

GEOMAGNETIC DATA

Hourly mean values of H, D, Z and F

Hourly means are derived from minute means corrected using absolute observations. The units of the elements are 0.1 nT, Declination is also scaled to 0.1 nT. Minute means of F are calculated from H and Z. F values are checked by comparing them with proton magnetometer readings taken at every 10 minutes.

Daily mean values of H, D, Z and F

Daily mean values are calculated from hourly mean values.

Geomagnetic activity indices: K-index

The K-index is determined from the amplitude ranges of H and D components for each three-hour Universal Time interval. Limit for K=9 is 350 nT in Nagycenk.

Special phenomena

List of special events is based on both magnetic and earth current records. Tables are given for SSC-s and sfe.

Annual mean values of geomagnetic elements

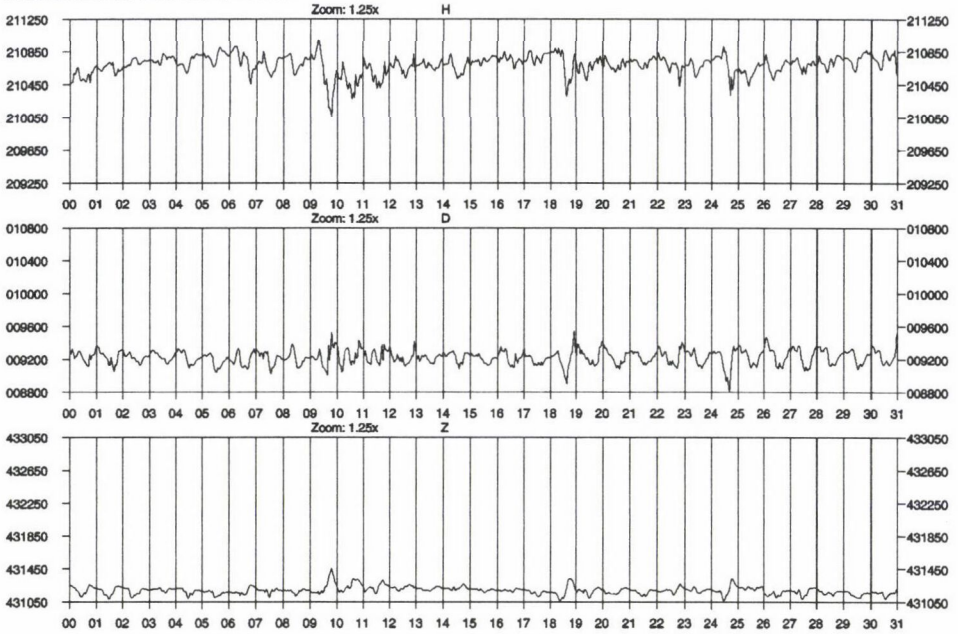
Table contains yearly means of the geomagnetic elements 1961 to 1993 in nT. These values are the results of a reevaluation of previously published data, including corrections eliminating disturbances caused by construction works in the observatory. Corrected values are noted by asterisk.

Times in this section are given in UT!

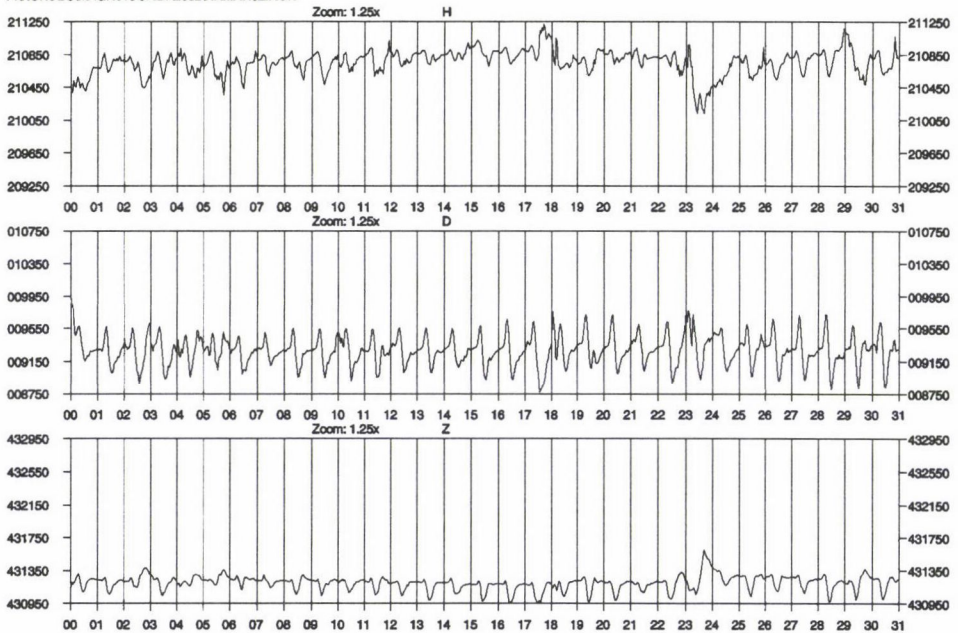
See CD (program Seenck.exe, menu item Magnetics).

Hourly mean values of H, D, Z
2002-2004

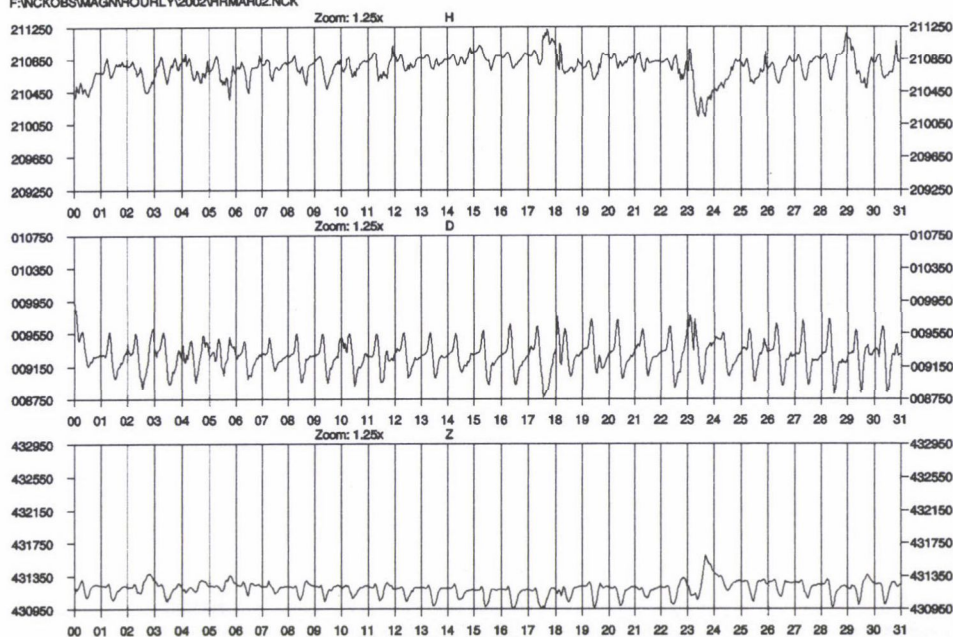
F:\NCKOBS\MAGN\HOURLY\2002\HRJAN02.NCK



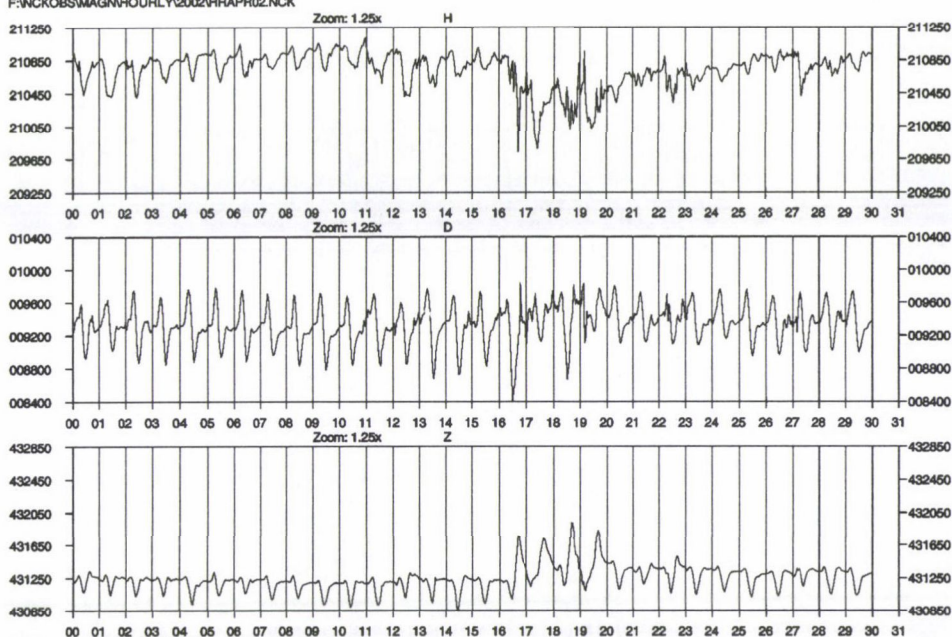
F:\NCKOBS\MAGN\HOURLY\2002\HRMAR02.NCK



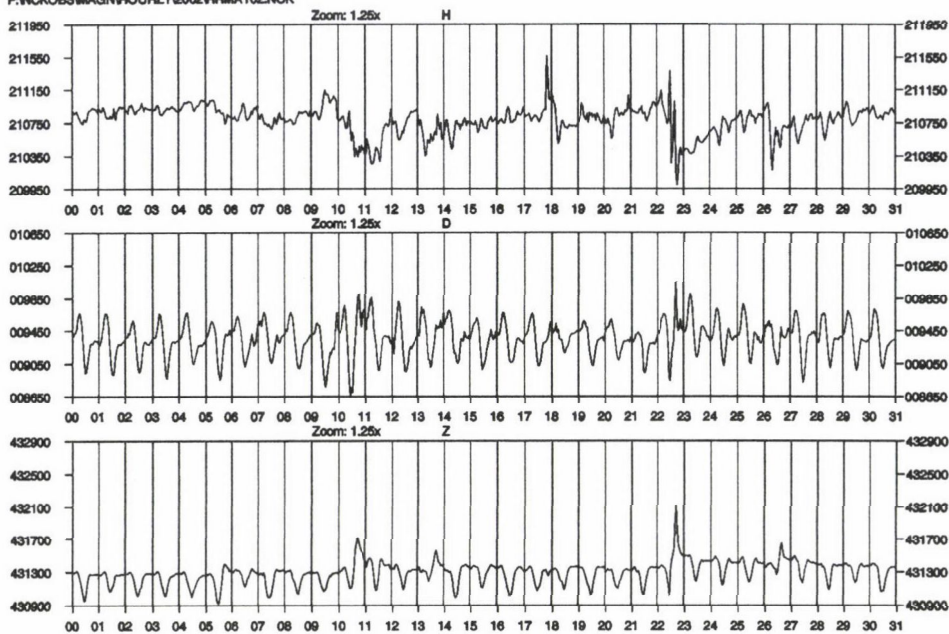
F:\NCKOBS\MAGN\HOURLY\2002\HRMAR02.NCK



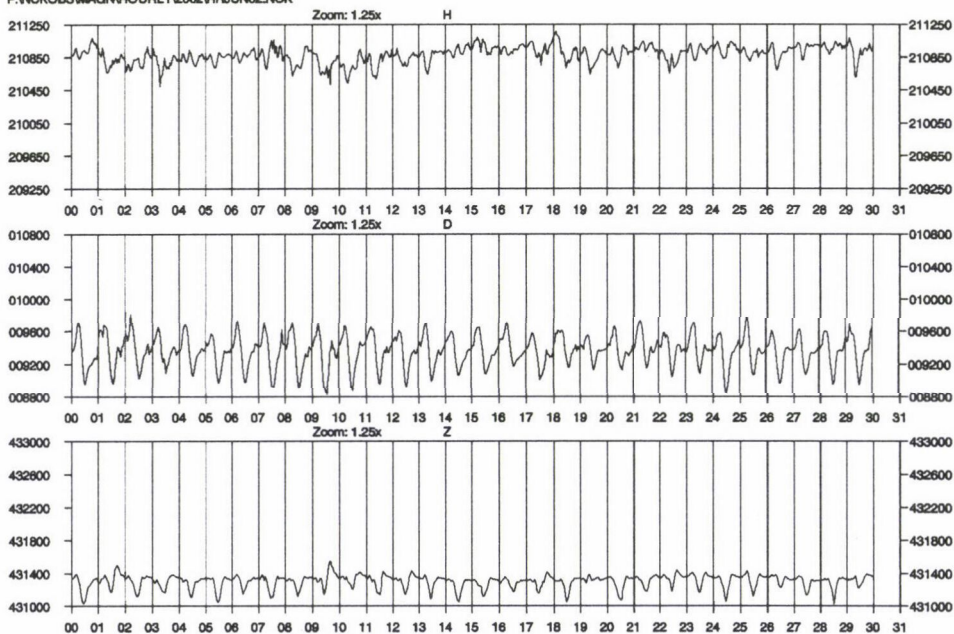
F:\NCKOBS\MAGN\HOURLY\2002\HRAPR02.NCK



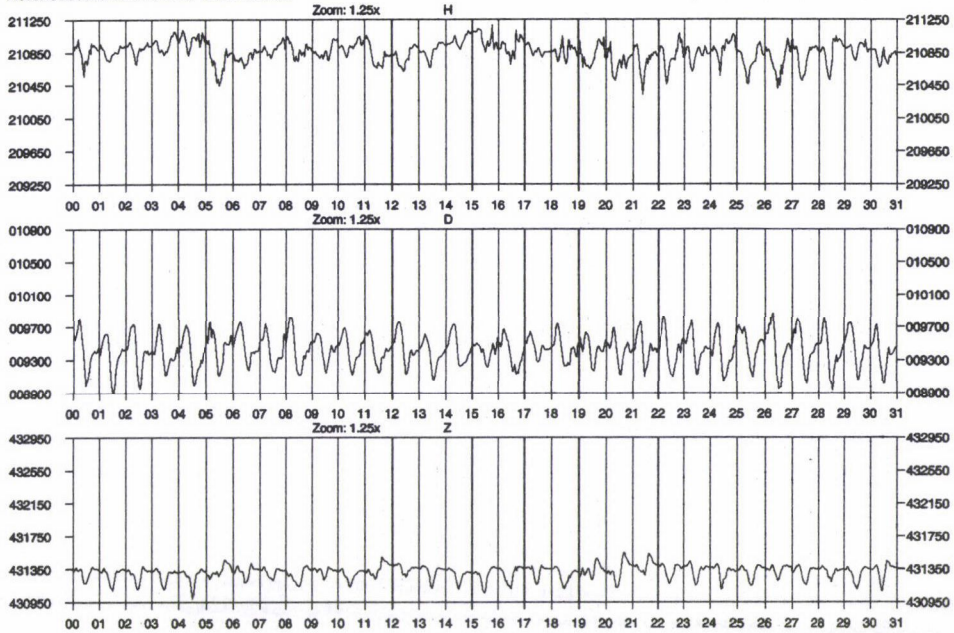
F:\NCKOBS\MAGN\HOURLY\2002\HRMAY02.NCK



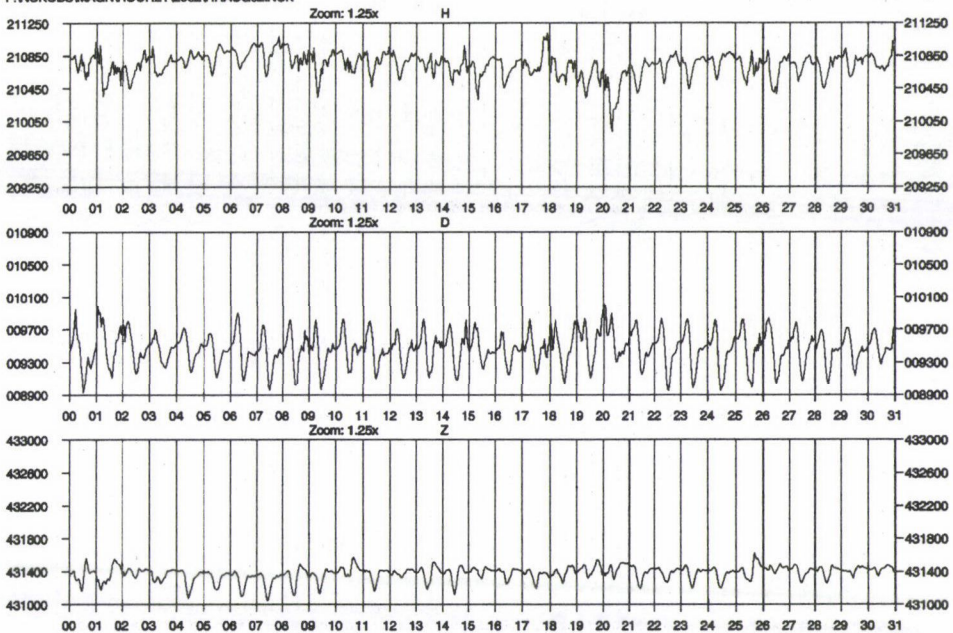
F:\NCKOBS\MAGN\HOURLY\2002\HRJUN02.NCK



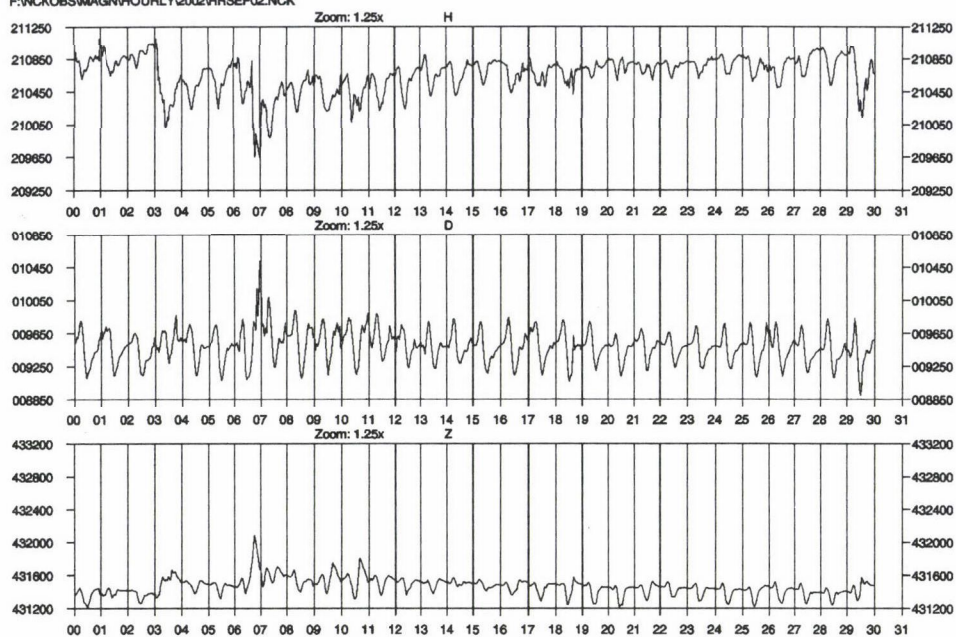
F:\NCKOBS\MAGN\HOURLY\2002\HRAJUL02.NCK



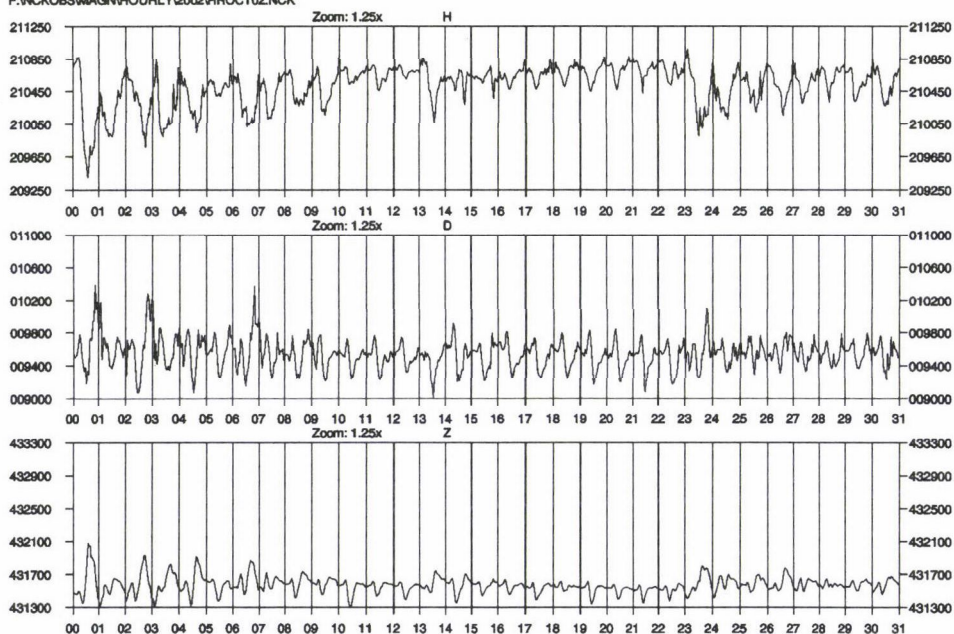
F:\NCKOBS\MAGN\HOURLY\2002\HRAUG02.NCK



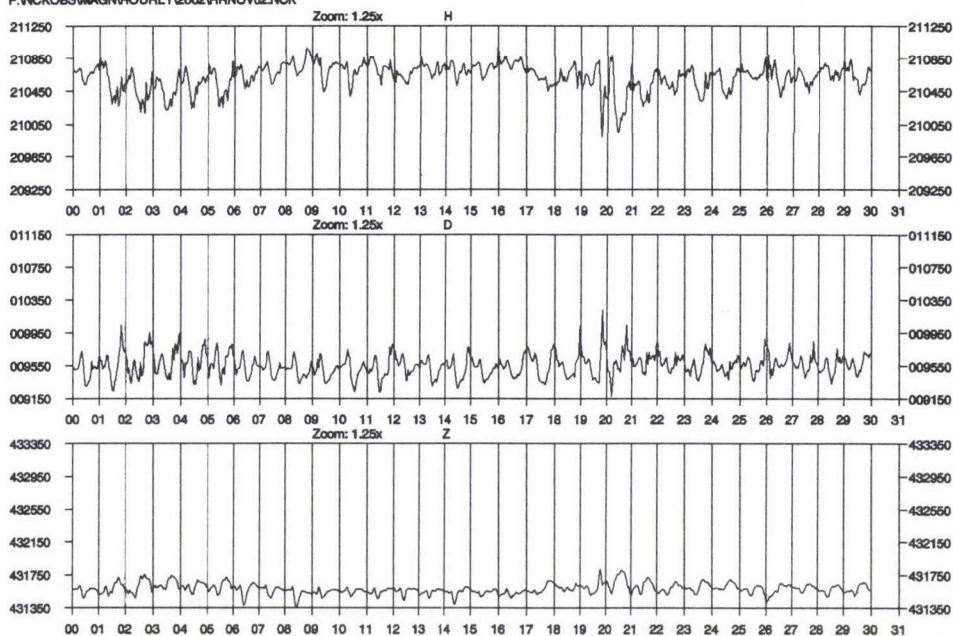
F:\NCKOBS\MAGN\HOURLY\2002\HRSEP02.NCK



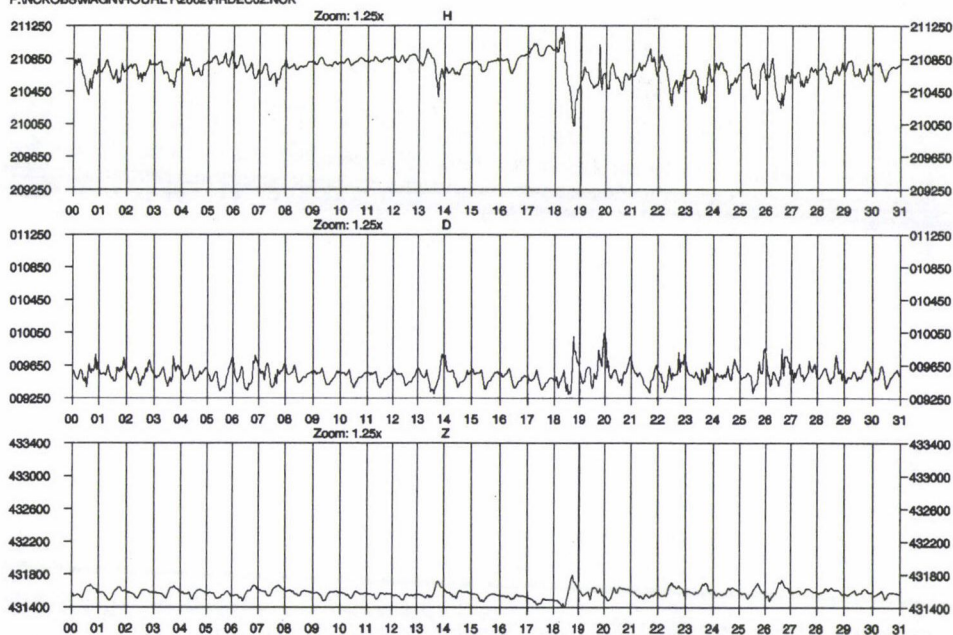
F:\NCKOBS\MAGN\HOURLY\2002\HROCT02.NCK



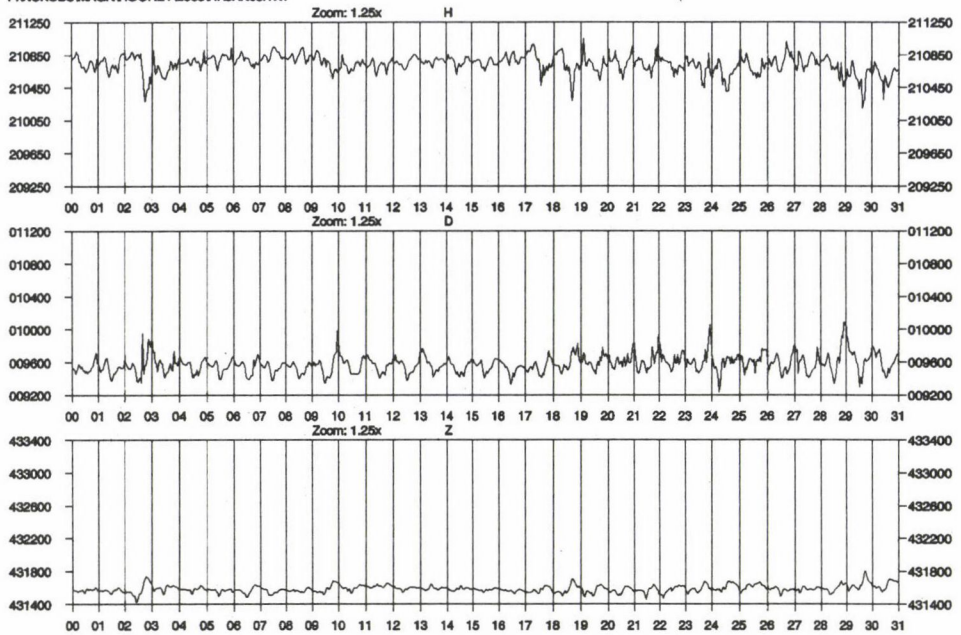
F:\NCKOBS\MAGN\HOURLY\2002\HRNOV02.NCK



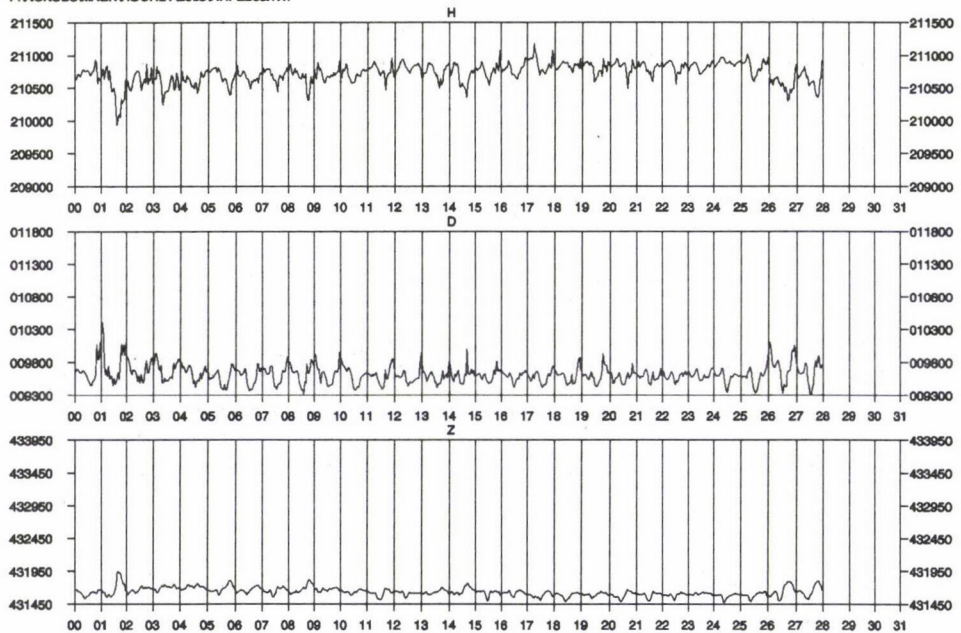
F:\NCKOBS\MAGN\HOURLY\2002\HRDEC02.NCK



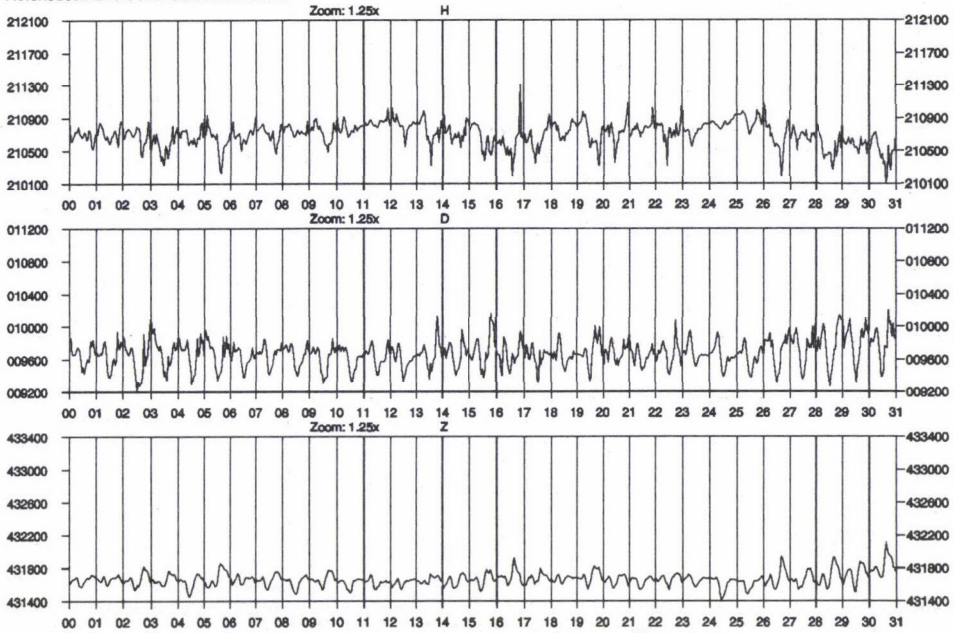
F:\NCKOBS\MAGN\HOURLY\2003\HRJAN03.TXT



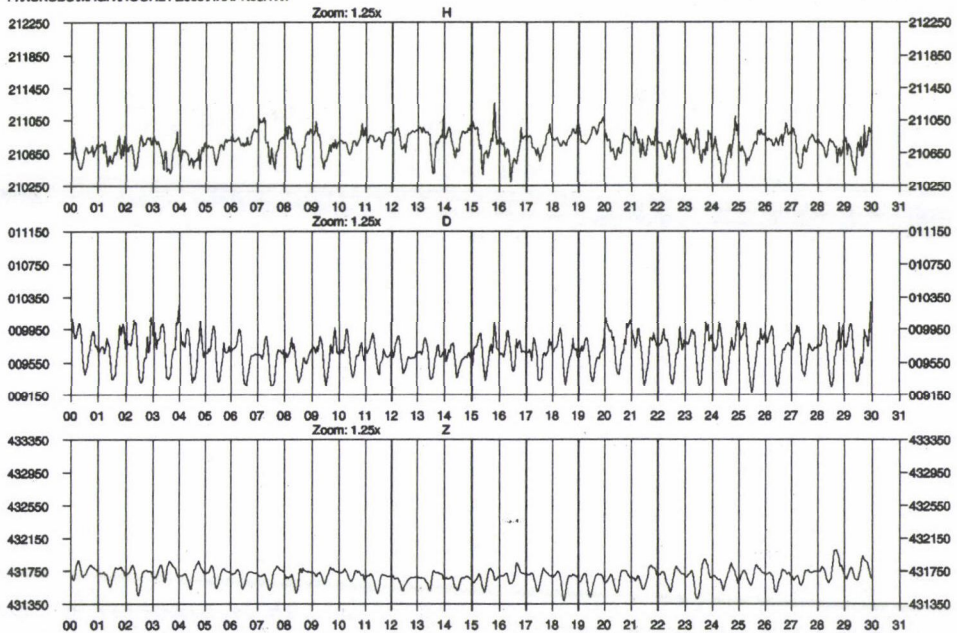
F:\NCKOBS\MAGN\HOURLY\2003\HRFEB03.TXT



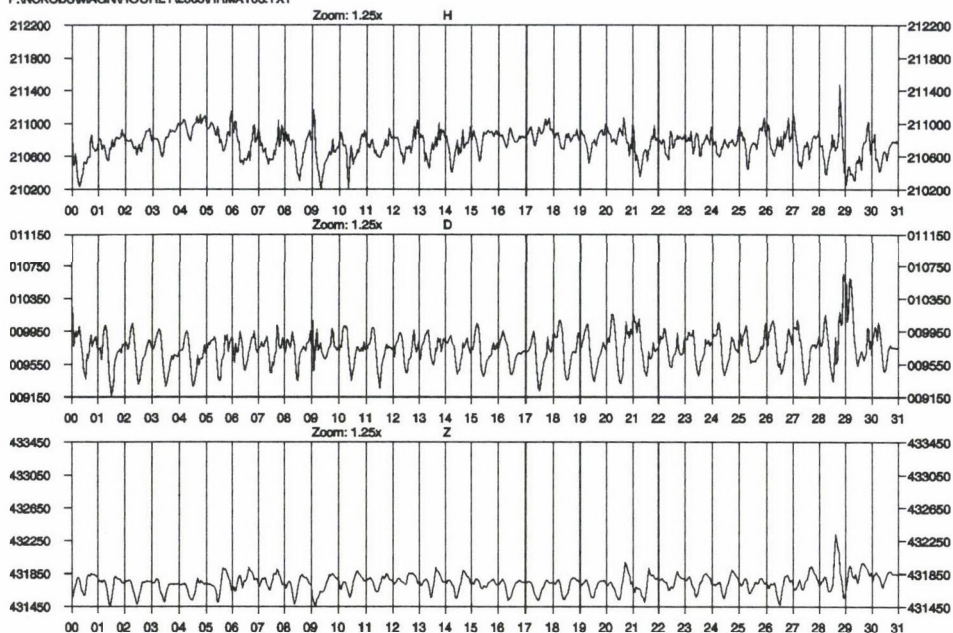
F:\NCKOBSMAGN\HOURLY\2003\HRMAR03.TXT



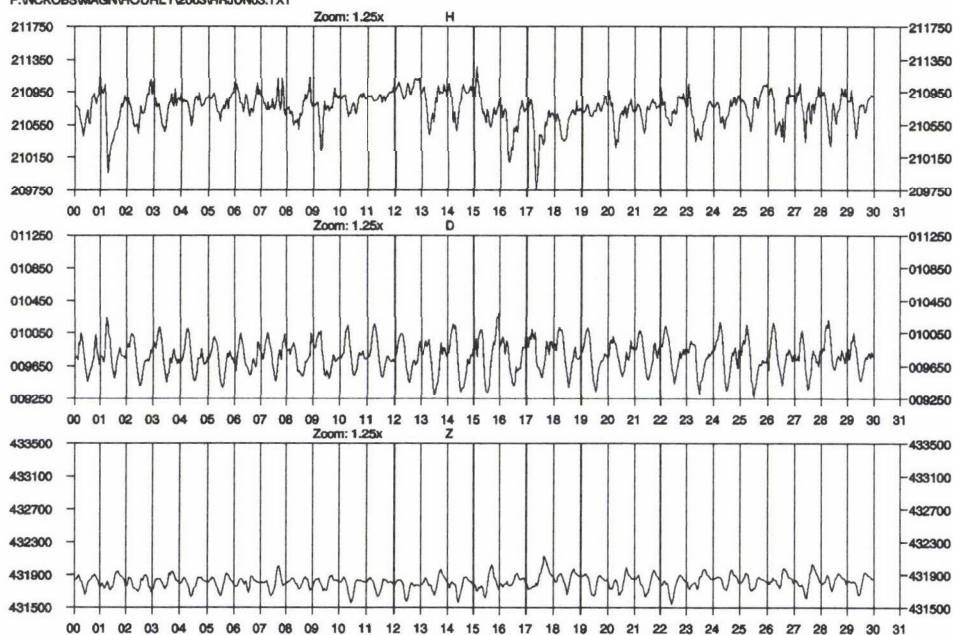
F:\NCKOBSMAGN\HOURLY\2003\HRAPR03.TXT



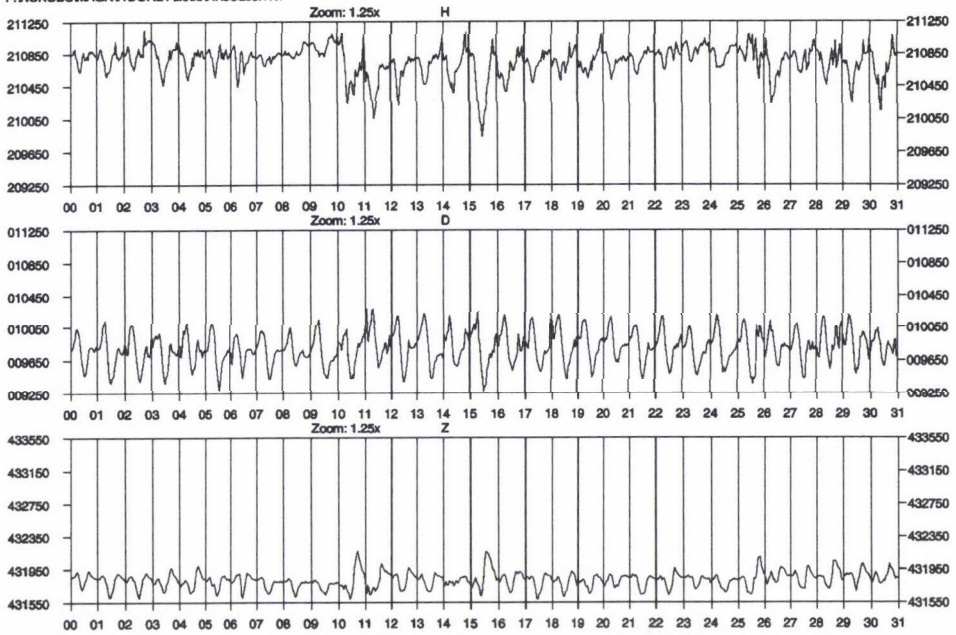
F:\NCKOBS\MAGNH\HOURLY\2003\HRMAY03.TXT



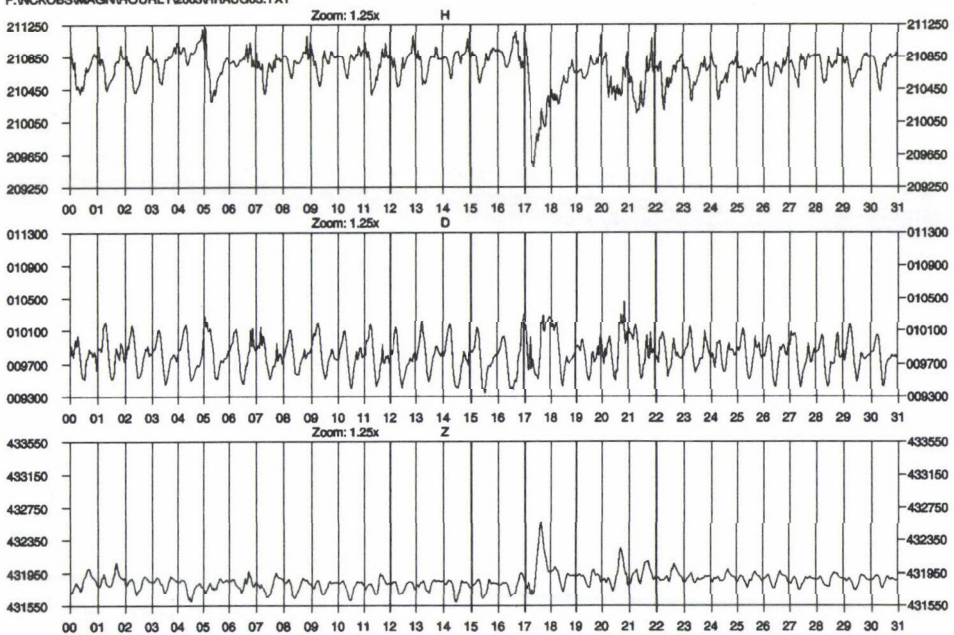
F:\NCKOBS\MAGNH\HOURLY\2003\HRJUN03.TXT



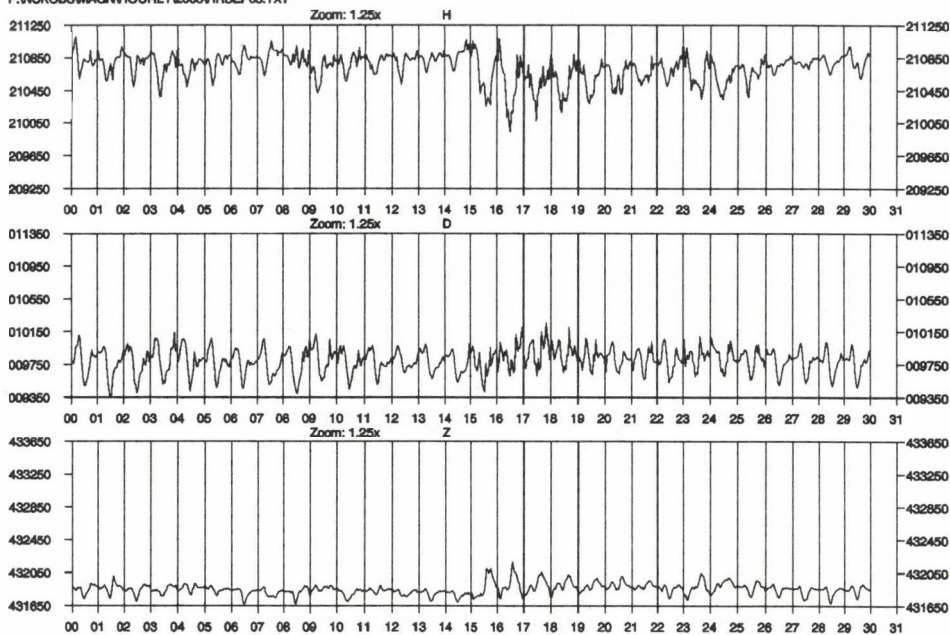
F:\WCKOBSMAGNH\HOURLY\2003\HRJUL03.TXT



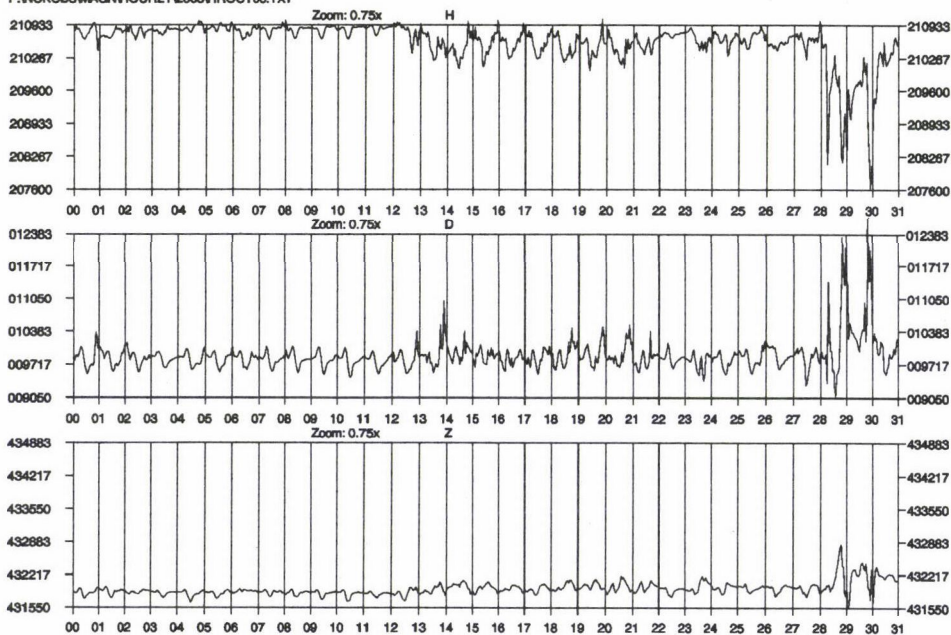
F:\WCKOBSMAGNH\HOURLY\2003\HRAUG03.TXT



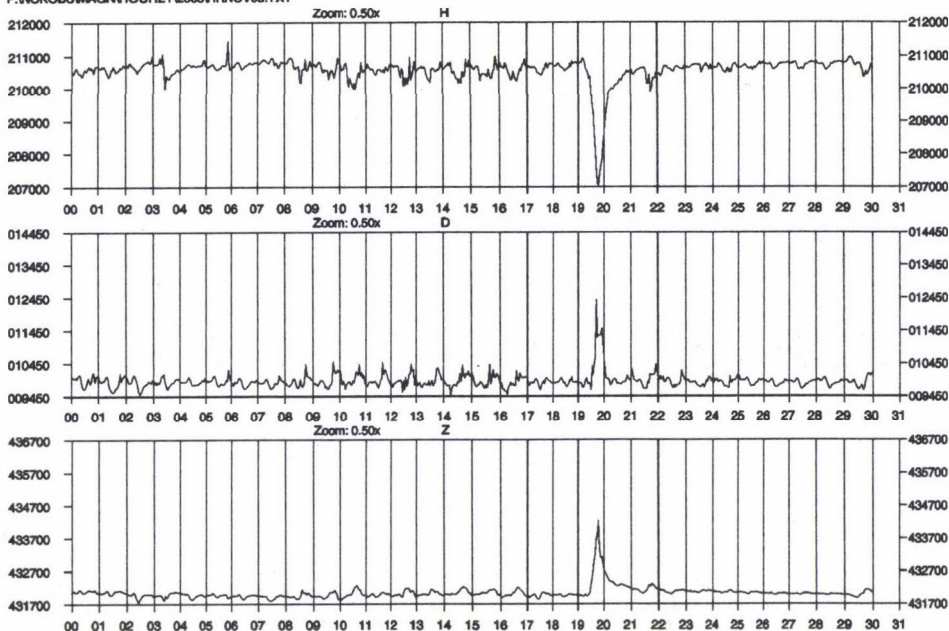
F:\NCKOBS\MAGN\HOURLY\2003\HRSEP03.TXT



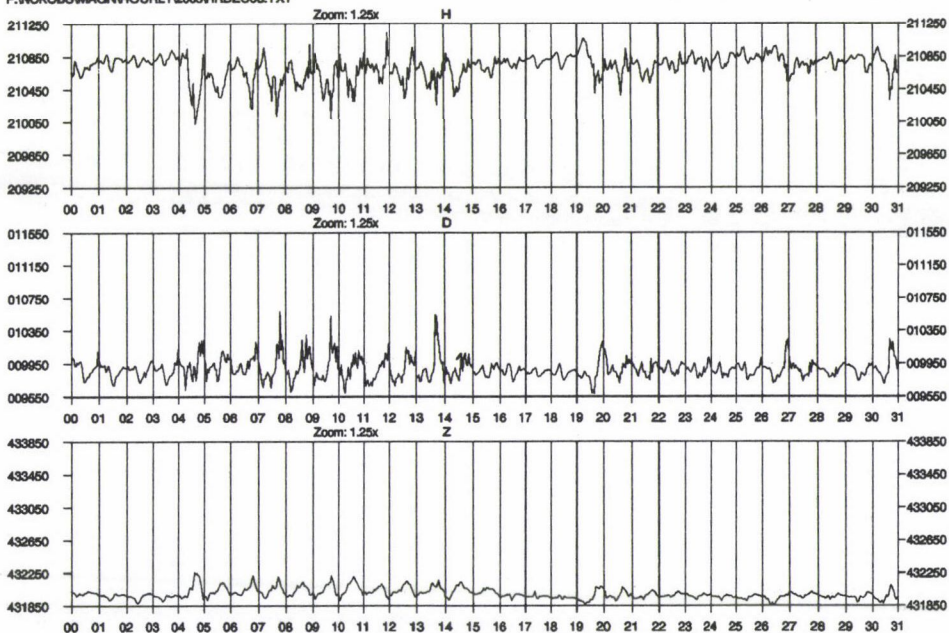
F:\NCKOBS\MAGN\HOURLY\2003\HROCT03.TXT



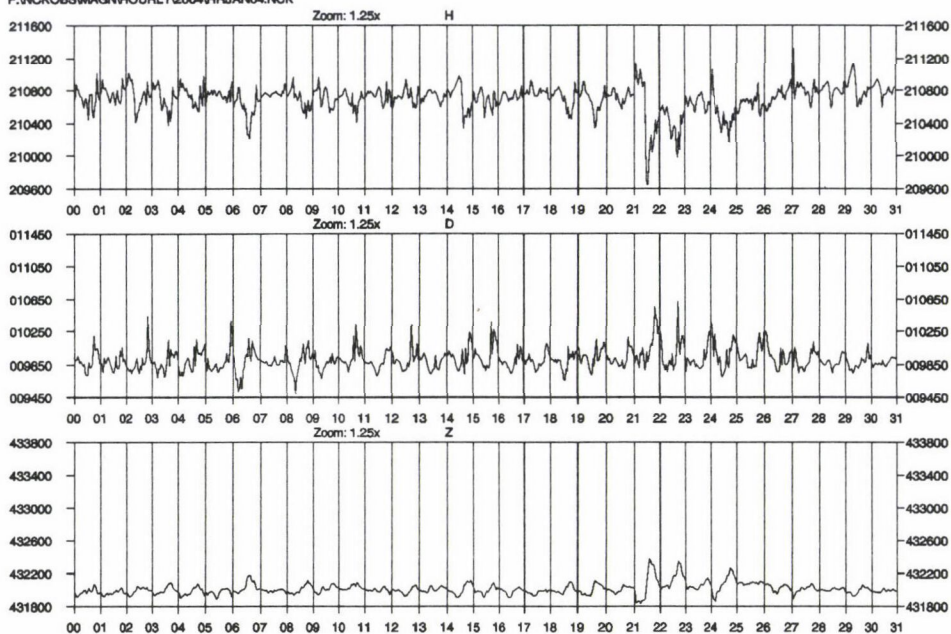
F:\NCKOBSMAGN\HOURLY\2003\HRNOV03.TXT



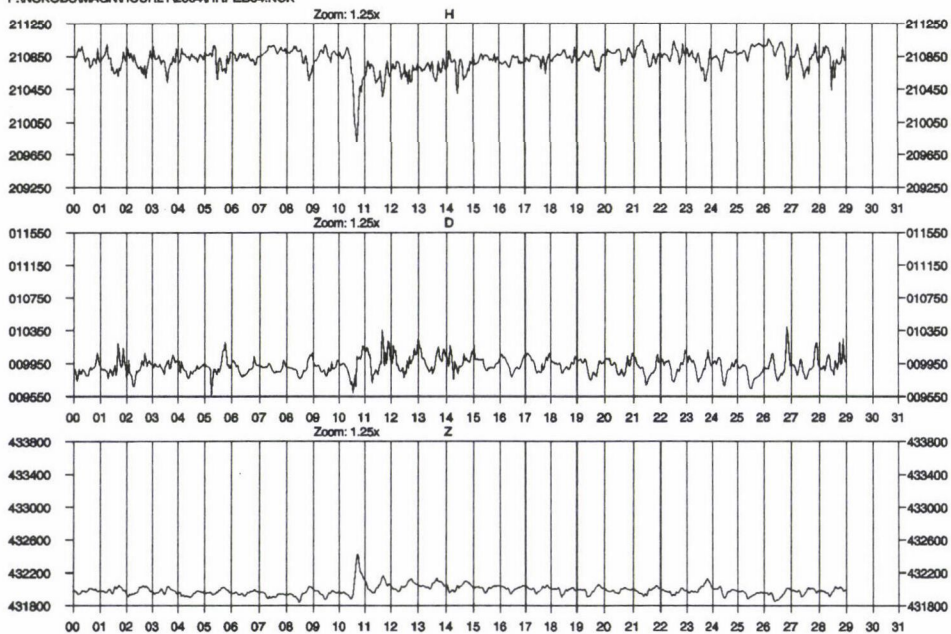
F:\NCKOBSMAGN\HOURLY\2003\HRDEC03.TXT



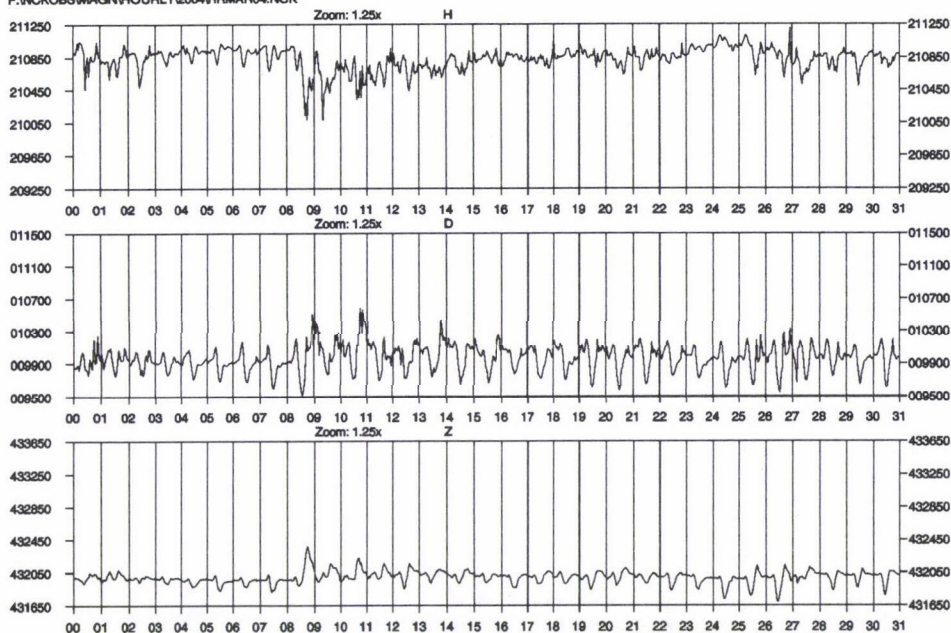
F:\NCKOBS\MAGN\HOURLY\2004\HRJAN04.NCK



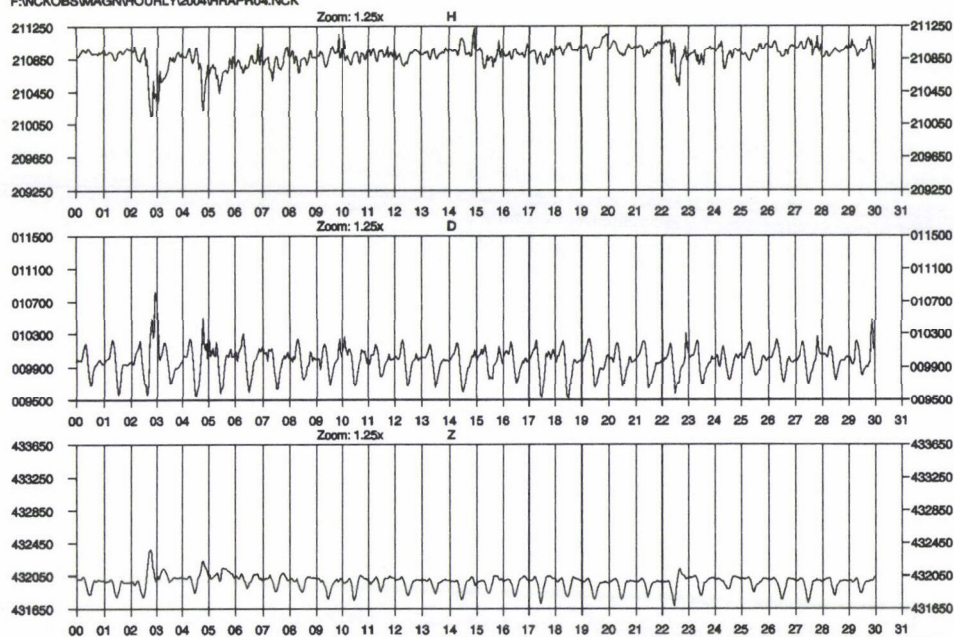
F:\NCKOBS\MAGN\HOURLY\2004\HRFEB04.NCK



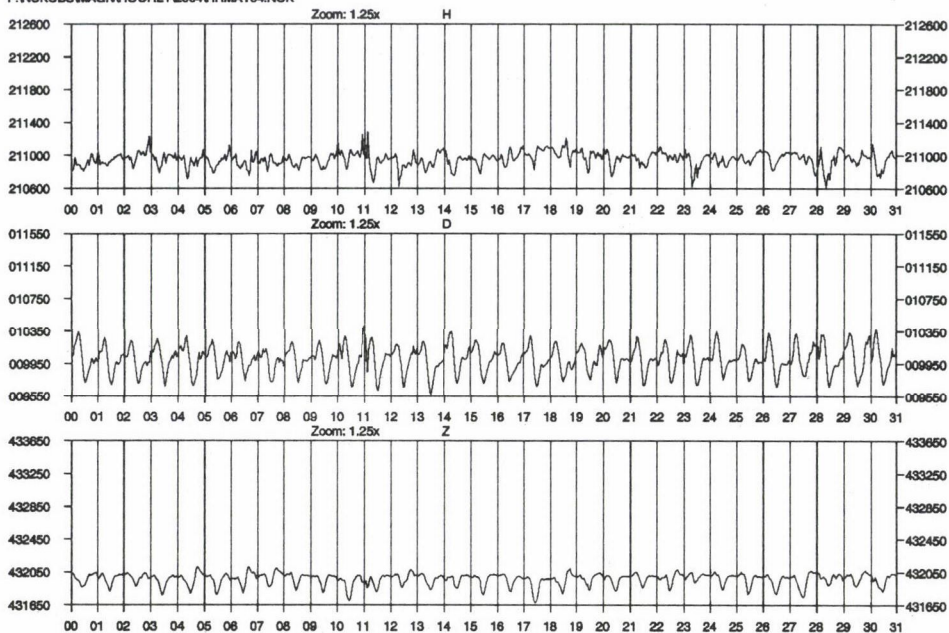
F:\NCKOBS\MAGN\HOURLY\2004\HRMAR04.NCK



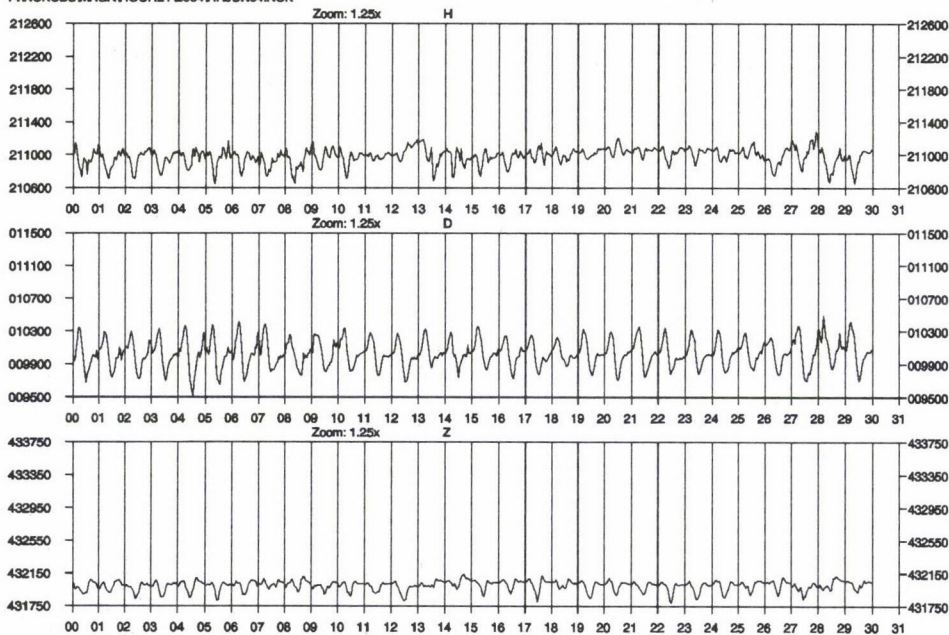
F:\NCKOBS\MAGN\HOURLY\2004\HRAPR04.NCK



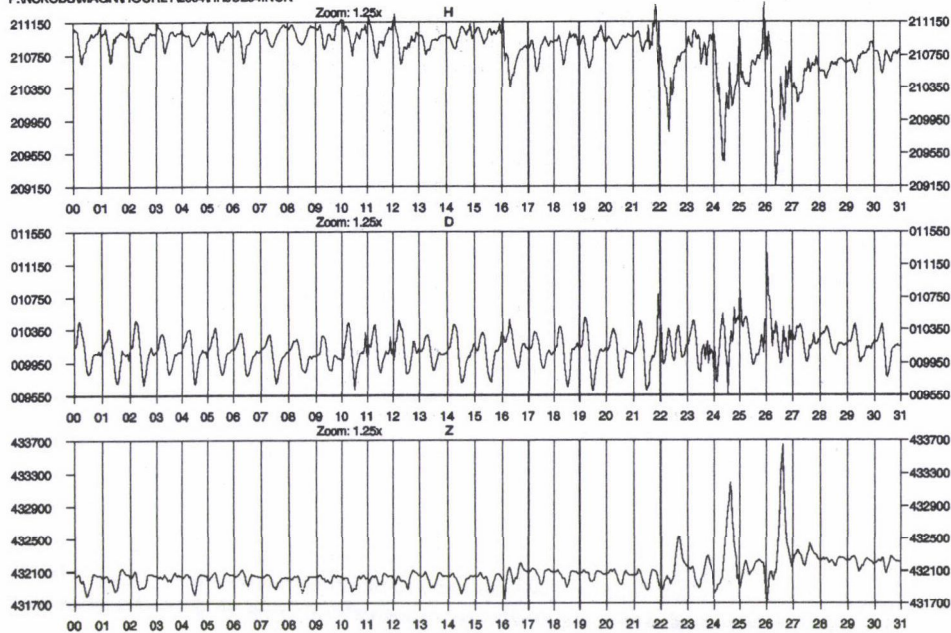
F:\NCKOBS\MAGN\HOURLY\2004\HRMAY04.NCK



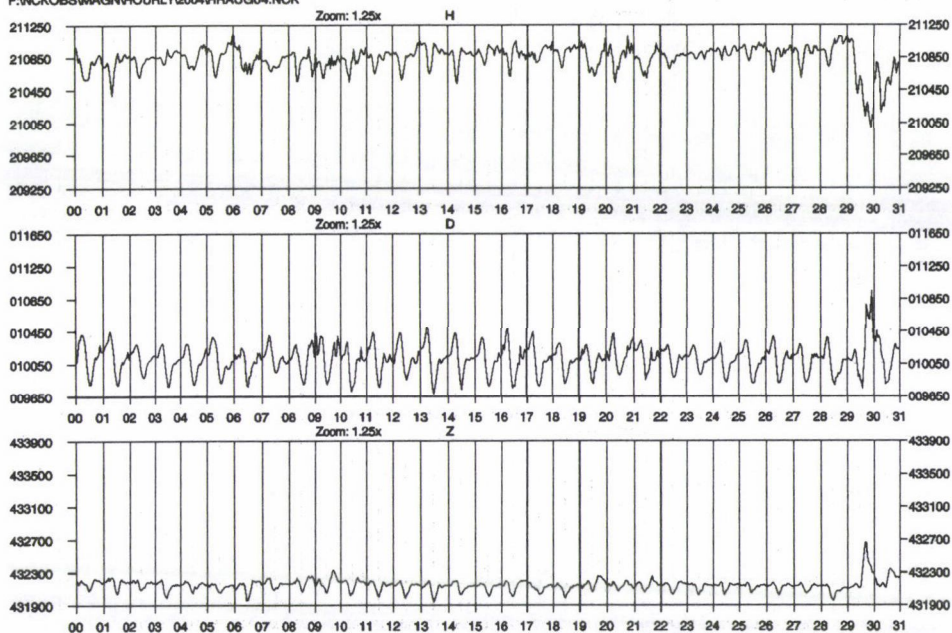
F:\NCKOBS\MAGN\HOURLY\2004\HRJUN04.NCK



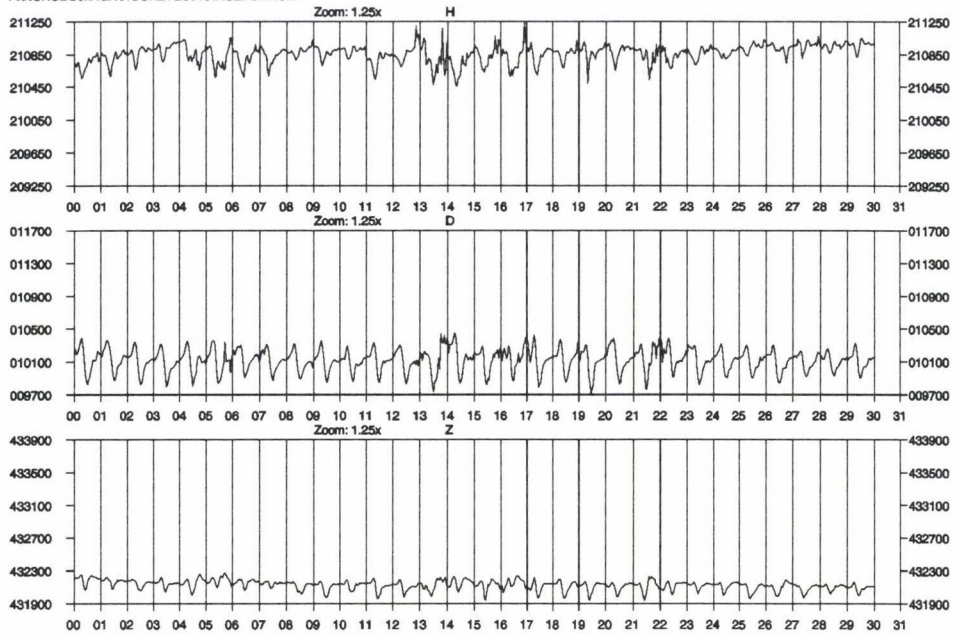
F:\NCKOBS\MAGNH\HOURLY\2004\HRAUG04.NCK



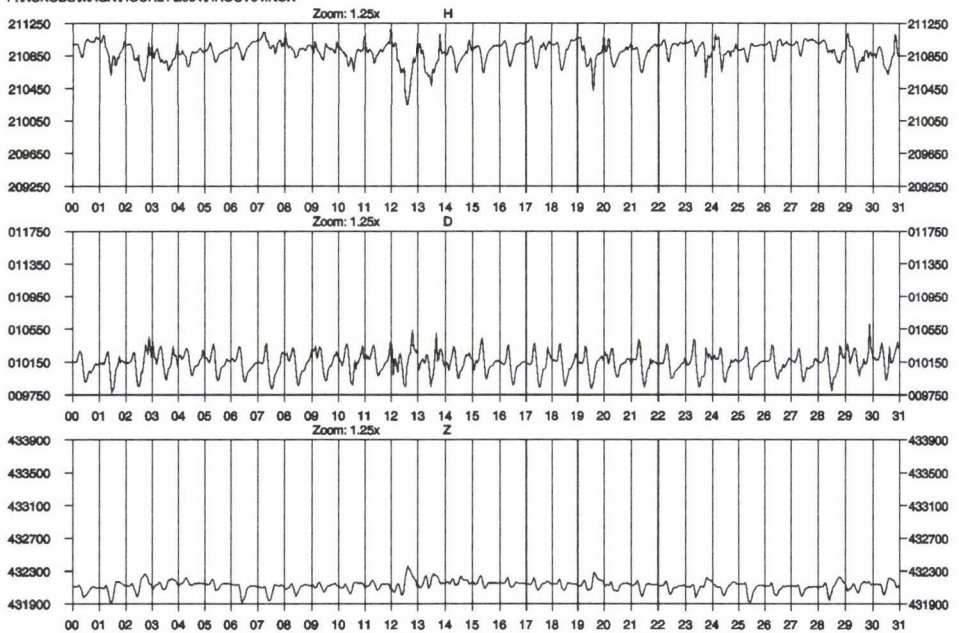
F:\NCKOBS\MAGNH\HOURLY\2004\HRAUG04.NCK



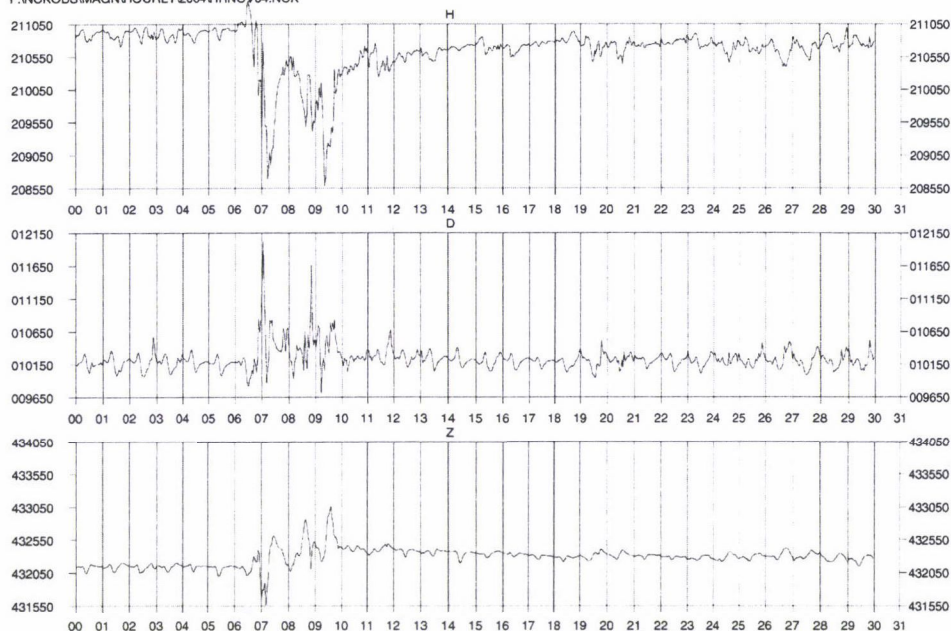
F:\NCKOBS\MAGN\HOURLY\2004\HRSEP04.NCK



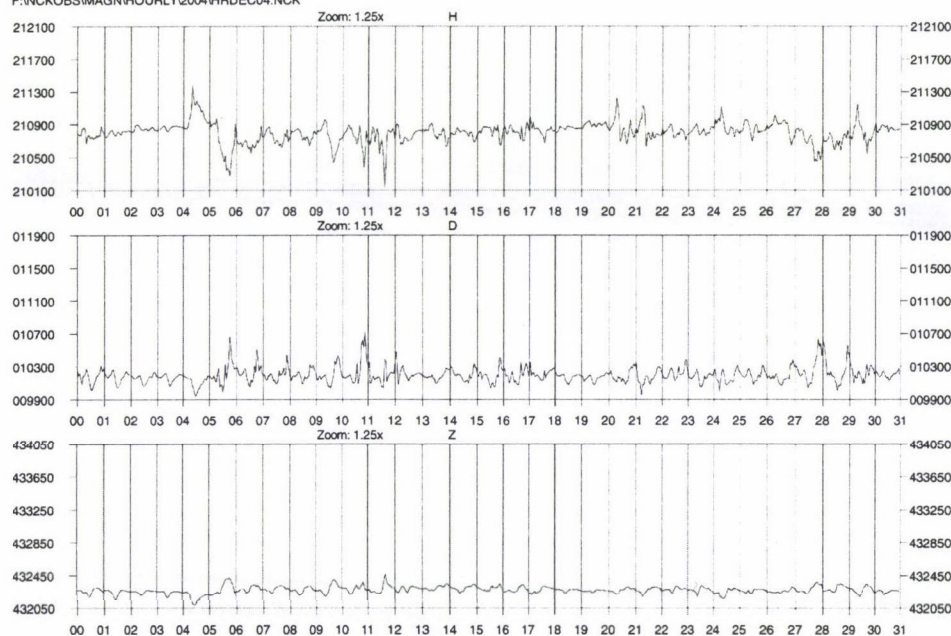
F:\NCKOBS\MAGN\HOURLY\2004\HROCT04.NCK



F:\NCKOBS\MAGN\HOURLY\2004\HRNOV04.NCK

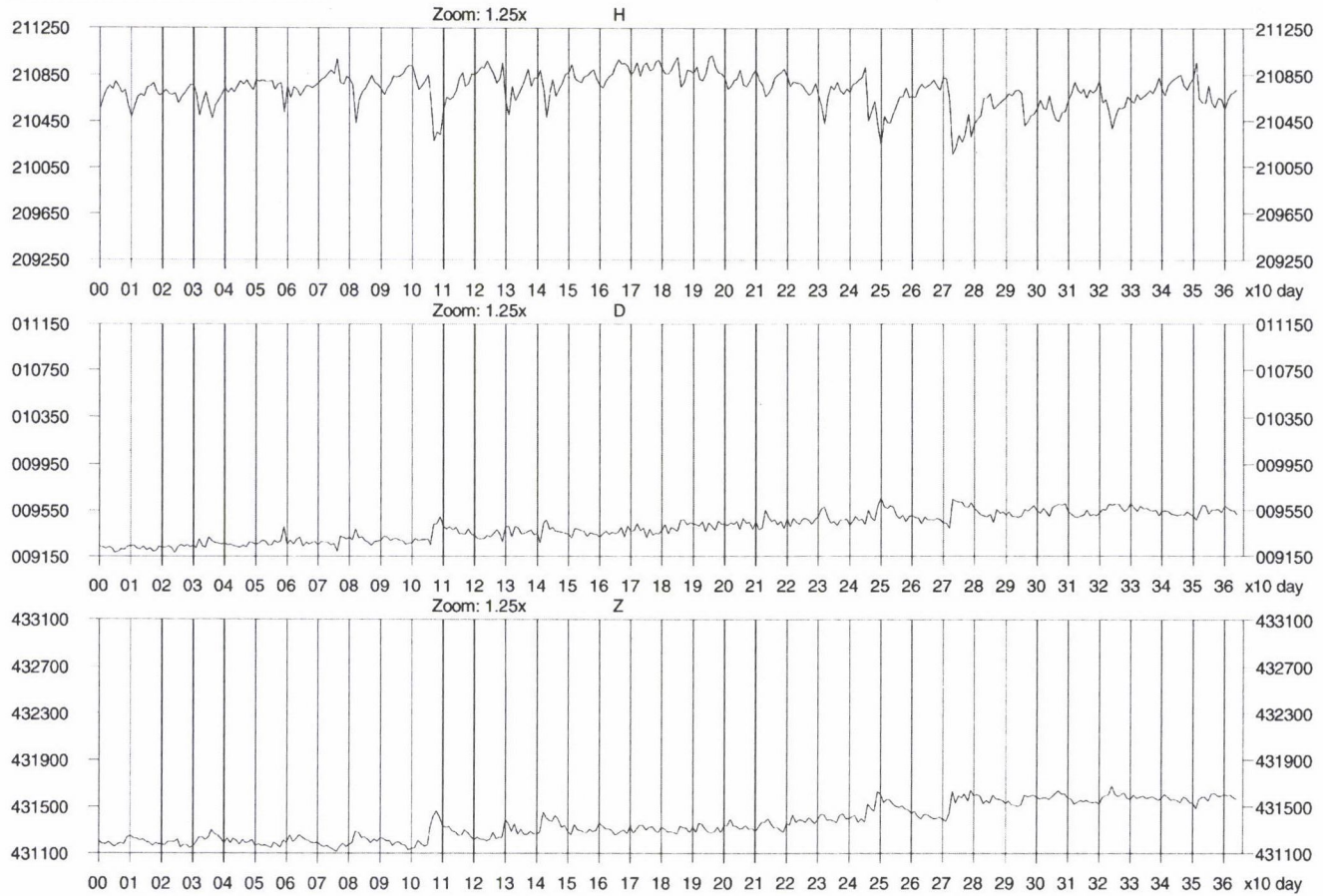


F:\NCKOBS\MAGN\HOURLY\2004\HRDEC04.NCK



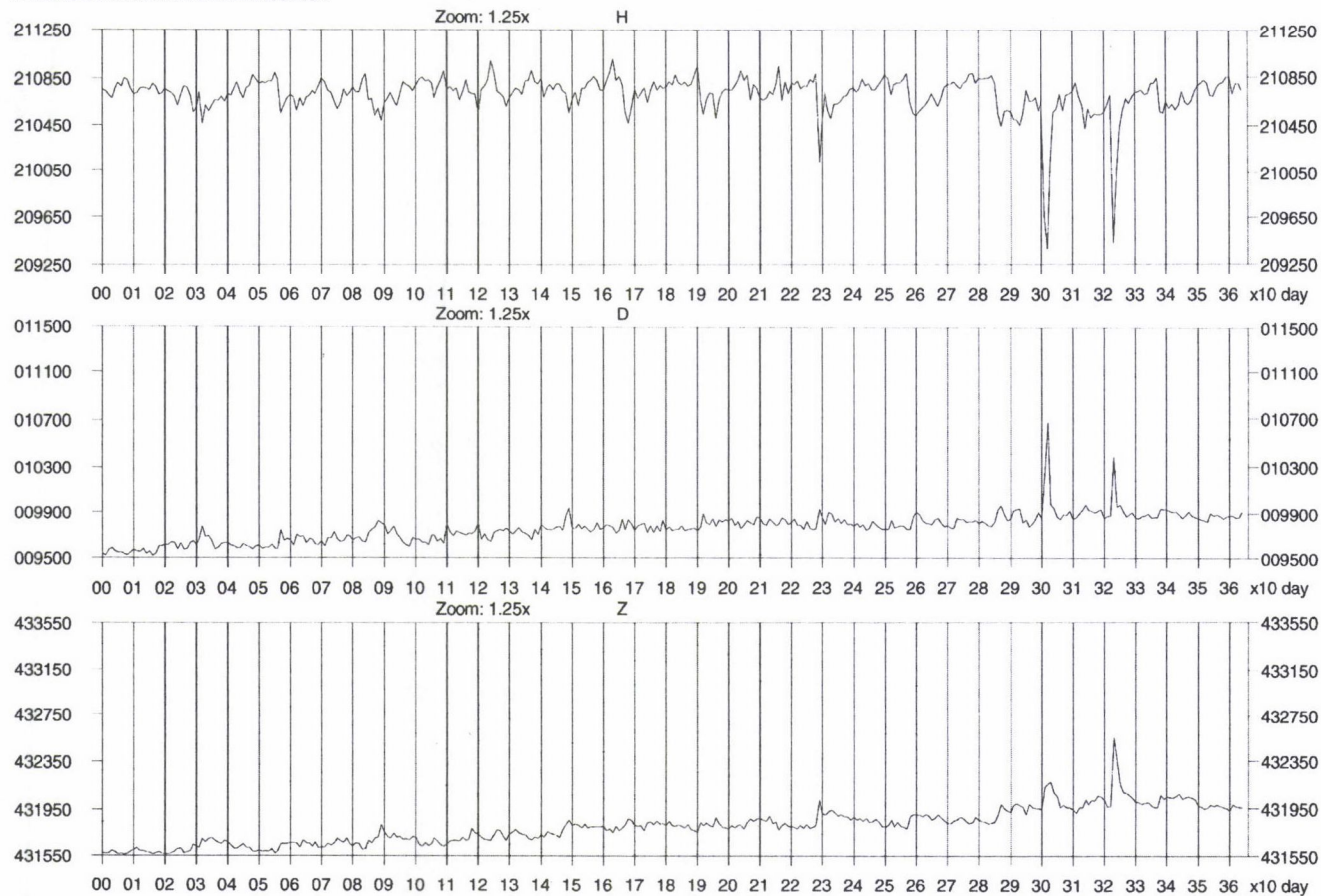
Daily mean values of H , D , Z
2002-2004

F:\NCKOBS\MAGN\DAI\YEAR02.NCK



Daily mean values 2002

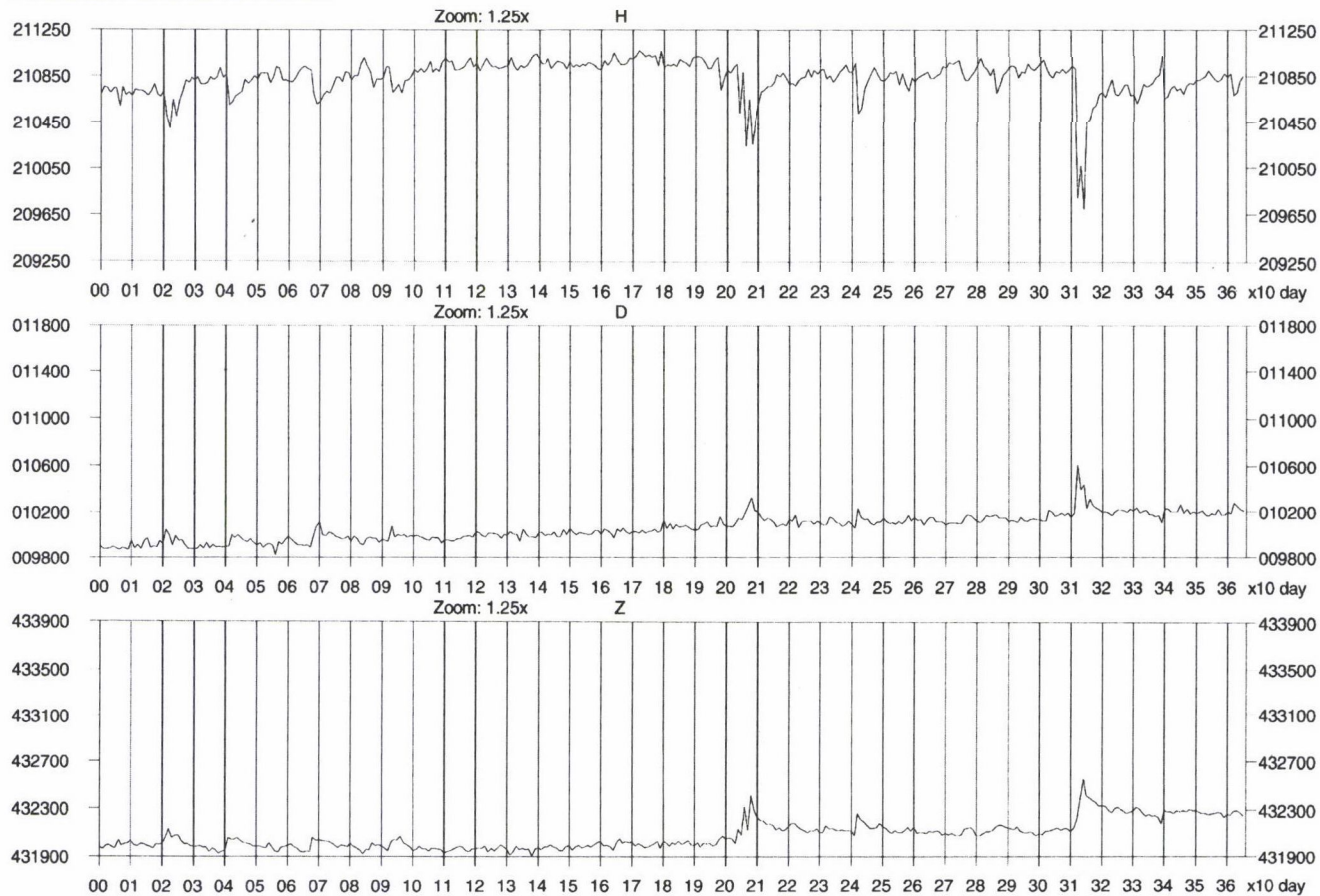
F:\NCKOBS\MAGN\DAI\Y\YEAR03.NCK



Daily mean values 2003

DAILY MEAN VALUES 2003

F:\NCKOBS\MAGN\DAI\Y\YEAR04.NCK



Daily mean values 2004

Geomagnetic K indices
2002–2004

Date	K	Sum	Date	K	Sum
020101	13210032	12	020211	31243323	21
020102	10012211	8	020212	32221013	14
020103	00022220	8	020213	12233410	16
020104	00010012	4	020214	00111000	3
020105	10100000	2	020215	00010110	3
020106	00000100	1	020216	01021201	7
020107	01020232	10	020217	33332103	18
020108	33322100	14	020218	01222234	16
020109	00010201	4	020219	21210021	9
020110	01233653	23	020220	10023213	12
020111	33332543	26	020221	11222123	14
020112	43333442	26	020222	22222142	17
020113	22233224	20	020223	21111001	7
020114	22223232	18	020224	01121011	7
020115	01232212	13	020225	20222143	16
020116	11100100	4	020226	12122223	15
020117	32122413	18	020227	10121012	8
020118	30010100	5	020228	14333356	28
020119	01133444	20	020301	43111100	11
020120	43222232	20	020302	11122222	13
020121	43222332	21	020303	11233234	19
020122	01131112	10	020304	32222332	19
020123	30132243	18	020305	54433433	29
020124	13010000	5	020306	23443433	26
020125	11033441	17	020307	11232103	13
020126	32232121	16	020308	11221010	8
020127	22232211	15	020309	10122311	11
020128	21133212	15	020310	01123104	12
020129	21130001	8	020311	24233222	20
020130	00000011	2	020312	22332323	20
020131	21000004	7	020313	21323100	12
020201	43233313	22	020314	10110000	3
020202	44333403	24	020315	00211022	8
020203	11021200	7	020316	10021010	5
020204	02001123	9	020317	00010011	3
020205	42234465	30	020318	10115333	17
020206	43433342	26	020319	55422222	24
020207	23333113	19	020320	10003421	11
020208	21133421	17	020321	22311232	16
020209	22131044	17	020322	23321100	12
020210	33211101	12	020323	00143334	18

Date	K	Sum	Date	K	Sum
020324	55433333	29	020504	02101111	7
020325	22112322	15	020505	10121012	8
020326	12343134	21	020506	01112323	13
020327	01201010	5	020507	21012322	13
020328	00000010	1	020508	22222212	15
020329	00010024	7	020509	30132111	12
020330	23435333	26	020510	21243445	25
020331	34333343	26	020511	00156664	28
020401	33333321	21	020512	42313223	20
020402	23332211	17	020513	32013211	13
020403	33322122	18	020514	25333354	28
020404	12111101	8	020515	34322342	23
020405	00001010	2	020516	21122132	14
020406	11011111	7	020517	00112012	7
020407	11223210	12	020518	01112065	16
020408	00111010	4	020519	44300000	11
020409	01001001	3	020520	12232342	19
020410	00212312	11	020521	30302114	14
020411	21233333	20	020522	22222322	17
020412	42234333	24	020523	24167733	33
020413	32233233	21	020524	00100000	1
020414	23024410	16	020525	00000121	4
020415	10101122	8	020526	10111322	11
020416	23201021	11	020527	42334323	24
020417	31255762	31	020528	22212222	15
020418	64543334	32	020529	21102101	8
020419	33455556	36	020530	11112212	11
020420	56434653	36	020531	10110110	5
020421	21001113	9	020601	00010212	6
020422	33221311	16	020602	44233324	25
020423	03533524	25	020603	23211132	15
020424	31121112	12	020604	33433322	23
020425	20000010	3	020605	31001101	7
020426	00000111	3	020606	10111101	6
020427	12123243	18	020607	00011120	5
020428	34333322	23	020608	00134433	18
020429	22232232	18	020609	32211132	15
020430	31122210	12	020610	22324432	22
020501	01011021	6	020611	12221111	11
020502	20001311	8	020612	31112123	14
020503	12111111	9	020613	12122321	14

Date	K	Sum	Date	K	Sum
020614	20010210	6	020725	12133234	19
020615	11000013	6	020726	32132332	19
020616	32213122	16	020727	43234333	25
020617	21100211	8	020728	34222323	21
020618	01124332	16	020729	12114321	15
020619	33231322	19	020730	12111232	13
020620	21131010	9	020731	00012331	10
020621	12122232	15	020801	03345435	27
020622	11001223	10	020802	54234435	30
020623	12212222	14	020803	52232332	22
020624	22111311	12	020804	24232231	19
020625	22123113	15	020805	12010112	8
020626	20001310	7	020806	22002000	6
020627	00000110	2	020807	10111110	6
020628	00000100	1	020808	00002234	11
020629	00010122	6	020809	22223343	21
020630	13223223	18	020810	44223223	22
020701	33244321	22	020811	02133333	18
020702	21100121	8	020812	32333313	21
020703	01111020	6	020813	33220032	15
020704	11001012	6	020814	12124433	20
020705	22212333	18	020815	21243355	25
020706	34343433	27	020816	32312210	14
020707	42112221	15	020817	03212122	13
020708	21022124	14	020818	32012155	19
020709	32332332	21	020819	53443345	31
020710	22221232	16	020820	24202356	24
020711	10001113	7	020821	44423343	27
020712	23254422	24	020822	33321220	16
020713	23121111	12	020823	11111132	11
020714	01020100	4	020824	22110010	7
020715	00210210	6	020825	10111002	6
020716	11132344	19	020826	12243534	24
020717	33223543	25	020827	33233314	22
020718	22210000	7	020828	02221223	14
020719	01033413	15	020829	30013311	12
020720	45322124	23	020830	11223120	12
020721	34314431	23	020831	01112123	11
020722	22343323	22	020901	42122125	19
020723	32223345	24	020902	32231001	12
020724	23212121	14	020903	00131043	12

Date	K	Sum	Date	K	Sum
020904	45444553	34	021015	23343442	25
020905	13221201	12	021016	32233363	25
020906	11223111	12	021017	33323223	21
020907	24312566	29	021018	33223243	22
020908	75321234	27	021019	33211133	17
020909	20002134	12	021020	33222123	18
020910	40123455	24	021021	22221122	14
020911	02332534	22	021022	31332140	17
020912	33222242	20	021023	11233424	20
020913	42132031	16	021024	44355655	37
020914	23211121	13	021025	44444233	28
020915	10011222	9	021026	23445553	31
020916	00123110	8	021027	33324444	27
020917	02122332	15	021028	43333353	27
020918	32234122	19	021029	32233142	20
020919	21234532	22	021030	22321233	18
020920	21100002	6	021031	43245542	29
020921	10123310	11	021101	10120232	11
020922	11212231	13	021102	53334455	32
020923	10110000	3	021103	33235665	33
020924	00110010	3	021104	33332545	28
020925	00011101	4	021105	34334334	27
020926	20110123	10	021106	42334455	30
020927	20022211	10	021107	33121232	17
020928	10111221	9	021108	00121030	7
020929	00211112	8	021109	00111233	11
020930	23444335	28	021110	44422222	22
021001	22436746	34	021111	12334132	19
021002	55432424	29	021112	13144152	21
021003	53333566	34	021113	33234111	18
021004	75343365	36	021114	21122321	14
021005	43234543	28	021115	22222123	16
021006	12320244	18	021116	31111013	11
021007	34534565	35	021117	32100110	8
021008	44344543	31	021118	31111233	15
021009	01433443	22	021119	33322135	22
021010	23232114	18	021120	22221574	25
021011	11121222	12	021121	34555455	36
021012	21132212	14	021122	43334534	29
021013	11000012	5	021123	33232442	23
021014	33345323	26	021124	22221534	21

Date	K	Sum
021125	22223423	20
021126	32012246	20
021127	54223223	23
021128	22213441	19
021129	22222433	20
021130	32322333	21
021201	32233424	23
021202	22232433	21
021203	22233231	18
021204	11223442	19
021205	22121310	12
021206	11021323	13
021207	33333244	25
021208	23312333	20
021209	21011101	7
021210	20010011	5
021211	00121000	4
021212	11012100	6
021213	10011001	4
021214	22232433	21
021215	31112120	11
021216	11011002	6
021217	21000001	4
021218	00002000	2
021219	23443562	29
021220	32224465	28
021221	54222322	22
021222	20024243	17
021223	31344453	27
021224	30235553	26
021225	32213241	18
021226	20122435	19
021227	45444533	32
021228	33333422	23
021229	21221533	19
021230	30212242	16
021231	30111001	7

Date	K	Sum	Date	K	Sum
030101	01212034	13	030211	31120121	11
030102	10012121	8	030212	11131453	19
030103	30112645	22	030213	11021005	10
030104	54222243	24	030214	43133444	26
030105	11122224	15	030215	44244522	27
030106	01110123	9	030216	22233445	25
030107	11111142	12	030217	21222312	15
030108	20100001	4	030218	24422234	23
030109	00001021	4	030219	11023334	17
030110	12122334	18	030220	22333353	24
030111	33121124	17	030221	13221443	20
030112	11212222	13	030222	22224403	19
030113	32120013	12	030223	32123333	20
030114	32231212	16	030224	00111003	6
030115	30012201	9	030225	10112101	7
030116	10121021	8	030226	11322223	16
030117	01112201	8	030227	44234444	29
030118	11224343	20	030228	21132436	22
030119	22233444	24	030301	31233243	21
030120	44122342	22	030302	22122353	20
030121	43333333	25	030303	31123365	24
030122	22122445	22	030304	44344544	32
030123	54123323	23	030305	32133544	25
030124	32222444	23	030306	53332444	28
030125	34344323	26	030307	43222033	19
030126	53233343	26	030308	01123323	15
030127	33100413	15	030309	12221134	16
030128	44222123	20	030310	02222445	21
030129	11123554	22	030311	32222420	17
030130	52333541	26	030312	11111013	9
030131	32343211	19	030313	33123011	14
030201	21000264	15	030314	11234253	21
030202	55443565	37	030315	43223443	25
030203	42134554	28	030316	11134454	23
030204	44532254	29	030317	24335456	32
030205	52123412	20	030318	44445122	26
030206	22233343	22	030319	33222232	19
030207	33113241	18	030320	02334335	23
030208	33233234	23	030321	43344045	27
030209	42223543	25	030322	12231033	15
030210	33321134	20	030323	32342434	25

Date	K	Sum	Date	K	Sum
030324	22111110	9	030504	21011111	8
030325	01000110	3	030505	12122433	18
030326	01111223	11	030506	32135455	28
030327	42334433	26	030507	54534442	31
030328	23322445	25	030508	33244554	30
030329	43223365	28	030509	43435324	28
030330	52333445	29	030510	75311341	25
030331	32135555	29	030511	42434333	26
030401	43221342	21	030512	22332252	21
030402	12322445	23	030513	43343344	28
030403	22212244	19	030514	43324453	28
030404	43333355	29	030515	22223424	21
030405	33223453	25	030516	21001123	10
030406	11100312	9	030517	21111110	8
030407	10013101	7	030518	01000343	11
030408	42243311	20	030519	33212333	20
030409	43333322	23	030520	21222012	12
030410	23343343	25	030521	32122545	24
030411	12121243	16	030522	54324342	27
030412	21013310	11	030523	13242412	19
030413	21212011	10	030524	33223344	24
030414	22033334	20	030525	32231313	18
030415	32233222	19	030526	42322133	20
030416	42353455	31	030527	33333344	26
030417	13243441	22	030528	44444343	30
030418	13243323	21	030529	32326677	36
030419	12011133	12	030530	56244655	37
030420	22113324	18	030531	55202111	17
030421	33322343	23	030601	14323244	23
030422	53343344	29	030602	34433423	26
030423	13332342	21	030603	43243334	26
030424	20214345	21	030604	23233442	23
030425	24242315	23	030605	21012232	13
030426	21323342	20	030606	22123333	19
030427	22121433	18	030607	43333324	25
030428	33221021	14	030608	33343555	31
030429	12103463	20	030609	23233334	23
030430	33223456	28	030610	22533332	23
030501	63334422	27	030611	23323231	19
030502	24222202	16	030612	10102311	9
030503	12132111	12	030613	10001233	10

Date	K	Sum	Date	K	Sum
030614	23234443	25	030725	00322110	9
030615	34322333	23	030726	22135654	28
030616	34233354	27	030727	53333321	23
030617	34345543	31	030728	11024333	17
030618	43542443	29	030729	34224454	28
030619	32232341	20	030730	23333444	26
030620	03222331	16	030731	33354444	30
030621	42212324	20	030801	53335134	27
030622	21211332	15	030802	33222442	22
030623	43342323	24	030803	32221333	19
030624	43334223	24	030804	02110233	12
030625	12332334	21	030805	30111203	11
030626	33234223	22	030806	53332222	22
030627	43335433	28	030807	02124565	25
030628	24255434	29	030808	44442453	30
030629	33343344	27	030809	23332225	22
030630	33322322	20	030810	32121231	15
030701	22112222	14	030811	01222333	16
030702	11222333	17	030812	33433432	25
030703	31113444	21	030813	23223124	19
030704	44353434	30	030814	32322232	19
030705	43324342	25	030815	22222323	18
030706	21112332	15	030816	22121220	12
030707	32313221	17	030817	00005455	19
030708	00002100	3	030818	54635645	38
030709	01100021	5	030819	43333322	23
030710	11223123	15	030820	01211435	17
030711	33435544	31	030821	34545655	37
030712	45433244	29	030822	54445555	37
030713	32212322	17	030823	35334433	28
030714	11223334	19	030824	31332242	20
030715	53242245	27	030825	23422322	20
030716	43444344	30	030826	30011223	12
030717	43133243	23	030827	00111233	11
030718	22112334	18	030828	42232232	20
030719	31244435	26	030829	11023342	16
030720	33123224	20	030830	33121211	14
030721	32100010	7	030831	11002120	7
030722	10121230	10	030901	22310241	15
030723	12212332	16	030902	31124123	17
030724	21002223	12	030903	22223233	19

Date	K	Sum	Date	K	Sum
030904	32223344	23	031015	24454656	36
030905	42221320	16	031016	43345544	32
030906	31021222	13	031017	44444334	30
030907	10000110	3	031018	33325444	28
030908	00002113	7	031019	43335565	34
030909	21134244	21	031020	32223445	25
030910	41232343	22	031021	42345666	36
030911	32122243	19	031022	44434641	30
030912	22121120	11	031023	20311100	8
030913	32100013	10	031024	01115766	27
030914	00001022	5	031025	42335414	26
030915	00000033	6	031026	22231155	21
030916	42335343	27	031027	22322210	14
030917	54445655	38	031028	44352534	30
030918	55353654	36	031029	11955576	39
030919	43344553	31	031030	84344698	46
030920	34324523	26	031031	87666444	45
030921	31123432	19	031101	53323354	28
030922	32233451	23	031102	32333353	25
030923	13232422	19	031103	33221333	20
030924	54435354	33	031104	33671232	27
030925	42334544	29	031105	10010024	8
030926	31122333	18	031106	30011264	17
030927	10010001	3	031107	22021221	12
030928	00011220	6	031108	10013432	14
030929	00010002	3	031109	11326563	27
030930	00100212	6	031110	33233455	28
031001	30000055	13	031111	54345654	36
031002	22211223	15	031112	43233652	28
031003	33322432	22	031113	42556666	40
031004	01122000	6	031114	54345354	33
031005	00000114	6	031115	24555654	36
031006	10122133	13	031116	24436665	36
031007	41232433	22	031117	44445654	36
031008	11121012	9	031118	52333532	26
031009	42121100	11	031119	10123440	15
031010	00000001	1	031120	02357978	41
031011	10010000	2	031121	66543332	32
031012	00011012	5	031122	52133564	29
031013	32113355	23	031123	34323254	26
031014	22334377	31	031124	32124234	21

Date	K	Sum
031125	33322422	21
031126	12112323	15
031127	22111121	11
031128	22022000	8
031129	11111102	8
031130	12010343	14
031201	23120103	12
031202	01220001	6
031203	00000200	2
031204	00000134	8
031205	34435545	33
031206	42332533	25
031207	20113354	19
031208	24234565	31
031209	23335545	30
031210	53234555	32
031211	54545555	38
031212	33223445	26
031213	33235554	30
031214	43224655	31
031215	43235433	27
031216	21220332	15
031217	21011210	8
031218	11000000	2
031219	00100000	1
031220	00033533	17
031221	44222443	25
031222	23233443	24
031223	12100231	10
031224	01001322	9
031225	00012200	5
031226	21010113	9
031227	22131115	16
031228	23223342	21
031229	10021300	7
031230	10000132	7
031231	32112654	24

Date	K	Sum	Date	K	Sum
040101	33225554	29	040211	20024653	22
040102	43123343	23	040212	33443553	30
040103	23333363	26	040213	43234445	29
040104	32324552	26	040214	31223534	23
040105	43234655	32	040215	34441432	25
040106	42221136	21	040216	40010020	7
040107	33344552	29	040217	00000111	3
040108	00021014	8	040218	31010333	14
040109	32423442	24	040219	32110133	14
040110	33433342	25	040220	02000010	3
040111	00135532	19	040221	20011131	9
040112	01001344	13	040222	30012242	14
040113	21024544	22	040223	21022223	14
040114	32123332	19	040224	32011233	15
040115	12024554	23	040225	20012032	10
040116	42233554	28	040226	00000000	0
040117	22233354	24	040227	03012053	14
040118	22232055	21	040228	12333443	23
040119	32214543	24	040229	23154445	28
040120	33224513	23	040301	32324553	27
040121	12223252	19	040302	32423244	24
040122	54365464	37	040303	21233331	18
040123	43344665	35	040304	00120220	7
040124	52221334	22	040305	11111001	6
040125	45344554	34	040306	21000000	3
040126	31133354	23	040307	00020022	6
040127	32314414	22	040308	00020000	2
040128	63222453	27	040309	01133555	23
040129	10112013	9	040310	55634255	35
040130	22232344	22	040311	43335765	36
040131	10131111	9	040312	54222534	27
040201	13211133	15	040313	30434233	22
040202	10333514	20	040314	32323254	24
040203	32324423	23	040315	33233342	23
040204	41232234	21	040316	31022223	15
040205	32231223	18	040317	22010132	11
040206	13442452	25	040318	22222234	19
040207	10210031	8	040319	41011022	11
040208	00010103	5	040320	21012533	17
040209	10112032	10	040321	32213231	17
040210	00021301	7	040322	31101343	16

Date	K	Sum	Date	K	Sum
040323	11010032	8	040503	00100023	6
040324	10000001	2	040504	22210022	11
040325	00000211	4	040505	11122433	17
040326	10114553	20	040506	12111033	12
040327	22234535	26	040507	23223243	21
040328	35332432	25	040508	22121222	14
040329	21223322	17	040509	12001100	5
040330	01233121	13	040510	00010012	4
040331	00312330	12	040511	32111124	15
040401	00001020	3	040512	44010110	11
040402	00000000	0	040513	01421243	17
040403	21134566	28	040514	00001112	5
040404	61022222	17	040515	32110002	9
040405	00003355	16	040516	10000001	2
040406	42453043	25	040517	10010002	4
040407	31112144	17	040518	10011000	3
040408	23233122	18	040519	01013322	12
040409	33321031	16	040520	11231221	13
040410	22101045	15	040521	32100310	10
040411	31111231	13	040522	12221001	9
040412	32210040	12	040523	32122221	15
040413	10001031	6	040524	22334201	17
040414	10000002	3	040525	11001000	3
040415	00121024	10	040526	00000110	2
040416	12231243	18	040527	20000000	2
040417	11021102	8	040528	00012212	8
040418	01101223	10	040529	23231324	20
040419	30111101	8	040530	21123234	18
040420	00000102	3	040531	43232231	20
040421	13110031	10	040601	32233223	20
040422	00102011	5	040602	22211223	15
040423	12234424	22	040603	12111112	10
040424	10032222	12	040604	12122221	13
040425	03311211	12	040605	33122324	20
040426	00000310	4	040606	33223141	19
040427	01001011	4	040607	22112115	15
040428	00212243	14	040608	31121231	14
040429	00000011	2	040609	32232433	22
040430	33101255	20	040610	32202132	15
040501	31112232	15	040611	31000010	5
040502	10031030	8	040612	02000000	2

Date	K	Sum	Date	K	Sum
040613	00121212	9	040724	32435546	32
040614	10012232	11	040725	66566776	49
040615	33324333	24	040726	63111246	24
040616	22112001	9	040727	75667765	49
040617	02121222	12	040728	33213433	22
040618	12122221	13	040729	11211100	7
040619	22011200	8	040730	00110123	8
040620	10000101	3	040731	12112211	11
040621	01000200	3	040801	42111033	15
040622	02000000	2	040802	00001103	5
040623	00000100	1	040803	11000000	2
040624	00202000	4	040804	00001000	1
040625	00002010	3	040805	00001212	6
040626	02123311	13	040806	20000013	6
040627	00001002	3	040807	31133223	18
040628	22132243	19	040808	10100000	2
040629	34332342	24	040809	20222344	19
040630	12212221	13	040810	42014433	21
040701	32222223	18	040811	20322332	17
040702	22122323	17	040812	31021111	10
040703	11101220	8	040813	11000113	7
040704	21020002	7	040814	22232121	15
040705	21012222	12	040815	11002000	4
040706	02111100	6	040816	00002212	7
040707	01000010	2	040817	20012233	13
040708	00000000	0	040818	11312112	12
040709	11000010	3	040819	10001101	4
040710	01100221	7	040820	21133323	18
040711	31034235	21	040821	33321144	21
040712	43211134	19	040822	21122332	16
040713	43322333	23	040823	20001200	5
040714	01111321	10	040824	10010100	3
040715	11010123	9	040825	01010100	3
040716	00004214	11	040826	10002222	9
040717	54421022	20	040827	10101132	9
040718	10120201	7	040828	11210121	9
040719	12012313	13	040829	00022122	9
040720	13113232	16	040830	31233636	27
040721	21100000	4	040831	43432242	24
040722	00034346	20	040901	11111323	13
040723	54554421	30	040902	20000001	3

Date	K	Sum	Date	K	Sum
040903	10000000	1	041014	33234444	27
040904	00010001	2	041015	23112331	16
040905	10011330	9	041016	30000000	3
040906	31132423	19	041017	00000000	0
040907	31122121	13	041018	00000231	6
040908	32212000	10	041019	00000112	4
040909	00001013	5	041020	11223304	16
040910	00000000	0	041021	23221020	12
040911	00000000	0	041022	31211311	13
040912	00000100	1	041023	00000102	3
040913	00000054	9	041024	11011442	14
040914	33324465	30	041025	23332311	18
040915	53213322	21	041026	00000000	0
040916	31323444	24	041027	00002211	6
040917	52223325	24	041028	10000002	3
040918	43123000	13	041029	00002242	10
040919	00100014	6	041030	42122334	21
040920	30433302	18	041031	31133442	21
040921	22011112	10	041101	30012002	8
040922	00324443	20	041102	10110022	7
040923	43210102	13	041103	10020345	15
040924	21020212	10	041104	12210233	14
040925	01021110	6	041105	20010000	3
040926	10000022	5	041106	00000000	0
040927	00012200	5	041107	23042577	30
040928	01200013	7	041108	88743355	43
040929	10000013	5	041109	45356796	45
040930	10000020	3	041110	77767743	48
041001	00010022	5	041111	44332425	27
041002	12112223	14	041112	43443454	31
041003	00123224	14	041113	11111202	9
041004	33021243	18	041114	43111010	11
041005	10000012	4	041115	00000000	0
041006	10010000	2	041116	00122223	12
041007	00000000	0	041117	00110001	3
041008	00122102	8	041118	00000100	1
041009	41100001	7	041119	00000123	6
041010	31122023	14	041120	22123453	22
041011	22213313	17	041121	22233532	22
041012	11110003	7	041122	10110011	5
041013	44425444	31	041123	20010123	9

Date	K	Sum
041124	21112013	11
041125	23224243	22
041126	21120224	14
041127	00101424	12
041128	31211223	15
041129	32232445	25
041130	33222253	22
041201	22320213	15
041202	11000110	4
041203	00000010	1
041204	00000000	0
041205	01421211	12
041206	21315444	24
041207	22322343	21
041208	21113223	15
041209	30022132	13
041210	21112423	16
041211	00205445	20
041212	22342643	26
041213	43210100	11
041214	01222122	12
041215	21000312	9
041216	12203255	20
041217	33232423	22
041218	43223021	17
041219	10010000	2
041220	20110011	6
041221	10342332	18
041222	34343233	25
041223	11111332	13
041224	00000210	3
041225	42421113	18
041226	22111331	14
041227	21211032	12
041228	21012354	18
041229	42223304	20
041230	23433433	25
041231	21122113	13

Special phenomena
SSC-s 2002–2004

Date	CET (UT+1h)	Ampl. in H(nT)	Hx	Hy	Hz	Remark
020217	0253	23	+	-	+	
020228	0549	18	+	-	+	
020318	1420	74	+	-	+	
020320	1427	20	+	-	+	
020329	2337	41	+	-	+	
020417	1206	51	+	-	-	
020419	0935	39	+	-	-	
020423	0546	23	+	-	+	
020510	1224	26	+	-	+	
020511	1113	34	+	-	-	
020518	2106	77	+	-	-	
020520	0438	10	+	-	+	
020523	1149	27	+	-	-	
020523	1641	100	+	-	+	
020601	1744	11	+	-	+	
020608	1241	17	+	-	+	
020719	1107	20	+	-	-	
020729	1421	49	+	-	-	
020801	0608	4	+	-	-	
020801	0010	52	+	-	+	
020818	1943	65	+	-	-	
020904	0247	9	+	-	-	
020907	1736	23	+	-	+	
020930	0910	15	+	-	-	
021109	1652	11	+	-	+	
021109	1948	22	+	-	+	
021126	2249	29	+	-	-	
030127	0209	14	+	-	+	
030408	0207	32	+	-	+	

Date	CET (UT+1h)	Ampl. in H(nT)	Hx	Hy	Hz	Remark
030529	1324	42	+	-	+	
030530	1724	58	+	-	+	
030608	1153	30	+	-	-	
030629	0408	10	+	-	+	
030817	1522	58	+	-	+	
031024	1617	46	+	-	+	
031026	2007	14	+	-	+	
031028	0306	16	+	-	+	
031029	0710	870	-	+	+	
031104	0727	46	+	-	-	
031115	0649	29	+	-	+	
031120	0901	49	-	+	-	
031121	0350	28	+	-	+	
040122	0236	48	+	-	+	
040403	1509	33	+	-	+	
040409	0331	16	+	-	+	
040410	2109	34	+	+	-	
040716	1453	23	+	-	+	
040722	1132	21	+	-	-	
040724	0710	40	+	-	-	
040726	2349	79	+	-	-	
040730	2214	27	+	-	+	
040913	2103	53	+	-	+	
041107	1257	12	+	-	+	
041107	1151	35	+	-	-	
041107	1922	54	+	-	-	
041111	1808	28	+	-	+	
041205	0846	36	+	-	-	

Special phenomena
sfe 2002–2004

Date	Beginning	Maximum	End	Ampl.	Sign		
	GMT	GMT	GMT	nT	Hx	Hy	Hz
020122	1525	1530	1537	3	–	+	–
020518	0800	0808	0811	2	–	+	–
020610	0710	0722	0730	19	–	+	+
020627	1633	1640	1647	4	–	+	–
020711	1013	1019	1025	2	–	+	–
020730	1234	1238	1252	2	–	+	–
021012	1027	1033	1039	6	+	–	+
030610	1024	1030	1033	14	–	+	–
030903	0823	0829	0834	9	–	+	–
031108	1735	1738	1741	15	–	+	+
031129	0737	0744	0751	3	–	+	–
031201	1217	1223	1228	8	–	+	–
040401	1343	1352	1407	5	–	+	+
040502	1218	1229	1238	18	–	+	–
041109	1030	1034	1040	29	–	+	–

Annual mean values of geomagnetic elements

Year	D	H nT	Z nT	I	X nT	Y nT	F nT
1961	-0°23.6'	20816	42077	63°40.7'	20816	-143	46944
1962	-0°19.6'	20827	42093	63°40.5'	20827	-119	46964
1963	-0°14.3'	20839	42116	63°40.4'	20839	-87	46990
1964	-0°10.5'	20845	42126	63°40.4'	20845	-64	47001
1965	-0°08.1'	20877	42137	63°38.6'	20877	-49	47025
1966	-0°06.8'	20888	42156	63°38.5'	20888	-41	47047
1967	-0°06.0'	20903	42179	63°38.3'	20903	-36	47074
1968	-0°03.0'	20921	42196	63°37.7'	20921	-18	47098
1969	0°00.2'	20942	42214	63°36.9'	20942	1	47123
1970	0°02.8'	20964	42235	63°36.1'	20964	17	47152
1971	0°04.3'	20992	42262	63°35.2'	20992	26	47188
1972	0°06.5'	21011	42286	63°34.7'	21011	40	47218
1973	0°10.2'	21028	42317	63°34.6'	21028	62	47254
1974	0°13.6'	21046	42350	63°34.5'	21046	83	47291
1975	0°18.5'	21072	42380	63°33.8'	21072	113	47330
1976	0°23.8'	21084	42413	63°34.0'	21084	146	47365
1977	0°28.8'	21106	42443*	63°33.6''*	21105	177	47401*
1978	0°34.6'	21108	42473*	63°34.4''*	21107	212	47429*
1979	0°41.4'	21113*	42496*	63°34.8''*	21112*	254	47452*
1980	0°46.3'	21107*	42512*	63°35.8''*	21105*	284	47463*
1981	0°52.4'	21097*	42530*	63°37.0''*	21095*	322	47475*
1982	0°57.5'	21078	42549	63°38.8'	21075	353	47484
1983	1°02.7'	21078	42581	63°39.8'	21074	384	47512
1984	1°08.1'	21075	42601	63°40.7'	21071	417	47529
1985	1°12.7'	21073	42625	63°41.7'	21068	446	47550
1986	1°17.8'	21065	42660	63°43.1'	21060	477	47577
1987	1°21.9'	21067	42689	63°44.0'	21061	502	47604
1988	1°26.6'	21052	42723	63°46.0'	21045	530	47628
1989	1°31.3'	21041	42761	63°48.0'	21034	559	47657
1990	1°35.5'	21044	42782	63°48.3'	21036	584	47678
1991	1°36.3'	21027	42816	63°50.4'	21019	589	47701
1992	1°38.1'	21037	42834	63°50.4'	21028	600	47721
1993	1°43.2'	21039	42853	63°51.0'	21030	631	47739
1994	1°48.4'	21037	42877	63°52.0'	21026	663	47760
1995	1°56.6'	21052	42898	63°51.7'	21039	713	47785
1996	2°02.0'	21062	42920	63°51.7'	21048	747	47809
1997	2°07.5'	21060	42955	63°52.9'	21045	781	47839
1998	2°13.7'	21053	42997	63°54.7'	21037	819	47875
1999	2°18.3'	21055	43030	63°55.6'	21038	847	47905

Year	D	H nT	Z nT	I	X nT	Y nT	F nT
2000	2°23.7'	21054	43068	63°56.9'	21035	880	47938
2001	2°28.4'	21064	43099	63°57.2'	21045	909	47972
2002	2°33.7'	21072	43136	63°57.9'	21051	942	48008
2003	2°39.6'	21071	43180	63°59.3'	21048	978	48047
2004	2°44.4'	21084	43208	63°59.4'	21060	1008	48078