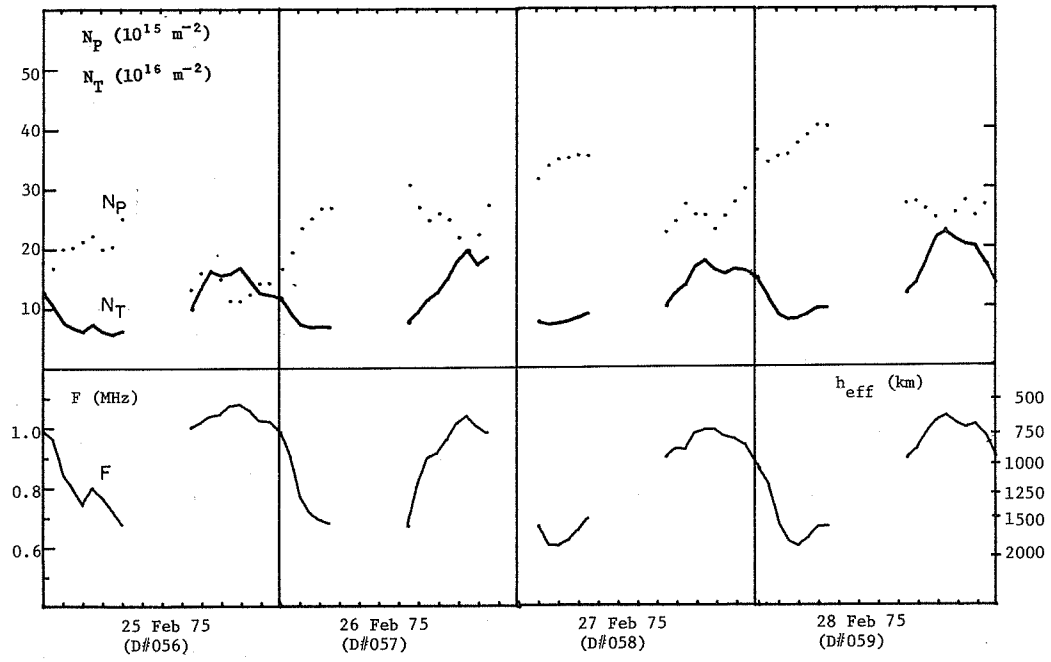
DATE	38:75			39:75			40:75			41:75			42:75			43:75			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	.865	0	1570	.892	1345	301	.931	978	187	1.003	1633	208	.967	1291	205	1.047	1257	113	0
1	.783	1139	364	.785	1022	324	.760	797	270	.911	1291	269	.915	1174	239	.968	917	145	1
2	.721	998	372	.696	978	386	.668	719	301	.801	934	284	.905	988	211				2
3	.657	851	364	.669	963	403	.643	675	298	.709	851	327	.791	689	215				3
4	.655	826	356	.695	968	383	.670	714	298	.706	773	299	.772	645	212				4
5	.674	861	357	.776	1108	360	.657	753	323	.778	836	270	.743	592	209	.737	509	182	5
6	.698	880	346	.788	1174	370	.630	743	336	.810	870	257	.751	621	216	.755	494	170	6
7	.702	880	343	.786	1178	373	.663	734	310	.806	880	263	.769	609	202	.715	499	189	7
8	.736	934	336	.770	1174	388	.635	709	318	.776	836	272	.785	641	203	.704	553	214	8
9	.765	983	329	.760	1090	370	.678	780	320	.815	858	250	.769	645	214	.742	724	257	9
10	.741	895	319	.790	1051	329	.690	836	335	.782	861	275	.762	631	213	.792	812	253	10
11	.755	880	302	.764	900	302	.677	812	334	.767	758	252	.788	636	200	.785	831	264	11
12	.737	817	293	.709	743	285	.696	763	301	.659	538	229	.790	631	197	.836	831	227	12
13	.691	773	308	.615	577	269	.672	670	279	.634	425	191	.747	533	187	.875	636	152	13
14	.819	976	281	.802	836	253	.824	861	244	.826	675	190	.892	704	158	.957	778	131	14
15	.922	1501	297	.950	1408	245	.968	1267	200	.972	1078	167	1.019	1066	121	1.041	1076	102	15
16	.971	1775	277	.986	1589	227	.992	1491	205	1.030	1672	174	1.053	1364	115	1.067	1330	96	16
17	1.006	2098	263	1.006	1795	224	1.035	1746	175	1.052	2010	171	1.062	1443	111	1.092	1819	92	17
18	1.026	2372	255	1.034	1995	201	1.041	1800	171	1.065	2377	175	1.070	1912	134	1.096	2044	96	18
19	1.037	2660	261	1.070	2225	154	1.058	2147	171	1.084	2550	146	1.084	2435	140	1.107	2665	99	19
20	1.048	2817	249	1.051	1941	166	1.078	2196	137	1.071	1848	126	1.098	2504	114	1.115	2680	82	20
21	1.023	2572	284	1.046	1702	154	1.064	2352	175	1.052	1929	165	1.098	2059	93	1.081	23[illegible]2	141	21
22	.965	1897	306	1.050	1526	133	1.066	2181	159	1.019	1560	178	1.091	2022	104	1.056	2005	163	22
23	.965	1897	306	.983	1159	168	1.014	1873	222	1.034	1692	171	1.091	1836	94	1.061	1824	141	23

DATE	44:75			45:75			46:75			47:75			48:75			49:75			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0				1.016	1477	173	1.009	1271	156	1.044	1506	138	1.021	1130	127				0
1				.919	1076	216	.912	880	182	.955	1139	193	.939	846	155				1
2				.791	716	224	.785	645	205	.806	714	213	.792	553	172				2
3				.736	567	204	.726	592	218	.736	587	211	.672	440	183				3
4	.711	499	190	.756	611	209	.725	606	224	.699	548	215	.607	494	233				4
5	.756	587	201	.784	672	214	.746	638	224	.666	523	220	.674	484	200	.661	469	200	5
6	.788	636	200	.781	714	229	.776	724	236	.659	523	224	.704	518	201	.699	469	184	6
7	.802	685	207	.769	714	236	.761	714	242	.690	553	221	.666	499	210	.687	484	195	7
8	.784	704	224	.767	689	229	.786	748	237	.688	577	232	.679	528	216	.711	513	196	8
9	.781	675	217	.756	641	219	.774	694	227	.709	626	240	.709	557	214	.726	513	189	9
10	.772	636	209	.781	714	229	.779	685	221	.753	670	231	.705	606	234	.755	521	179	10
11	.793	611	190	.796	743	229	.796	680	209	.803	714	215	.726	592	218				11
12	.790	567	178	.799	665	203	.797	636	195	.804	641	193	.713	543	206				12
13	.821	538	154	.815	592	172	.744	455	160	.769	469	156	.645	396	174				13
14	.917	694	141	.972	822	127	.891	650	146	.913	699	144	.927	680	132				14
15	1.027	983	105	1.044	1198	111	1.013	1002	119	1.024	1071	117	1.034	910	92				15
16	1.046	1301	118	1.040	1223	117	1.041	1311	124	1.050	1374	119	1.068	1257	90	1.026	1340	145	16
17	1.063	1491	113	1.068	1477	106	1.072	1687	115	1.086	1814	101				1.046	1550	140	17
18	1.062	1946	148	1.084	1907	109	1.086	1785	100	1.106	1995	76	1.098	1584	72	1.036	1658	165	18
19	1.098	2210	101	1.093	2396	119	1.089	1946	103	1.125	2680	59	1.102	1800	76	1.045	1716	157	19
20	1.094	2450	120	1.098	2430	109	1.103	2034	83	1.134	2734	37	1.114	1897	59	1.057	1643	133	20
21	1.099	2117	94	1.084	2499	144	1.102	2132	89	1.107	1966	73	1.077	1712	109	1.050	1579	138	21
22	1.100	2147	93	1.081	2518	152	1.092	2039	102	1.079	1589	98	1.072	1570	107	1.044	1682	155	22
23	1.061	1868	144	1.072	1863	127	1.061	1584	123	1.061	1369	105	1.080	1452	88	1.018	1516	175	23

Units of N_T and N_P are 10^{14} electrons-meter^{-2}.

ATS6 RBE - Boulder

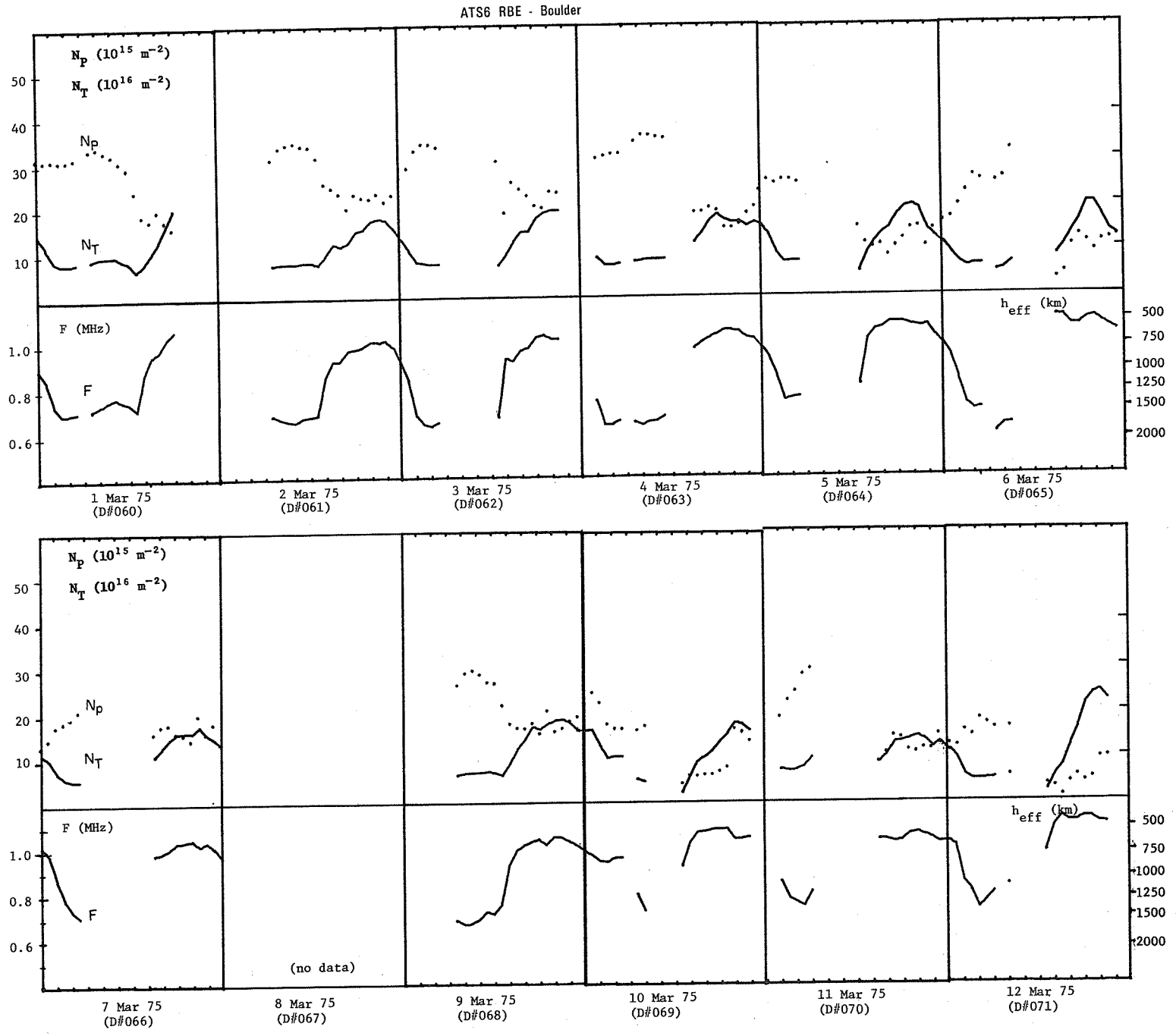




DATE	50:75			51:75			52:75			53:75			54:75			55:75			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	.982	1413	206				.915	1320	270	.956	1193	201				.988	1022	144	0
1							.827	1066	299	.896	973	215	.827	1037	291	.943	870	157	1
2							.769	944	313	.811	807	238				.806	709	212	2
3							.696	807	319	.742	719	255	.641	831	368	.693	699	278	3
4							.667	763	320	.723	689	256	.642	866	383	.702	685	267	4
5	.639	609	270	.659	680	290	.684	782	317	.701	699	273	.673	883	366	.729	689	252	5
6	.635	616	276	.656	714	307	.699	763	299	.699	716	281	.737	939	337				6
7	.648	616	269				.712	778	296	.689	709	284	.782	939	301				7
8	.657	670	287				.745	841	296	.733	782	284	.810	954	282				8
9							.748	826	289	.733	758	275	.768	866	287				9
10							.733	758	275	.718	765	288	.732	709	258				10
11							.739	736	263	.708	753	290	.660	562	240				11
12										.731	743	271	.691	528	211				12
13	.799	665	203							.763	763	257	.747	545	191	.808	670	199	13
14	.901	875	190							.922	1002	199	.890	831	188	.925	758	148	14
15	.947	1027	181	.920	1002	201				.928	1213	235	.963	968	157	1.025	1066	116	15
16	.973	1130	174	.947	1232	217	1.034	1482	149				.984	1017	146	1.049	1364	120	16
17	.986	1359	194	.968	1418	225	1.043	1575	147				.990	1049	146	1.031	1364	141	17
18	.999	1418	186	.993	1648	226	1.043	1604	150				1.016	1457	170	1.055	1785	147	18
19	1.018	1482	170	1.012	1824	218	1.058	1800	145				1.038	1824	178	1.067	1941	140	19
20	1.024	1521	167	1.004	1619	205	1.034	1604	162	1.008	1756	217	1.042	1785	167	1.033	1809	184	20
21	.995	1535	207	.985	1418	204	1.016	1531	179	.992	1675	230	1.045	1604	146	1.037	1824	180	21
22	.966	1447	231	.972	1487	230	.991	1447	200	.959	1499	249	1.019	1447	164	1.031	1443	149	22
23	.975	1320	201	.950	1418	246	.995	1418	191	.928	1345	259	.993	1252	171	1.000	1306	171	23

DATE	56:75			57:75			58:75			59:75			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	.987	1232	175	.981	1134	167				.860	1428	360	0
1	.959	998	166	.900	890	194				.804	1130	340	1
2	.843	738	197	.765	699	234	.665	743	313	.676	846	349	2
3	.794	645	200	.711	655	250	.602	704	336	.615	758	353	3
4	.739	587	210	.689	665	267	.599	724	347	.598	773	371	4
5	.795	709	219	.676	650	268	.616	753	349	.624	841	385	5
6	.763	587	197				.649	812	353	.661	944	401	6
7	.720	538	201				.689	880	353	.664	949	401	7
8	.673	597	248										8
9													9
10													10
11													11
12													12
13				.668	729	306							13
14				.804	895	269							14
15	.995	963	130	.893	1105	247	.893	1007	225	.891	1203	271	15
16	1.012	1315	157	.910	1232	258	.922	1223	243	.921	1369	273	16
17	1.034	1599	161	.954	1457	248	.920	1359	272	.975	1721	262	17
18	1.040	1531	147	1.007	1760	218	.974	1663	254	1.016	2122	247	18
19	1.068	1560	111	1.033	1936	197	.985	1765	253	1.034	2225	225	19
20	1.074	1658	110	.999	1702	223	.987	1619	230	1.011	2108	255	20
21	1.054	1443	121	.978	1819	272	.964	1550	251	.994	2020	275	21
22	1.020	1232	140				.956	1628	275	1.005	1990	251	22
23	1.016	1203	140				.937	1604	297	.970	1712	268	23

Units of N_T and N_p are 10^{14} electrons-meter^{-2}.


ATS6 RBE - Boulder
N_P (10^{15} m^{-2})
N_T (10^{16} m^{-2})
N_P
N_T
F (MHz)
F
h_{eff} (km)
1 Mar 75 (D#060)
2 Mar 75 (D#061)
3 Mar 75 (D#062)
4 Mar 75 (D#063)
5 Mar 75 (D#064)
6 Mar 75 (D#065)
7 Mar 75 (D#066)
8 Mar 75 (D#067)
9 Mar 75 (D#068)
10 Mar 75 (D#069)
11 Mar 75 (D#070)
12 Mar 75 (D#071)
(no data)

DATE	60:75			61:75			62:75			63:75			64:75			65:75			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	.896	1413	312				.914	1291	265				.974	1531	234	.982	1125	164	0
1	.845	1154	306				.835	1042	285				.927	1325	257	.930	905	173	1
2	.737	861	309				.681	792	323	.740	861	307	.844	934	248	.826	714	201	2
3	.695	773	306				.636	758	338	.629	689	312	.739	719	257	.716	611	231	3
4	.699	782	307				.627	743	338	.629	699	317	.749	738	257	.687	655	264	4
5	.706	807	312				.646	753	330	.647	724	317	.753	724	250	.694	645	256	5
6																			6
7	.716	875	331	.681	753	307				.637	773	344				.588	513	251	7
8	.733	924	336	.663	782	331				.627	792	360				.622	567	261	8
9	.751	939	326	.654	787	340				.642	812	359				.625	704	322	9
10	.767	954	317	.649	787	343				.646	807	354							10
11	.753	875	302	.671	807	336				.666	831	350							11
12	.742	812	288	.676	807	333													12
13	.712	626	238	.682	758	309	.667	714	300				.809	504	149				13
14	.872	763	185	.848	963	253	.925	954	187				1.005	900	114				14
15	.949	993	173	.918	1208	244	.914	1237	254	.967	1178	188	1.047	1154	104	1.100	861	38	15
16	.972	1262	195	.921	1164	231	.962	1462	239	.993	1384	189	1.056	1340	110	1.096	1071	50	16
17	1.027	1609	172	.966	1242	199	.973	1462	225	1.012	1643	198	1.081	1462	87	1.058	1355	108	17
18	1.060	1971	154	.972	1487	230	1.018	1760	202	1.028	1800	190	1.080	1736	106	1.058	1614	130	18
19				.983	1535	222	1.030	1888	197	1.047	1677	151	1.076	1917	123	1.084	2010	115	19
20				1.004	1726	219	1.011	1932	234	1.043	1619	150	1.065	1971	146	1.095	2005	96	20
21				1.000	1775	231	1.011	1922	232	1.039	1643	159	1.059	1888	150	1.071	1712	118	21
22				1.009	1736	213				1.011	1526	184	1.066	1452	106	1.048	1369	121	22
23				.980	1545	229				1.007	1604	199	1.017	1252	145	1.032	1247	128	23

DATE	66:75				68:75			69:75			70:75			71:75			DATE
HR	F140	NT	NP		F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	1.018	1095	126					.991	1599	221				1.021	1130	127	0
1	.980	978	144					.973	1614	248				1.004	963	123	1
2	.871	719	174					.948	1281	225	.852	719	187	.849	601	157	2
3	.787	582	184					.944	988	177	.776	689	224	.808	494	147	3
4	.734	533	193					.963	1027	167	.758	714	243	.728	504	185	4
5	.705	538	208					.963	1017	166	.741	787	280	.763	518	175	5
6											.806	978	292	.799	538	164	6
7					.684	655	266	.799	533	163							7
8					.664	689	291	.725	469	173				.832	601	166	8
9					.669	709	297										9
10					.687	714	287										10
11				NO DATA	.721	729	272										11
12					.710	699	267										12
13					.753	641	221	.924	235	46				.980	269	40	13
14					.923	910	180	1.024	582	64				1.085	601	34	14
15	.981	1066	157		.990	1223	170	1.072	919	63	1.036	880	87	1.129	797	15	15
16	.990	1257	175		1.014	1428	169	1.076	1017	65	1.034	1056	106	1.109	1232	44	16
17	1.008	1447	178		1.029	1716	181	1.085	1149	65	1.024	1311	144	1.108	1633	59	17
18	1.035	1575	158		1.042	1658	156	1.088	1345	72	1.031	1335	138	1.126	2156	45	18
19	1.039	1589	153		1.015	1775	208	1.089	1521	81	1.057	1384	111	1.124	2372	54	19
20	1.047	1570	140		1.050	1858	161	1.043	1775	166	1.065	1457	107	1.105	2450	97	20
21	1.019	1731	198		1.047	1873	169	1.046	1741	158	1.052	1364	116	1.099	2249	99	21
22	1.034	1540	155		1.032	1804	185	1.051	1599	138	1.040	1198	114				22
23	1.007	1443	179		1.013	1633	195				1.020	1306	148				23

Units of N_T and N_P are 10^{14} electrons-meter^{-2}.

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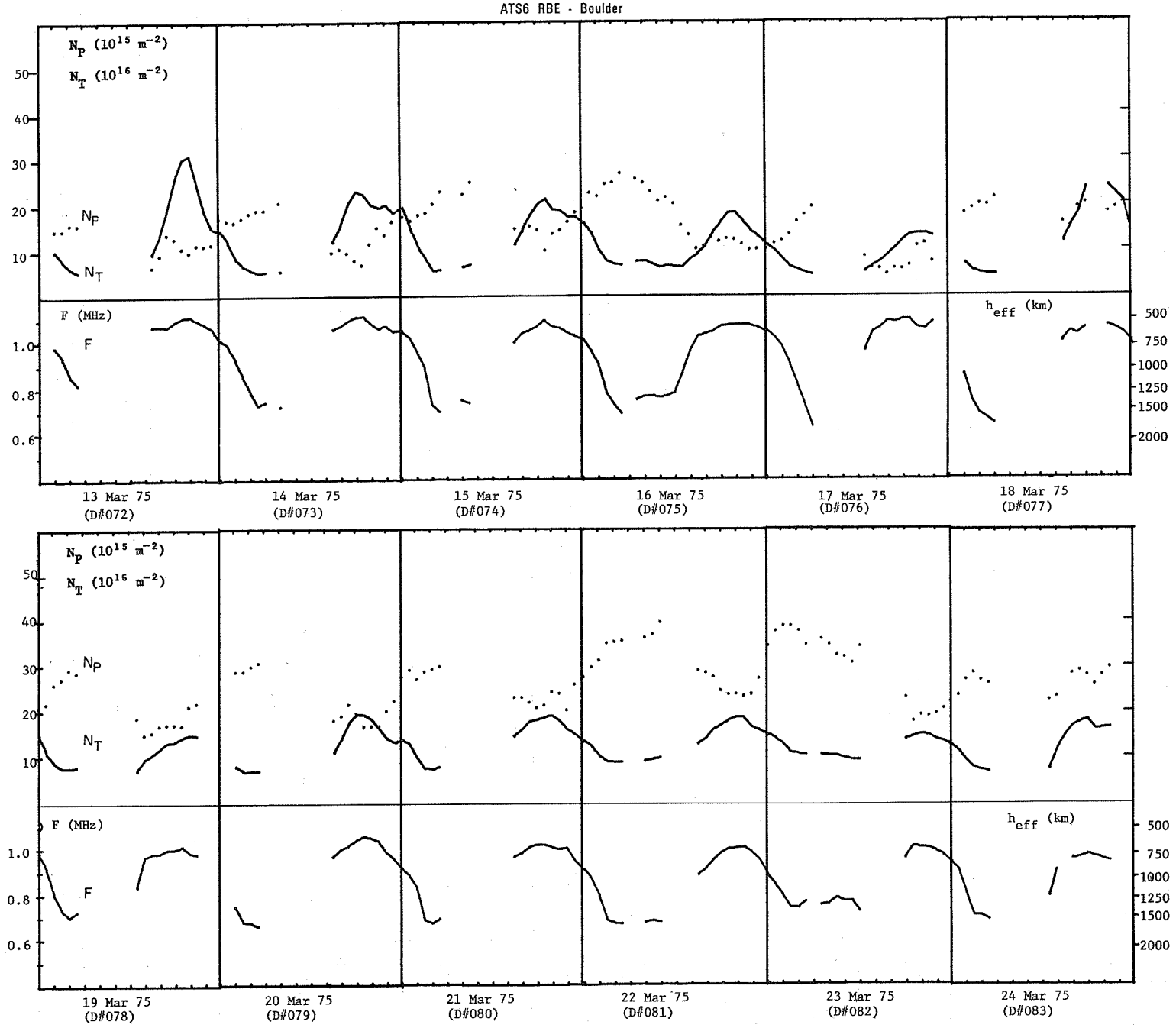
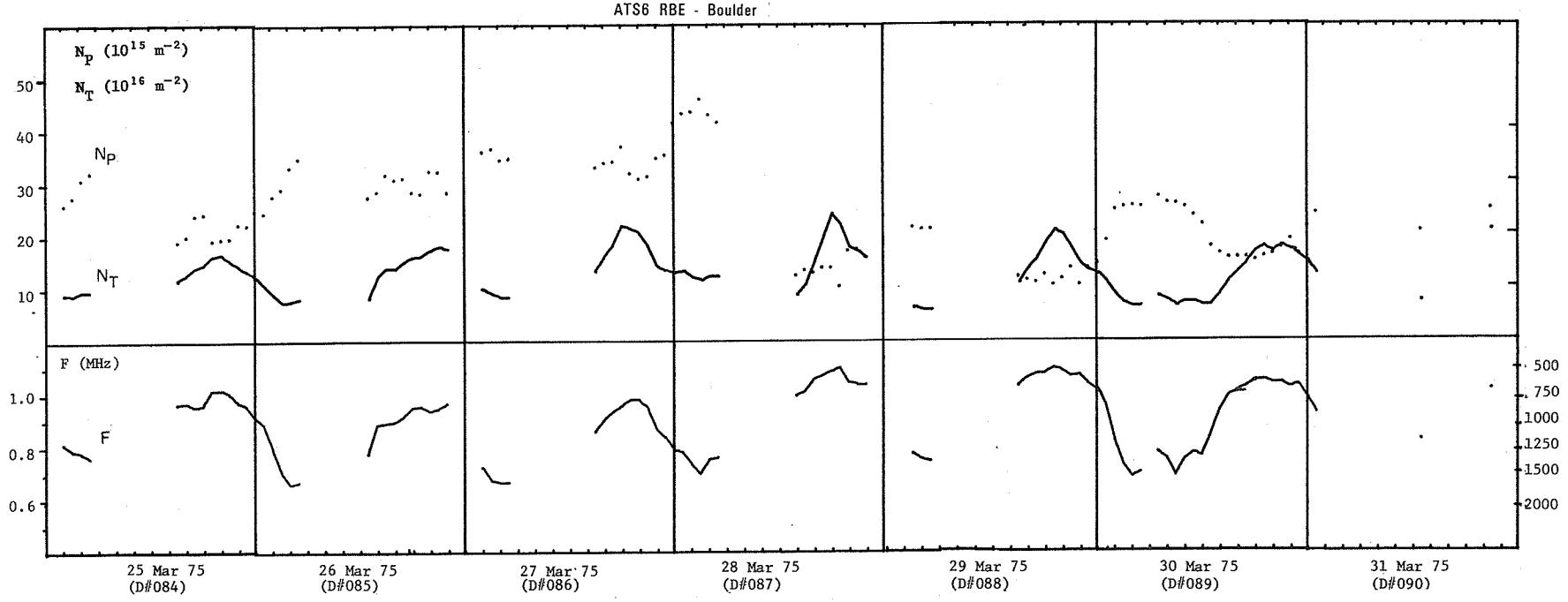


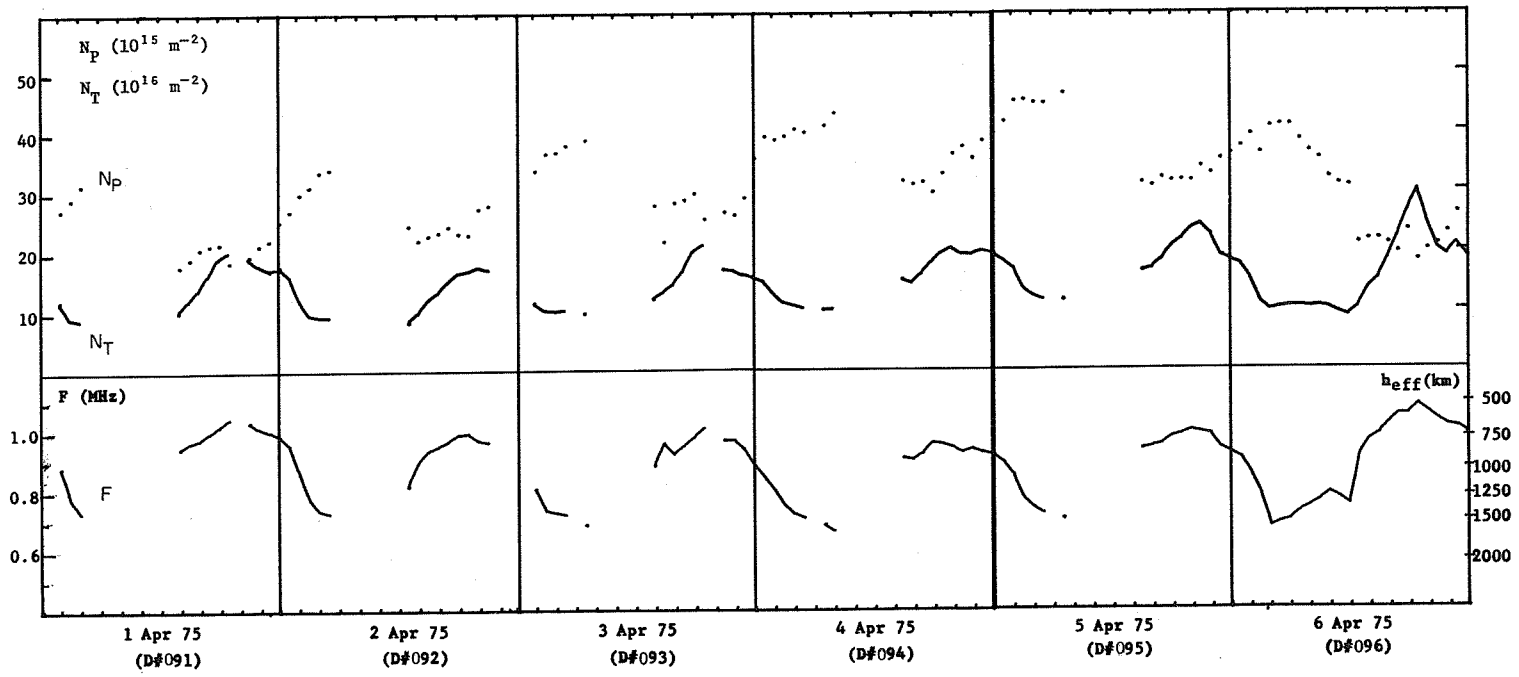
DATE	72:75			73:75			74:75			75:75			76:75			77:75			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0				1.012	1418	170	1.045	1941	177	1.011	1575	191	1.044	1076	99				0
1				.988	1174	165	1.019	1472	168	.960	1359	224	1.016	954	111				1
2	.983	1002	146	.927	831	162	.957	1076	180	.902	1002	216	.975	778	118	.852	699	181	2
3	.935	782	146	.854	660	170	.889	817	186	.778	753	244	.900	601	131	.743	543	192	3
4	.858	626	159	.787	577	182	.727	557	205	.726	670	247	.810	538	159	.681	494	201	4
5	.818	543	157	.726	513	189	.694	587	233	.684	655	266	.721	469	175	.659	465	198	5
6				.742	533	189							.627	421	191	.634	479	215	6
7										.748	729	254							7
8				.723	553	205	.747	645	226	.762	729	246							8
9							.733	694	252	.763	675	227							9
10										.755	601	207							10
11										.762	636	214							11
12										.776	616	200							12
13										.862	606	152	.961	509	84				13
14										.956	768	130	1.040	616	59				14
15	1.070	944	66	1.058	1188	96	.998	1125	148	1.022	895	100	1.058	709	57	.994	1188	161	15
16	1.071	1330	91	1.073	1531	103	1.038	1457	142	1.035	1061	106	1.089	851	45	1.037	1531	151	16
17	1.067	1883	136	1.097	2015	94	1.049	1775	155	1.042	1340	125	1.083	998	58	1.027	1814	194	17
18	1.093	2548	126	1.112	2289	77	1.066	2010	147	1.065	1565	116	1.094	1169	57	1.051	2357	203	18
19	1.110	3002	105	1.114	2230	69	1.095	2132	102	1.072	1795	122	1.093	1291	64				19
20	1.114	3090	96	1.085	2005	114	1.066	1892	139	1.073	1800	120	1.058	1325	106				20
21	1.098	2494	113	1.061	1932	150	1.060	1878	147	1.072	1609	109	1.053	1320	111	1.062	2391	183	21
22	1.082	1888	111	1.073	1990	133	1.040	1731	166	1.070	1403	97	1.084	1257	72	1.050	2225	193	22
23	1.062	1511	115	1.047	1824	164	1.026	1736	187	1.058	1247	100				1.033	2059	210	23

DATE	78:75			79:75			80:75			81:75			82:75			83:75			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	.987	1477	210				.913	1335	276	.908	1301	273	.879	1467	346	.941	1218	222	0
1	.916	1071	218				.881	1247	292	.865	1188	295	.841	1403	378	.906	1105	234	1
2	.803	861	260	.746	826	291	.829	968	270	.792	993	309	.792	1247	389	.806	895	267	2
3	.734	748	271	.677	709	291	.687	714	287	.685	861	348	.737	1081	388	.707	734	282	3
4	.702	748	292	.673	729	302	.671	704	293	.671	846	352	.736	1051	378	.706	689	266	4
5	.726	768	283	.658	724	310	.691	748	299	.668	846	354	.764	1037	348	.688	645	259	5
6																			6
7													.749	1037	362				7
8										.676	875	361	.755	1017	349				8
9										.683	905	367	.781	1012	325				9
10										.676	954	393	.766	958	320				10
11													.768	924	307				11
12													.722	924	344				12
13	.838	685	186													.793	724	225	13
14	.966	929	148													.915	1134	232	14
15	.980	1037	154	.964	1144	185	.962	1418	232	.884	1242	287							15
16	.983	1159	168	.995	1443	195	.978	1560	233	.912	1364	282				.955	1658	281	16
17	.998	1296	171	1.010	1814	221	1.004	1746	221	.950	1570	272				.961	1751	288	17
18	.998	1306	172	1.034	1985	200	1.015	1785	209	.981	1663	244	.955	1379	233	.974	1809	278	18
19	1.013	1413	169	1.051	1966	170	1.016	1834	214	.997	1770	235	1.005	1438	181	.965	1604	257	19
20	.985	1477	211	1.044	1858	171	1.002	1888	243	1.003	1844	236	.999	1487	195	.953	1628	278	20
21	.977	1452	219	1.031	1648	171	.994	1770	240	1.003	1824	232	.997	1447	193	.943	1636	294	21
22				.985	1433	206	1.002	1584	204	.983	1623	236	.985	1379	198				22
23				.956	1355	228	.947	1472	259	.950	1555	270	.967	1311	209				23

Units of N_T and N_p are 10^{14} electrons-meter^{-2}.

ATS6 RBE - Boulder





DATE	84:75			85:75			86:75			87:75			88:75			89:75			90:75			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0				.916	1218	248				.785	1296	411				1.013	1242	148	.981	1462	214	0
1				.886	1066	245				.779	1330	429				.951	1110	192	.925	1223	239	1
2	.811	885	261	.797	900	276	.723	968	359	.734	1198	433				.817	861	249				2
3	.785	866	275	.708	753	290	.672	880	366	.696	1154	456	.770	653	216	.727	694	256				3
4	.778	954	308	.658	773	330	.664	812	343	.752	1232	427	.749	606	212	.681	631	257				4
5	.758	944	322	.667	826	347	.666	822	346	.760	1213	411	.741	597	212	.698	650	256				5
6																						6
7																.773	836	274				7
8																.748	753	263				8
9																.683	641	260				9
10																.745	724	255				10
11																.770	724	239				11
12																.757	650	222				12
13				.776	841	274										.838	665	180	.823	724	206	13
14				.886	1237	284				.991	875	121				.929	870	167				14
15	.960	1159	191	.891	1403	316	.859	1296	328	1.009	1071	131	1.027	1115	119	.986	1110	158				15
16	.964	1247	202	.896	1389	307	.903	1570	338	1.054	1496	125	1.055	1381	114	1.006	1271	159				16
17	.950	1389	241	.916	1521	310	.932	1795	341	1.070	1956	136	1.070	1570	109	1.023	1443	159				17
18	.956	1447	244	.949	1619	283	.954	2166	368	1.085	2421	136	1.074	1863	123	1.044	1667	153				18
19	1.012	1619	194	.954	1638	279	.978	2112	316	1.098	2210	101	1.093	2108	104	1.046	1775	161				19
20	1.012	1648	197	.937	1746	323	.977	2039	307	1.041	1780	169	1.084	2029	117	1.036	1667	166				20
21	1.001	1521	197	.946	1809	322	.951	1800	312	1.034	1707	171	1.061	1765	137	1.035	1787	178	1.013	2078	247	21
22	.968	1418	225	.965	1756	282	.869	1418	346	1.036	1579	157	1.068	1477	106	1.020	1716	194				22
23	.953	1296	222				.835	1296	355				1.032	1330	137	1.031	1604	166				23

DATE	91:75			92:75			93:75			94:75			95:75			96:75			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0				.986	1768	252				.885	1548	357	.916	1951	397	.919	1814	364	0
1				.958	1609	269				.847	1496	394	.891	1853	417	.904	1756	375	1
2	.883	1169	272	.867	1213	298	.807	1130	336	.802	1286	389	.849	1726	452	.850	1516	395	2
3	.777	895	290	.781	963	309	.735	1012	365	.753	1139	394	.773	1384	454	.780	1134	365	3
4	.733	866	314	.738	934	335	.728	1002	368	.724	1095	406	.741	1262	449	.674	988	409	4
5				.728	924	339	.721	1017	379	.709	1046	401	.721	1203	449	.687	1022	411	5
6																.696	1042	411	6
7							.689	968	388	.686	1022	412	.704	1198	465	.724	1046	387	7
8										.665	1027	433				.741	1032	367	8
9																.759	1046	356	9
10																.785	1022	324	10
11																.769	944	313	11
12																.746	880	309	12
13				.817	846	245										.909	1017	213	13
14	.945	998	178	.896	998	220	.884	1208	279							.962	1330	218	14
15	.965	1178	190	.934	1213	227	.959	1311	218	.908	1516	319	.934	1677	315	.981	1491	219	15
16	.975	1359	207	.950	1340	233	.925	1443	283	.904	1465	314	.943	1721	309	1.017	1834	212	16
17	.998	1609	213	.966	1521	243	.951	1663	288	.923	1609	317	.951	1863	323	1.047	2210	197	17
18	1.019	1888	215	.989	1658	232	.978	1990	298	.959	1800	300	.974	2078	317	1.048	2631	234	18
19	1.043	1995	185	.994	1694	230	1.010	2098	256	.955	1956	331	.984	2201	318	1.079	2988	184	19
20				.971	1756	273				.945	2044	364	.996	2377	318	1.056	2450	201	20
21	1.033	1902	194	.964	1716	278	.970	1702	267	.928	1946	376	.990	2455	342	1.030	2022	210	21
22	1.014	1785	212				.970	1677	263	.938	1936	357	.984	2289	330	1.011	1897	230	22
23	1.002	1712	220				.941	1604	291	.928	1995	386	.939	1932	354	1.005	2088	264	23

Units of N_T and N_p are 10^{14} electrons-meter^{-2}.

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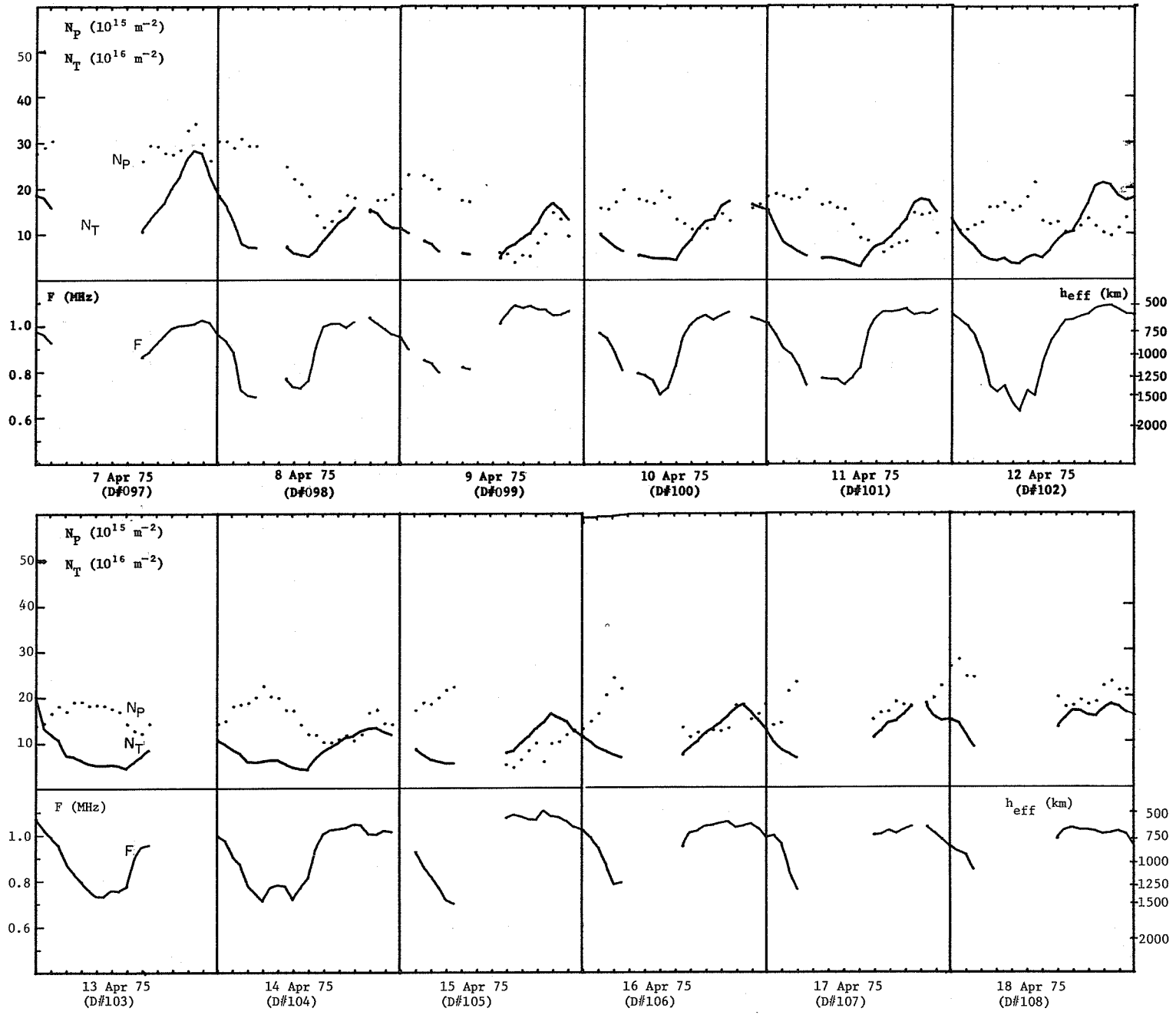

DATE	97:75			98:75			99:75			100:75			101:75			102:75			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0	.978	1853	278	.962	1868	305	.951	1159	200				1.014	1545	183	1.054	1340	111	0
1	.964	1800	291	.938	1653	304	.901	1066	231				.964	1169	189	1.032	1071	110	1
2	.929	1584	305	.889	1281	291				.973	1032	158	.904	861	184	1.005	885	111	2
3				.725	836	309	.854	890	229	.951	900	156	.880	753	177	.963	743	121	3
4				.700	753	295	.841	822	220	.891	758	171	.829	645	180	.878	538	127	4
5				.692	738	294	.801	660	200	.811	670	198	.744	557	197	.744	455	160	5
6																.715	425	161	6
7										.798	582	178	.773	504	165	.742	479	170	7
8							.822	616	176	.789	553	174	.769	509	168	.669	367	153	8
9				.773	760	249	.815	592	172	.769	509	168	.770	479	158	.630	357	161	9
10				.738	621	223				.704	504	195	.747	445	156	.721	489	182	10
11				.731	582	212				.731	499	182	.775	377	123	.699	548	215	11
12				.762	548	185				.825	474	134	.816	323	94	.837	484	132	12
13				.907	680	144	1.013	518	62	.955	738	125	.972	567	88	.927	641	124	13
14	.867	1066	262	1.000	900	117	1.057	729	59	1.007	910	113	1.035	758	76	.979	866	129	14
15	.887	1291	295	1.013	1090	130	1.093	807	40	1.036	1154	114	1.063	822	62	1.028	1017	108	15
16	.924	1496	294	1.014	1291	152	1.082	944	55	1.051	1325	114	1.063	968	73	1.032	1066	109	16
17	.958	1677	280	.997	1403	187	1.091	1051	54	1.031	1364	141	1.068	1144	81	1.046	1335	121	17
18	.991	2000	276	1.020	1604	182	1.075	1267	82	1.048	1648	146	1.076	1335	85	1.056	1663	136	18
19	1.003	2235	285				1.075	1565	102	1.064	1753	132	1.050	1697	148	1.083	2054	120	19
20	1.006	2631	329	1.039	1579	152	1.050	1707	149				1.058	1790	144	1.092	2132	107	20
21	1.011	2831	343	1.015	1501	176	1.052	1575	135				1.054	1756	146	1.095	2088	100	21
22	1.027	2782	298	.992	1291	177	1.067	1355	98	1.042	1692	159	1.072	1521	104	1.078	1863	116	22
23	1.018	2289	263	.967	1188	189				1.033	1633	167				1.059	1760	139	23

DATE	103:75			104:75			105:75			106:75			107:75			108:75			DATE
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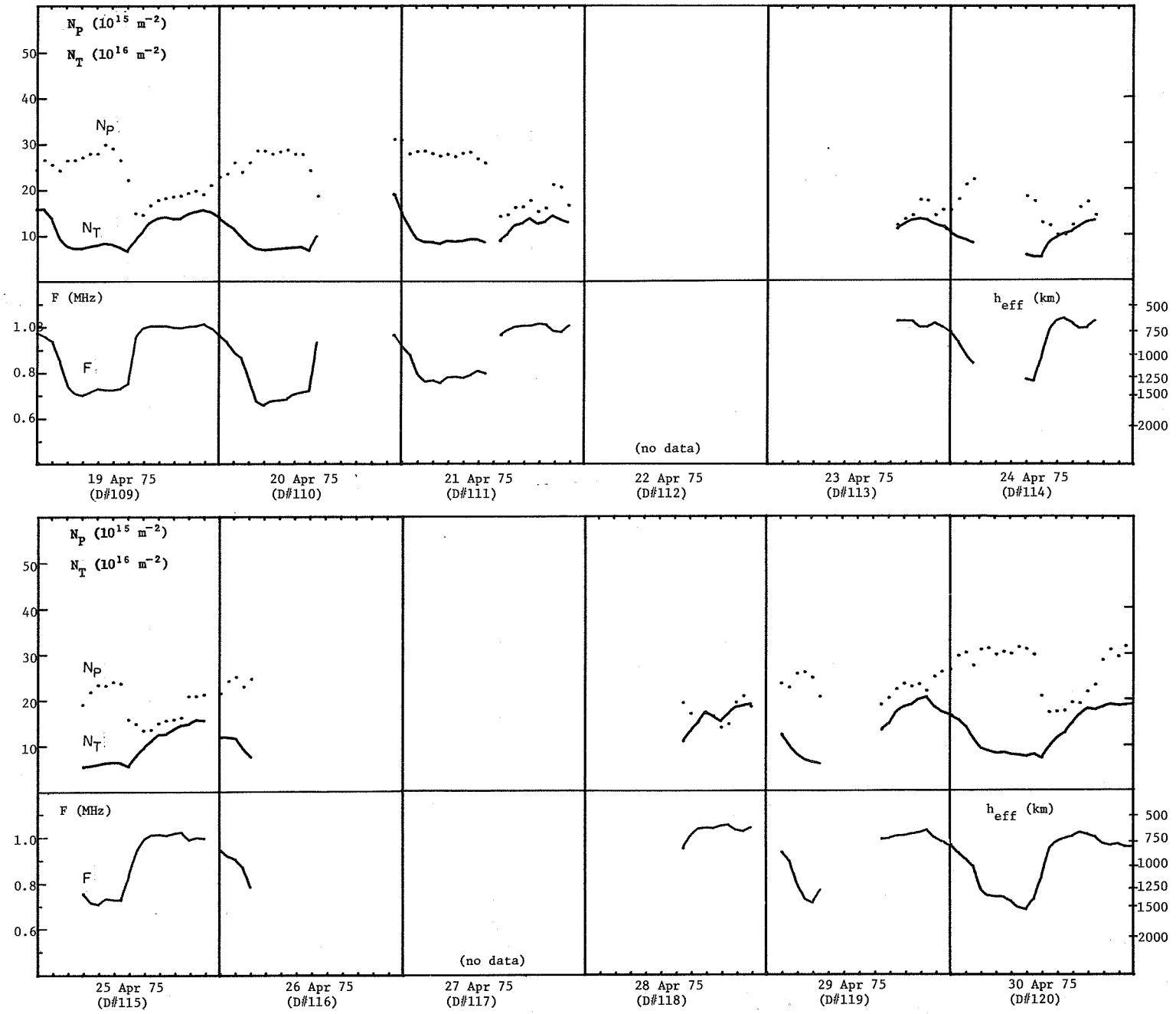
2	.990	1183	165	.906	846	180	.924	870	171	.943	905	163	.960	866	143	.913	1183	244	2
3	.955	1061	180	.872	758	183	.862	748	188	.870	836	203	.837	778	212	.849	924	242	3
4	.877	714	169	.780	582	187	.820	645	185	.784	758	242	.761	685	232				4
5	.835	689	189	.747	567	199	.772	601	198	.791	699	218							5
6	.796	616	190	.712	587	224	.715	567	215										6
7	.761	538	182	.769	611	202	.700	567	222										7
8	.732	504	183	.780	616	198													8
9	.731	499	182	.775	528	172													9
10	.758	513	175	.718	455	171													10
11	.754	489	168	.766	421	140													11
12	.772	430	141	.809	401	119													12
13	.890	562	127	.935	631	118				.947	758	134							13
14	.945	680	121	1.000	782	102	1.073	797	53	1.007	910	113	.996	1130	151	.981	1359	200	14
15	.954	826	141	1.019	885	101	1.086	836	47	1.015	1037	122	1.000	1267	165	1.018	1555	178	15
16				1.024	983	108	1.079	1007	63	1.036	1223	121	1.017	1447	168	1.029	1716	181	16
17				1.029	1105	116	1.067	1149	83	1.040	1325	127	1.004	1491	189	1.020	1707	193	17
18				1.043	1134	105	1.064	1320	99	1.050	1447	126	1.021	1628	183	1.019	1619	184	18
19				1.041	1242	118	1.103	1457	60	1.056	1599	131	1.034	1790	181	1.014	1599	189	19
20				1.004	1301	166	1.081	1648	99	1.032	1760	181				1.003	1751	224	20
21				1.000	1315	172	1.075	1565	102	1.037	1853	182	1.032	1814	186	1.006	1858	233	21
22				1.017	1232	143	1.059	1487	117	1.047	1692	151	1.008	1589	197	1.014	1809	214	22
23				1.012	1174	141	1.034	1267	128	1.026	1504	162	.979	1501	223	1.003	1682	216	23

Units of N_T and N_P are 10^{14} electrons-meter^{-2}.

ATS6 RBE - Boulder



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2	.933	1340	252	.888	1125	256	.789	895	281					.879	890	210	2
3	.849	914	239	.863	944	235	.758	826	282					.841	822	220	3
4	.741	734	261	.772	778	256	.762	822	277								4
5	.707	680	262	.674	680	281	.751	782	271								5
6	.698	680	267	.656	655	282	.776	846	275								6
7	.711	724	276	.674	665	276	.778	836	270								7
8	.726	748	276	.677	680	280	.774	846	277								8
9	.722	792	295	.680	694	284	.785	880	279								9
10	.721	773	288	.703	709	275	.804	883	266					.771	562	185	10
11	.727	714	263	.711	719	275	.793	826	256					.763	518	175	11
12	.748	626	219	.717	636	239								.861	509	128	12
13	.948	836	147	.927	949	184	.960	851	141					.979	820	122	13
14	.990	1032	143				.983	988	144					1.025	939	102	14
15	1.000	1247	163				.996	1188	159					1.036	1022	101	15
16	1.000	1340	175				1.000	1232	161					1.018	1071	123	16
17	1.000	1374	179				1.001	1345	174		1.025	1125	122	.993	1183	161	17
18	.993	1335	182				1.009	1227	150		1.024	1227	135	.995	1281	173	18
19	.991	1335	184				1.007	1267	158		1.024	1308	143	1.024	1320	145	19
20	.997	1433	190				.978	1399	209		.998	1340	177				20
21	.999	1487	195				.973	1320	204		.997	1315	175				21
22	1.008	1526	188				1.000	1257	164		1.015	1223	144				22
23	.990	1487	207	.961	1863	307					.998	1174	155				23

DATE	115:75			116:75				118:75			119:75			120:75			DATE
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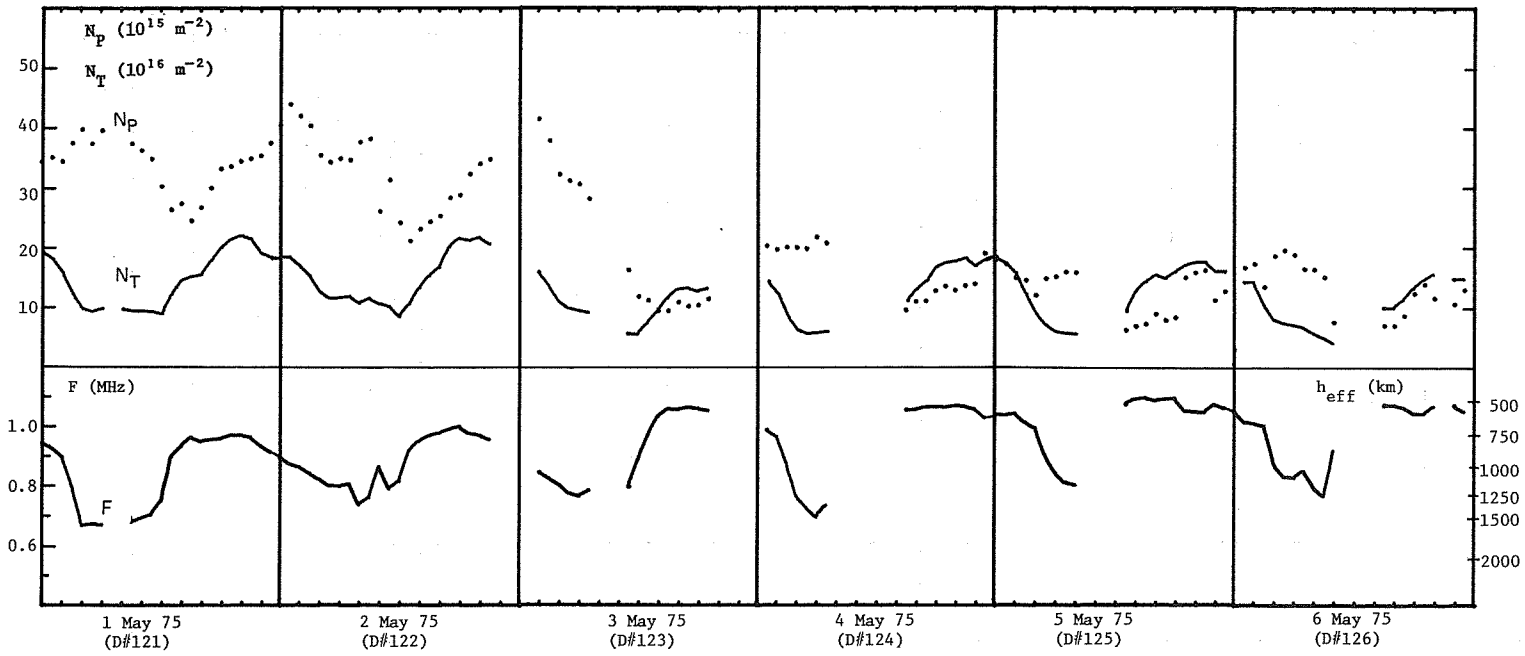
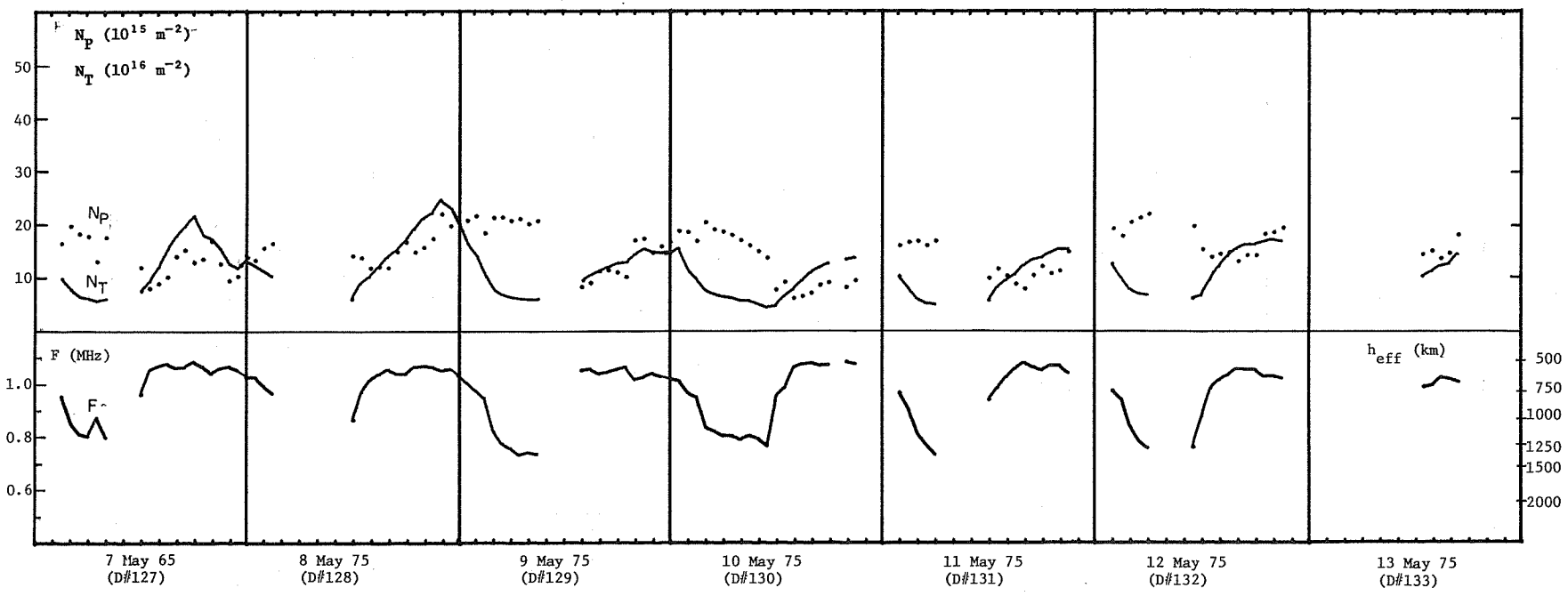
2				.906	1174	249					.933	1247	235	.904	1413	303	2
3				.872	944	228					.893	1015	227	.873	1144	275	3
4				.786	773	245					.792	826	257	.771	939	310	4
5											.729	709	260	.744	885	312	5
6	.756	553	189								.713	653	248	.739	836	299	6
7	.717	577	217								.767	621	207	.738	851	304	7
8	.709	606	233											.721	807	301	8
9	.734	641	232											.693	792	315	9
10	.730	655	239											.684	768	311	10
11	.729	645	237											.727	812	299	11
12	.829	567	158											.821	729	209	12
13	.932	785	149					.950	1105	192				.946	978	173	13
14	.989	958	134					1.003	1325	169				.978	1169	175	14
15	1.011	1115	135					1.034	1506	152	.989	1355	190	.992	1281	176	15
16	1.014	1262	149					1.039	1741	169	.993	1487	203	1.001	1496	194	16
17	1.009	1271	156					1.036	1648	164	1.003	1746	223	1.018	1682	193	17
18	1.018	1374	158					1.047	1545	139	1.005	1863	235	1.012	1809	218	18
19	1.023	1460	162					1.051	1697	146	1.012	1907	229	1.000	1785	232	19
20	.989	1491	208					1.030	1848	193	1.017	2024	234	.972	1848	287	20
21	.998	1579	208					1.023	1878	207	1.028	2068	220	.963	1902	309	21
22	.995	1565	211					1.039	1917	184	.995	1863	250	.969	1878	295	22
23											.979	1756	261	.958	1892	317	23

Units of N_T and N_p are 10^{14} electrons-meter^{-2}.

ATS6 RBE - Boulder





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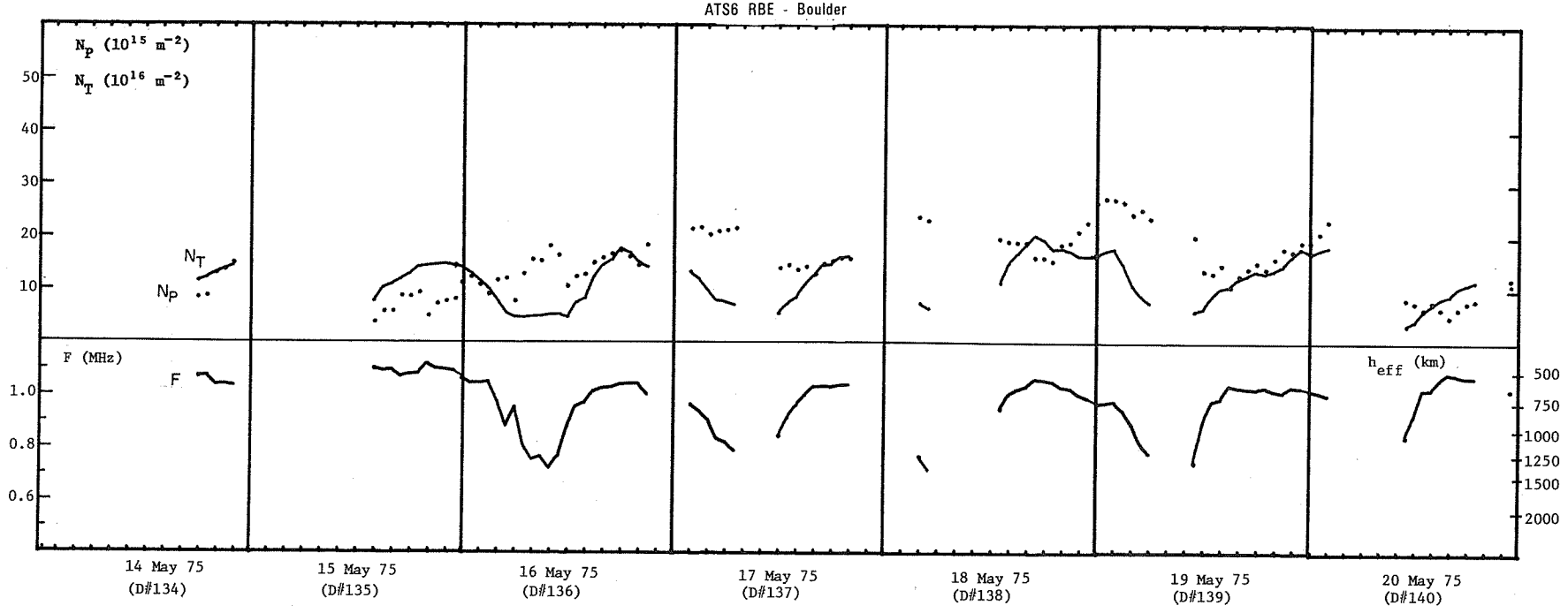
1	.924	1775	349	.872	1809	438				.986	1399	200	1.034	1716	172	1.012	1374	165	1
2	.896	1550	343	.862	1667	418	.843	1545	412	.963	1198	195	1.040	1550	149	1.007	1374	170	2
3	.792	1198	373	.841	1496	402	.823	1325	377	.875	831	199	1.011	1193	144	1.000	1017	132	3
4	.665	939	396	.821	1232	353	.802	1061	321	.764	592	199	.992	870	120	.869	753	184	4
5	.670	895	373	.800	1120	341	.773	944	309	.726	533	196	.901	675	146	.829	689	192	5
6	.667	939	394	.797	1125	346	.764	905	304	.695	543	215	.843	562	150	.826	660	186	6
7				.804	1144	344	.783	875	280	.733	567	206	.810	533	158	.849	621	163	7
8	.857	929	236	.735	1037	374							.802	518	157	.794	523	162	8
9	.677	905	372	.758	1110	379										.765	445	149	9
10	.690	905	362	.861	1027	258										.914	357	73	10
11	.701	890	347	.788	983	310	.794	518	161										11
12	.746	856	301	.812	812	239	.885	504	116										12
13	.893	1174	262	.915	1017	208	.965	685	110				1.071	895	61				13
14	.928	1408	271	.947	1289	227	1.029	880	92				1.088	1237	67				14
15	.960	1472	243	.965	1491	240	1.055	1105	92	1.050	1081	94	1.092	1389	70	1.067	944	68	15
16	.947	1506	265	.974	1633	250	1.053	1257	106	1.053	1276	108	1.083	1506	87	1.067	944	68	16
17	.953	1736	298	.987	1976	280	1.061	1286	100	1.061	1413	109	1.089	1452	78	1.061	1076	83	17
18	.956	1951	330	.996	2117	284	1.056	1232	101	1.062	1643	126	1.090	1560	81	1.040	1267	121	18
19	.967	2093	334	.974	2088	320	1.050	1276	111	1.061	1721	133	1.048	1667	148	1.039	1408	136	19
20	.967	2156	343	.968	2137	337				1.066	1746	128	1.045	1716	157	1.063	1506	114	20
21	.961	2108	347	.954	2024	345				1.064	1795	134	1.043	1716	160				21
22	.933	1868	352							1.056	1672	137	1.069	1570	110	1.067	1433	104	22
23	.912	1804	373							1.028	1775	189	1.058	1565	125	1.048	1428	127	23

DATE	127:75			128:75			129:75			130:75			131:75			132:75			133:75			DATE
HR	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	F140	NT	NP	HR
0				1.024	1281	141	1.029	1985	209	1.015	1413	165										0
1				1.024	1203	131	1.001	1599	207	1.009	1521	187										1
2				.990	1105	153	.972	1379	214	.963	1134	184	.964	978	158	.970	1208	189				2
3	.951	949	164	.963	998	162	.943	1015	183	.947	949	168	.903	768	165	.937	954	176				3
4	.853	763	197				.821	738	211	.834	738	203	.811	567	167	.837	743	202				4
5	.809	616	183				.772	645	212	.820	660	190	.768	479	159	.779	650	210				5
6	.801	587	178				.754	597	205	.803	614	185	.732	460	167	.755	631	217				6
7	.870	538	131				.730	572	209	.802	592	179										7
8	.797	572	176				.738	557	200	.788	538	170										8
9							.732	562	205	.802	528	160										9
10										.791	474	148										10
11										.764	406	136				.758	572	195				11
12	.959	719	120	.864	557	139				.947	428	75	.936	528	98	.868	616	151				12
13	1.048	900	80	.966	846	136				.982	611	90	.980	778	115	.976	910	138	.983	963	140	13
14	1.063	1169	88	1.012	973	117	1.047	912	82	1.057	738	60	1.021	910	102	1.008	1154	142	.990	1056	147	14
15	1.073	1496	100	1.033	1154	118	1.051	1022	88	1.070	900	63	1.052	1017	87	1.027	1359	145	1.018	1159	133	15
16	1.058	1751	140	1.050	1347	117	1.034	1100	111	1.075	1056	69	1.075	1188	78	1.050	1496	130	1.013	1198	142	16
17	1.060	1932	151	1.036	1472	146	1.040	1174	113	1.066	1154	84	1.059	1296	103	1.048	1579	139	1.002	1379	177	17
18	1.080	2122	129	1.035	1643	164	1.049	1242	109	1.068	1232	88	1.048	1335	119	1.048	1579	139				18
19	1.063	1775	134	1.060	1868	146	1.059	1262	100				1.064	1423	106	1.023	1628	180				19
20	1.036	1702	168	1.064	2068	154	1.013	1413	169	1.079	1306	81	1.065	1496	111	1.024	1672	183				20
21	1.054	1511	126	1.060	2171	171	1.019	1511	171	1.071	1340	92	1.037	1491	147	1.016	1638	191				21
22	1.062	1227	94	1.047	2425	217	1.035	1457	146													22
23	1.049	1154	102	1.052	2298	196	1.024	1440	157													23

Units of N_T and N_p are 10^{14} electrons-meter^{-2}.

ATS6 RBE - Boulder



DATE	134:75			135:75			136:75			137:75			138:75			139:75			140:75			DATE
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2							1.040	1115	107	.961	1291	212				.971	1736	270	1.002	1790	230	2
3							1.044	963	89	.937	1164	216				.941	1452	264				3
4							.970	734	115	.904	949	203	.766	704	235	.888	1061	242				4
5							.878	499	118	.832	753	208	.715	606	229	.815	856	249				5
6							.947	430	76	.818	729	210				.779	724	234				6
7							.805	425	128	.787	680	214										7
8							.752	445	154													8
9							.761	450	152													9
10							.719	479	180													10
11							.762	484	163							.742	562	199	.845	318	84	11
12							.871	430	104	.841	518	139				.891	601	135	.922	391	77	12
13							.952	709	122	.908	689	145	.944	1090	195	.971	841	131	1.021	582	65	13
14				1.094	734	36	.965	787	126	.956	812	137	1.000	1457	190	.982	993	145	1.023	709	78	14
15				1.086	978	54	1.008	1203	148	.995	1051	142	1.018	1638	188	1.032	1027	105	1.058	822	65	15
16				1.089	1051	56	1.022	1418	158	1.029	1227	129	1.031	1809	188	1.027	1169	125	1.085	880	50	16
17				1.065	1144	85	1.025	1521	165	1.031	1418	147	1.057	1988	160	1.022	1242	139	1.078	1027	65	17
18	1.065	1105	82	1.072	1242	84	1.036	1731	171	1.029	1443	152	1.054	1907	159	1.019	1320	150	1.070	1095	77	18
19	1.067	1159	84	1.074	1379	91	1.039	1663	161	1.034	1570	158	1.049	1726	152	1.026	1286	139	1.069	1149	81	19
20	1.033	1252	127	1.111	1408	48	1.038	1491	145	1.036	1594	158	1.029	1736	183	1.014	1335	158				20
21	1.033	1320	134	1.094	1423	69	1.000	1394	182				1.023	1692	187	1.007	1413	176				21
22	1.029	1389	146	1.091	1438	74							1.001	1604	208	1.026	1594	172				22
23				1.086	1413	79							.988	1594	225	1.025	1736	188	1.022	1090	121	23

Units of N_T and N_P are 10^{14} electrons-meter^{-2}.

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UAG-39 "Auroral Electrojet Magnetic Activity Indices AE (11) for 1971", by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Environmental Data Service, February 1975, 144 pages, price $2.05.

UAG-40 "H-Alpha Synoptic Charts of Solar Activity For the Period of Skylab Observations, May, 1973-March, 1974", by Patrick S. McIntosh, NOAA Environmental Research Laboratory, February 1975, 32 pages, price 56 cents.

UAG-41 "H-Alpha Synoptic Charts of Solar Activity During the First Year of Solar Cycle 20, October, 1964 - August, 1965", by Patrick S. McIntosh, NOAA Environmental Research Laboratory, and Jerome T. Nolte, American Science and Engineering, Cambridge, Massachusetts, March 1975, 25 pages, price 48 cents.

UAG-42 "Observations of Jupiter's Sporadic Radio Emission in the Range 7.6-80 MHz 10 December 1971 through 21 March 1975", by James W. Warwick, George A. Dulk, and Anthony C. Riddle, Department of Astro-Geophysics, University of Colorado, Boulder, Colorado 80302, April 1975, 49 pages, price $1.15.

UAG-43 "Catalog of Observation Times of Ground-Based Skylab-Coordinated Solar Observing Programs", compiled by Helen E. Coffey, World Data Center A for Solar-Terrestrial Physics, May 1975, 159 pages, price $3.00.

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UAG-46 "Interplanetary Magnetic Field Data 1963-1974", by Joseph H. King, National Space Science Data Center, NASA Goddard Space Flight Center, Greenbelt, Maryland 20771, June 1975, 382 pages, price $2.95.

UAG-47 "Auroral Electrojet Magnetic Activity Indices AE (11) for 1973", by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Environmental Data Service, June 1975, 144 pages, price $2.10.

UAG-48A "Synoptic Observations of the Solar Corona during Carrington Rotations 1580-1596 (11 October 1971 - 15 January 1973)", [Reissue with quality images] by R. A. Howard, M. J. Koomen, D. J. Michels, R. Tousey, C. R. Detwiler, D. E. Roberts, R. T. Seal and J. D. Whitney, E. O. Hulbert Center for Space Research, NRL, Washington, D. C. 20375 and R. T. and S. F. Hansen, C. J. Garcia and E. Yasukawa, High Altitude Observatory, NCAR, Boulder, Colorado 80303, February 1976, 200 pages, price $4.27.

UAG-49 "Catalog of Standard Geomagnetic Variation Data", prepared by Environmental Data Service, NOAA, Boulder, Colorado, August 1975, 125 pages, price $1.85.

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UAG-53 "Description and Catalog of Ionospheric F-Region Data, Jicamarca Radar Observatory (November 1966 - April 1969)", by W. L. Clark and T. E. Van Zandt, Aeronomy Laboratory, NOAA, Boulder, Colorado 80302 and J. P. McClure, University of Texas at Dallas, Dallas, Texas 75230, April 1976, 10 pages, price 33 cents.

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UAG-57 "Manual on Ionospheric Absorption Measurements", edited by K. Rawer, Institut für Physikalische Weltraumforschung, Freiburg, G.F.R., June 1976, 202 pages, price $4.27.

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