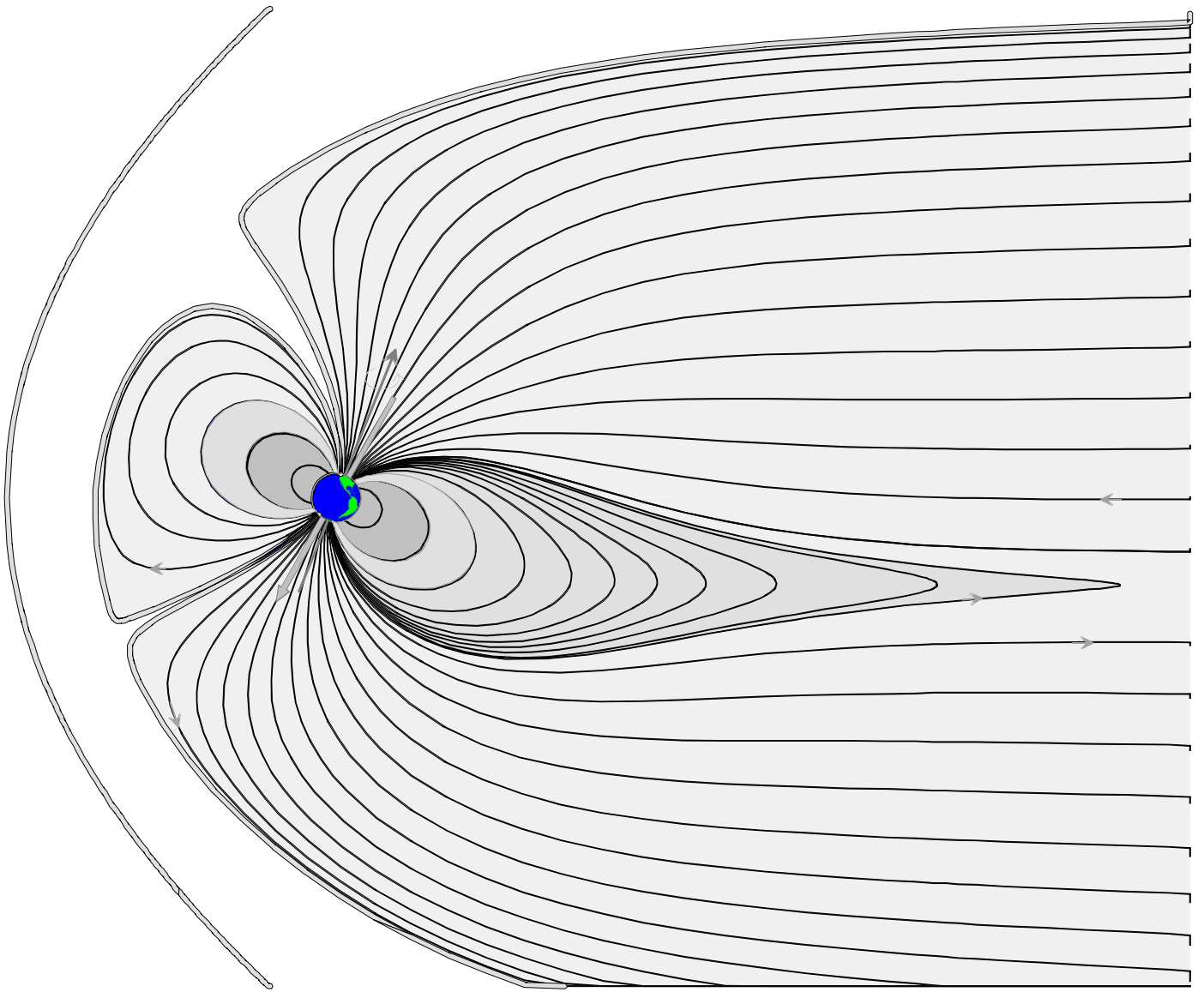


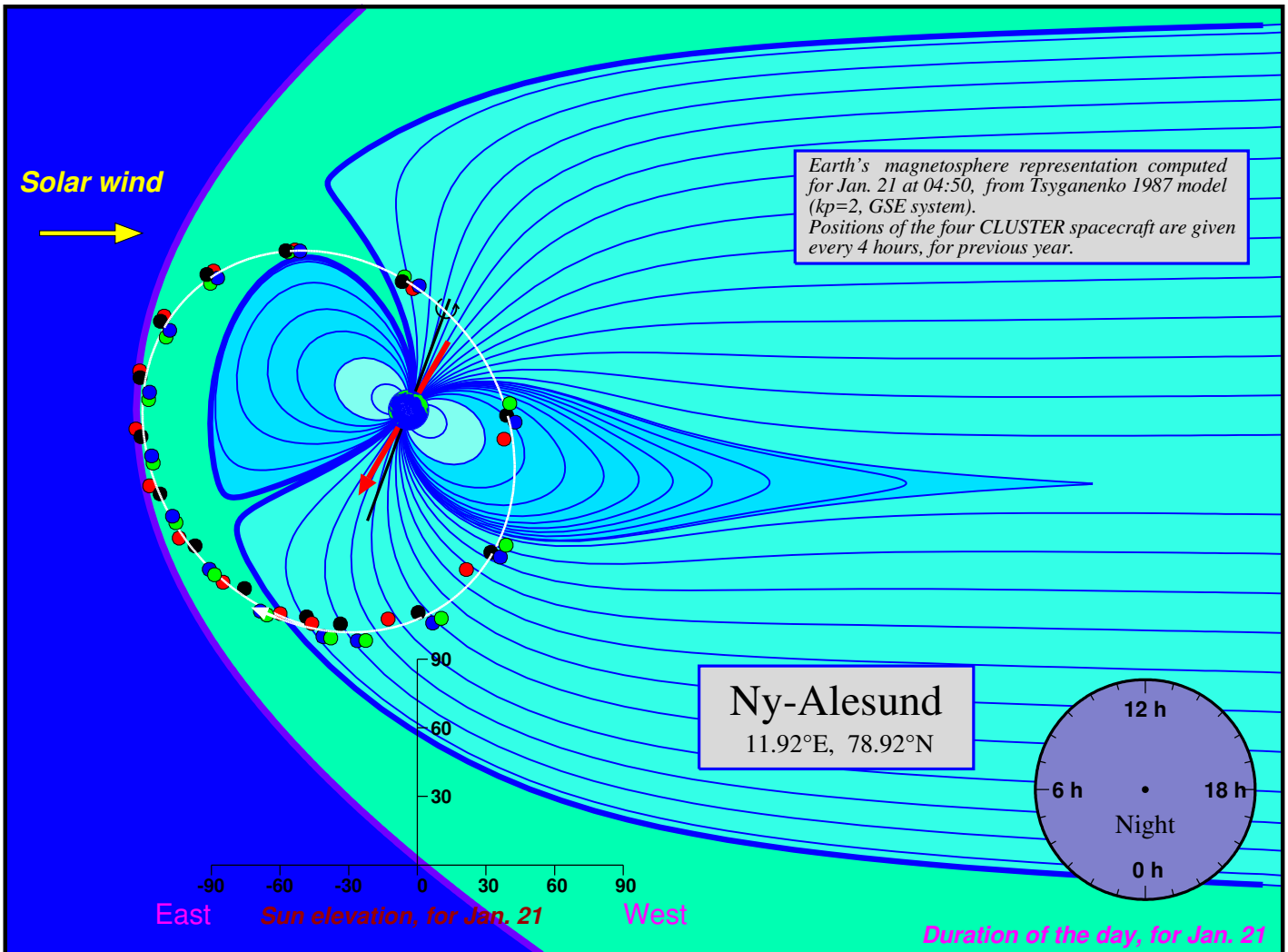


*Here is the classical magnetospheric calendar **2018**,
available for any city across the world,*

English or French version

Happy new year for everybody

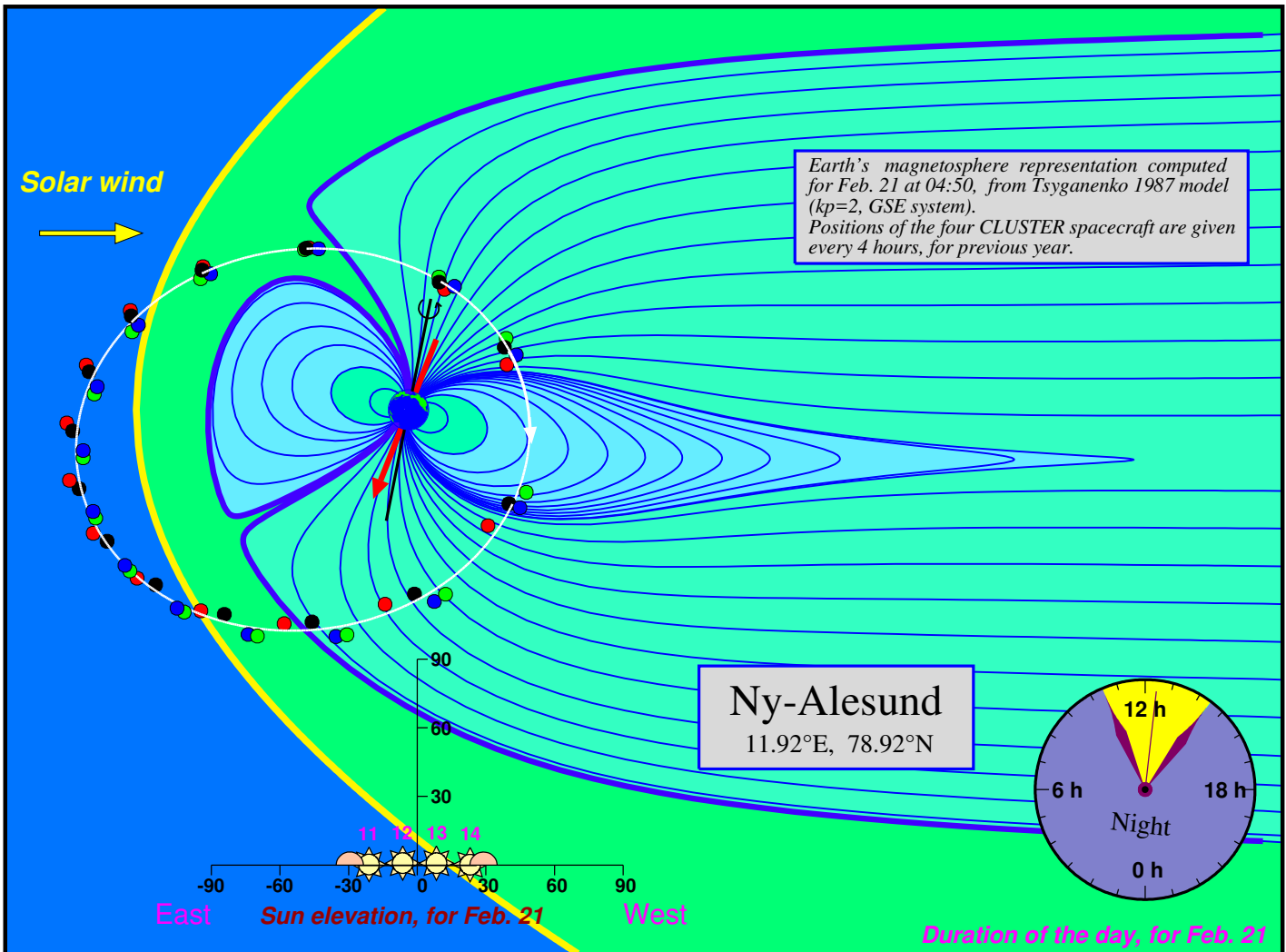
Patrick



January 2018

Sunrise and Sunset at Ny-Alesund (TL ± 1 mn)
Duration of the day - Variation - Sun maximal elevation (°)

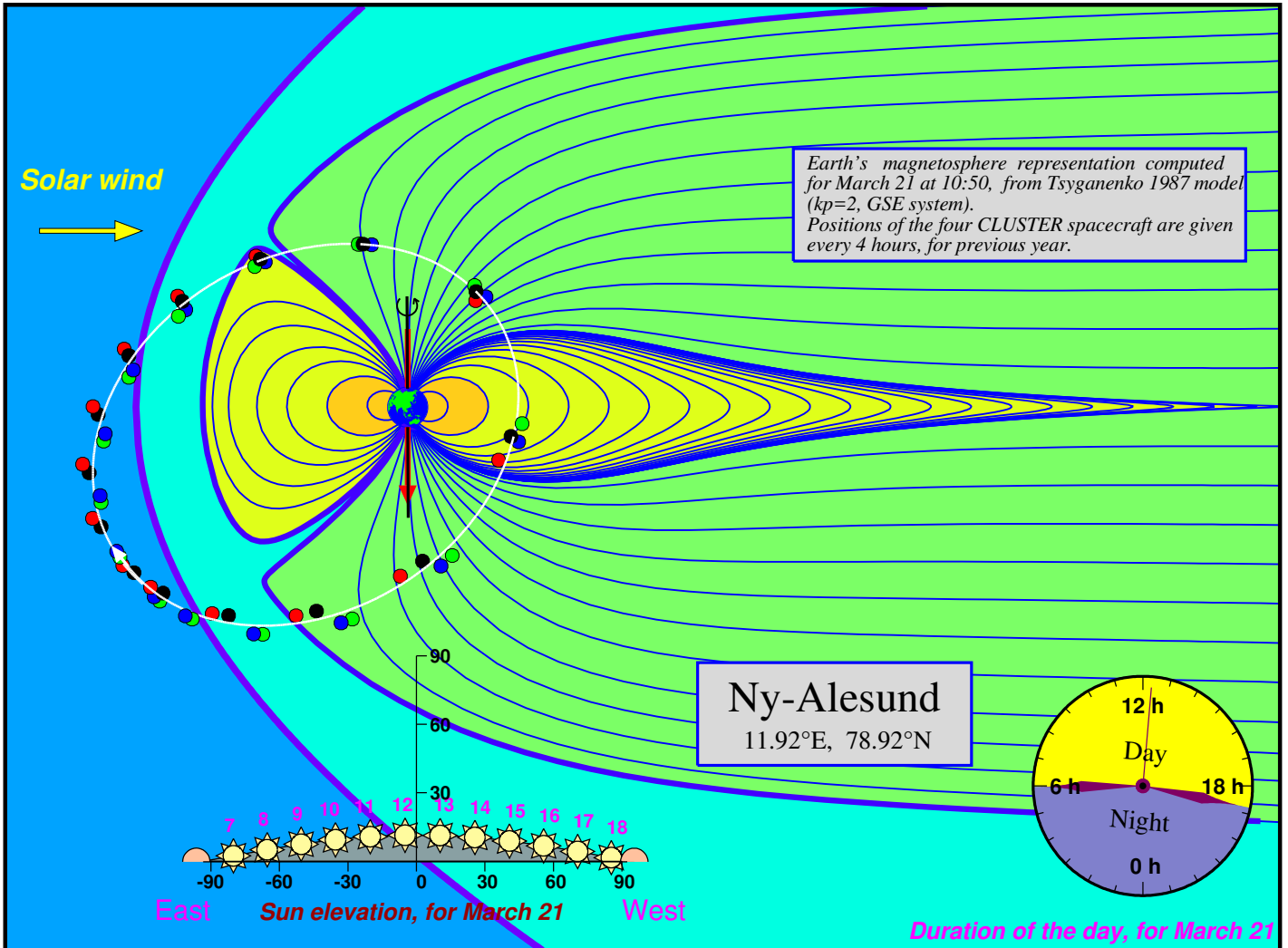
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1	1 1 - 364 Polar Night	2 2 - 363 Polar Night	3 3 - 362 Polar Night	4 4 - 361 Polar Night	5 5 - 360 Polar Night	6 6 - 359 Polar Night	7 7 - 358 Polar Night
2	8 8 - 357 Polar Night	9 9 - 356 Polar Night	10 10 - 355 Polar Night	11 11 - 354 Polar Night	12 12 - 353 Polar Night	13 13 - 352 Polar Night	14 14 - 351 Polar Night
3	15 15 - 350 Polar Night	16 16 - 349 Polar Night	17 17 - 348 Polar Night	18 18 - 347 Polar Night	19 19 - 346 Polar Night	20 20 - 345 Polar Night	21 21 - 344 Polar Night
4	22 22 - 343 Polar Night	23 23 - 342 Polar Night	24 24 - 341 Polar Night	25 25 - 340 Polar Night	26 26 - 339 Polar Night	27 27 - 338 Polar Night	28 28 - 337 Polar Night
5	29 29 - 336 Polar Night	30 30 - 335 Polar Night	31 31 - 334 Polar Night	1 32 - 333 Polar Night	2 33 - 332 Polar Night	3 34 - 331 Polar Night	4 35 - 330 Polar Night



February 2018

Sunrise and Sunset at Ny-Alesund (TL ± 1 mn)
Duration of the day - Variation - Sun maximal elevation (°)

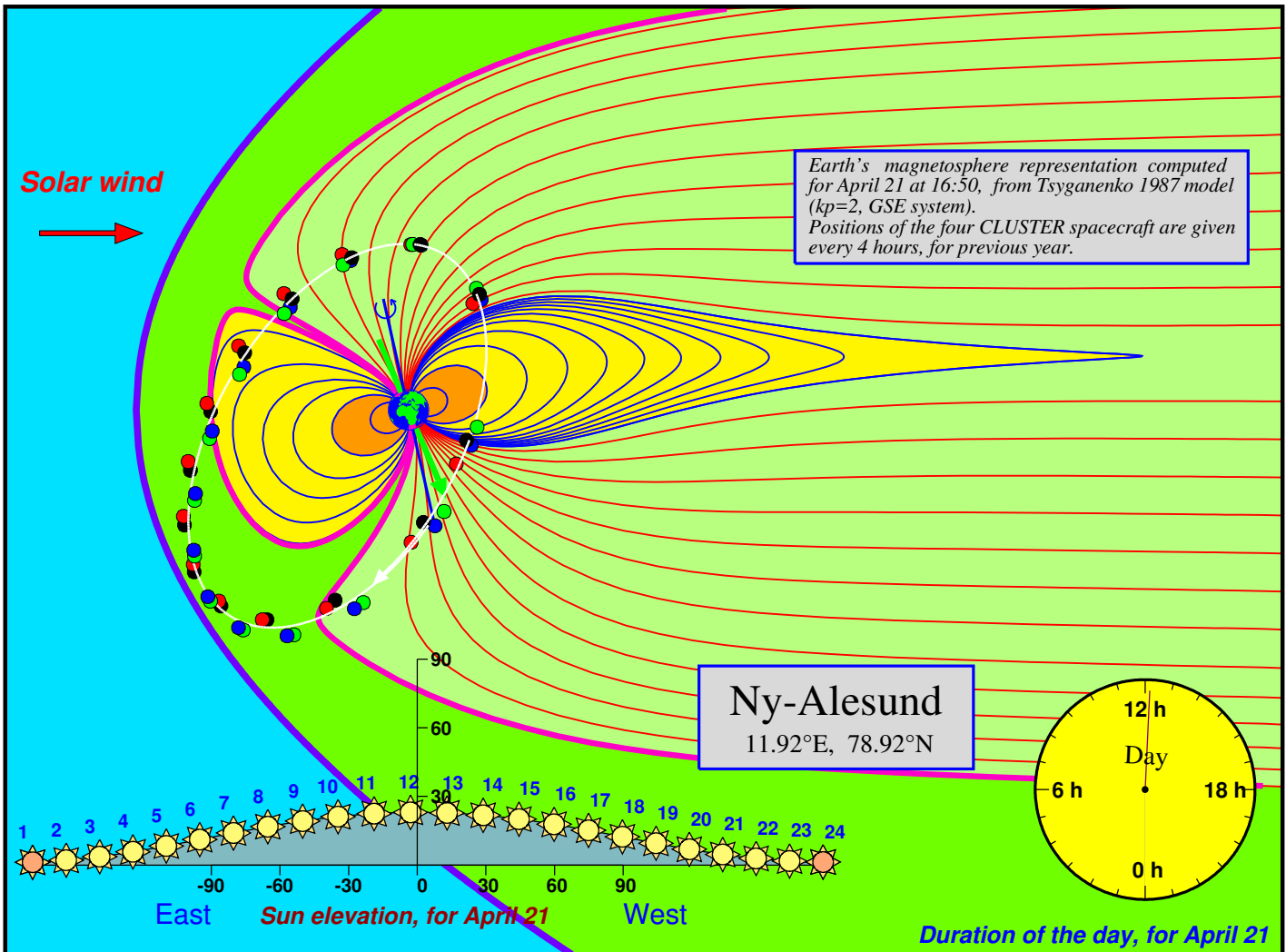
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
5	29 29 - 336 Polar Night	30 30 - 335 Polar Night	31 31 - 334 Polar Night	1 32 - 333 Polar Night	2 33 - 332 Polar Night	3 34 - 331 Polar Night	4 35 - 330 Polar Night
6	5 36 - 329 Polar Night	6 37 - 328 Polar Night	7 38 - 327 Polar Night	8 39 - 326 Polar Night	9 40 - 325 Polar Night	10 41 - 324 Polar Night	11 42 - 323 Polar Night
7	12 43 - 322 Polar Night	13 44 - 321 Polar Night	14 45 - 320 Polar Night	15 46 - 319 Polar Night	16 47 - 318 Polar Night	17 48 - 317 12:21 - 12:34 0:13 +13 m. 0°	18 49 - 316 11:28 - 13:27 1:58 +105 m. 0°
8	19 50 - 315 11:04 - 13:51 2:47 +49 m. 0°	20 51 - 314 10:45 - 14:10 3:25 +38 m. 1°	21 52 - 313 10:28 - 14:27 3:58 +33 m. 1°	22 53 - 312 10:13 - 14:41 4:27 +29 m. 1°	23 54 - 311 10:00 - 14:54 4:54 +27 m. 2°	24 55 - 310 09:47 - 15:07 5:19 +25 m. 2°	25 56 - 309 09:36 - 15:18 5:42 +23 m. 2°
9	26 57 - 308 09:24 - 15:29 6:05 +23 m. 3°	27 58 - 307 09:13 - 15:40 6:26 +21 m. 3°	28 59 - 306 09:03 - 15:50 6:47 +21 m. 3°	1 60 - 305 08:53 - 16:00 7:07 +20 m. 4°	2 61 - 304 08:43 - 16:09 7:26 +19 m. 4°	3 62 - 303 08:33 - 16:19 7:45 +19 m. 5°	4 63 - 302 08:24 - 16:28 8:03 +18 m. 5°



March 2018

Sunrise and Sunset at Ny-Alesund (TL ± 1 mn)
Duration of the day - Variation - Sun maximal elevation (°)

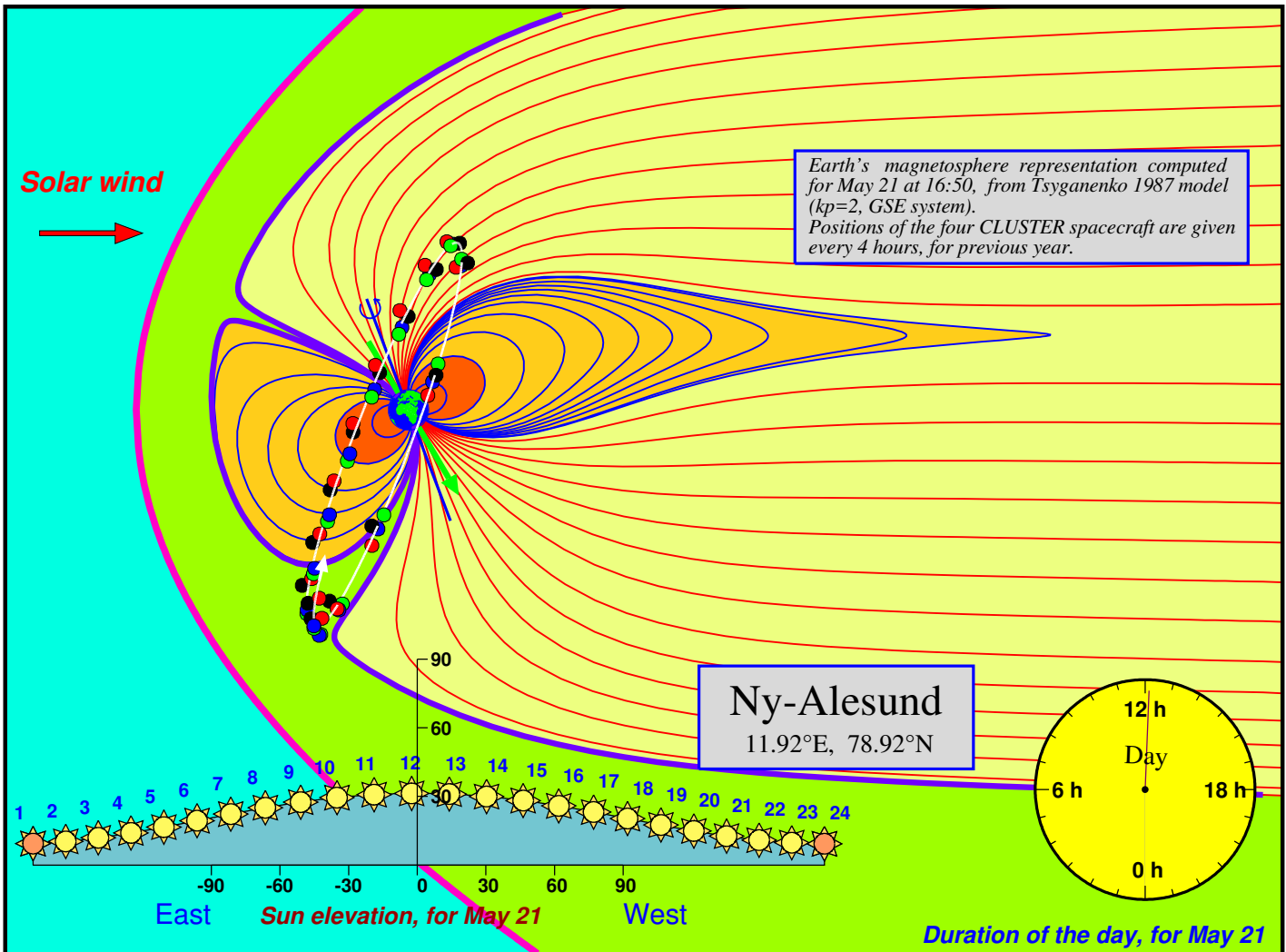
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
9	26 57 - 308 09:24 - 15:29 6:05 +23 m. 3°	27 58 - 307 09:13 - 15:40 6:26 +21 m. 3°	28 59 - 306 09:03 - 15:50 6:47 +21 m. 3°	1 60 - 305 08:53 - 16:00 7:07 +20 m. 4°	2 61 - 304 08:43 - 16:09 7:26 +19 m. 4°	3 62 - 303 08:33 - 16:19 7:45 +19 m. 5°	4 63 - 302 08:24 - 16:28 8:03 +18 m. 5°
	5 64 - 301 08:15 - 16:36 8:21 +18 m. 5°	6 65 - 300 08:06 - 16:45 8:39 +18 m. 6°	7 66 - 299 07:57 - 16:54 8:57 +18 m. 6°	8 67 - 298 07:48 - 17:02 9:14 +17 m. 6°	9 68 - 297 07:39 - 17:10 9:31 +17 m. 7°	10 69 - 296 07:30 - 17:19 9:48 +17 m. 7°	11 70 - 295 07:22 - 17:27 10:05 +17 m. 8°
	12 71 - 294 07:13 - 17:35 10:22 +17 m. 8°	13 72 - 293 07:05 - 17:43 10:38 +16 m. 8°	14 73 - 292 06:56 - 17:51 10:54 +16 m. 9°	15 74 - 291 06:48 - 17:59 11:11 +17 m. 9°	16 75 - 290 06:40 - 18:06 11:27 +16 m. 10°	17 76 - 289 06:31 - 18:14 11:43 +16 m. 10°	18 77 - 288 06:23 - 18:22 11:59 +16 m. 10°
12	19 78 - 287 06:15 - 18:30 12:15 +16 m. 11°	20 79 - 286 06:06 - 18:38 12:31 +16 m. 11°	21 80 - 285 05:58 - 18:46 12:48 +17 m. 11°	22 81 - 284 05:50 - 18:53 13:04 +16 m. 12°	23 82 - 283 05:41 - 19:01 13:20 +16 m. 12°	24 83 - 282 05:33 - 19:09 13:37 +17 m. 13°	25 84 - 281 05:24 - 19:17 13:53 +16 m. 13°
	26 85 - 280 05:16 - 19:25 14:10 +17 m. 13°	27 86 - 279 05:07 - 19:34 14:26 +16 m. 14°	28 87 - 278 04:58 - 19:42 14:44 +18 m. 14°	29 88 - 277 04:50 - 19:50 15:01 +17 m. 15°	30 89 - 276 04:41 - 19:59 15:18 +17 m. 15°	31 90 - 275 04:32 - 20:07 15:36 +18 m. 15°	1 91 - 274 04:22 - 20:16 15:54 +18 m. 16°
13							



April 2018

Sunrise and Sunset at Ny-Alesund (TL ± 1 mn)
Duration of the day - Variation - Sun maximal elevation (°)

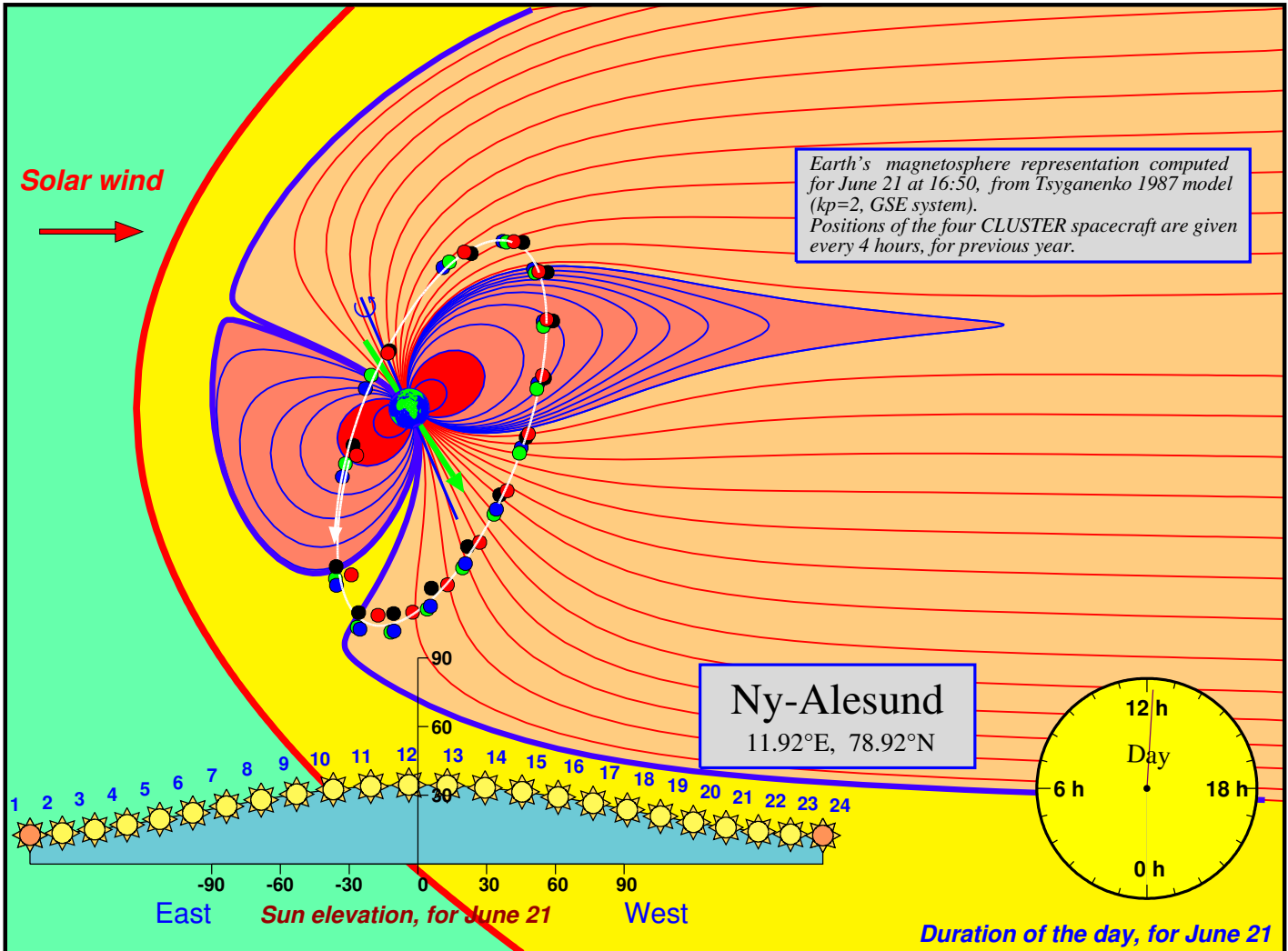
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
13	26 85 - 280 05:16 - 19:25 14:10 +17 m. 13°	27 86 - 279 05:07 - 19:34 14:26 +16 m. 14°	28 87 - 278 04:58 - 19:42 14:44 +18 m. 14°	29 88 - 277 04:50 - 19:50 15:01 +17 m. 15°	30 89 - 276 04:41 - 19:59 15:18 +17 m. 15°	31 90 - 275 04:32 - 20:07 15:36 +18 m. 15°	1 91 - 274 04:22 - 20:16 15:54 +18 m. 16°
14	2 92 - 273 04:13 - 20:25 16:12 +18 m. 16°	3 93 - 272 04:04 - 20:35 16:31 +19 m. 17°	4 94 - 271 03:54 - 20:44 16:50 +19 m. 17°	5 95 - 270 03:44 - 20:54 17:10 +20 m. 17°	6 96 - 269 03:33 - 21:04 17:31 +21 m. 18°	7 97 - 268 03:23 - 21:15 17:52 +21 m. 18°	8 98 - 267 03:12 - 21:26 18:14 +22 m. 18°
15	9 99 - 266 03:00 - 21:37 18:37 +23 m. 19°	10 100 - 265 02:48 - 21:50 19:02 +25 m. 19°	11 101 - 264 02:35 - 22:03 19:29 +27 m. 20°	12 102 - 263 02:21 - 22:18 19:58 +29 m. 20°	13 103 - 262 02:05 - 22:35 20:30 +32 m. 20°	14 104 - 261 01:48 - 22:56 21:08 +38 m. 21°	15 105 - 260 00:59 - 23:24 22:25 +77 m. 21°
16	16 106 - 259 Day at anytime 24:00 +95 m. 21°	17 107 - 258 Day at anytime 24:00 +0 m. 22°	18 108 - 257 Day at anytime 24:00 +0 m. 22°	19 109 - 256 Day at anytime 24:00 +0 m. 22°	20 110 - 255 Day at anytime 24:00 +0 m. 23°	21 111 - 254 Day at anytime 24:00 +0 m. 23°	22 112 - 253 Day at anytime 24:00 +0 m. 23°
17	23 113 - 252 Day at anytime 24:00 +0 m. 24°	24 114 - 251 Day at anytime 24:00 +0 m. 24°	25 115 - 250 Day at anytime 24:00 +0 m. 24°	26 116 - 249 Day at anytime 24:00 +0 m. 25°	27 117 - 248 Day at anytime 24:00 +0 m. 25°	28 118 - 247 Day at anytime 24:00 +0 m. 25°	29 119 - 246 Day at anytime 24:00 +0 m. 26°
18	30 120 - 245 Day at anytime 24:00 +0 m. 26°	1 121 - 244 Day at anytime 24:00 +0 m. 26°	2 122 - 243 Day at anytime 24:00 +0 m. 27°	3 123 - 242 Day at anytime 24:00 +0 m. 27°	4 124 - 241 Day at anytime 24:00 +0 m. 27°	5 125 - 240 Day at anytime 24:00 +0 m. 27°	6 126 - 239 Day at anytime 24:00 +0 m. 28°



May 2018

Sunrise and Sunset at Ny-Alesund (TL ± 1 mn)
Duration of the day - Variation - Sun maximal elevation (°)

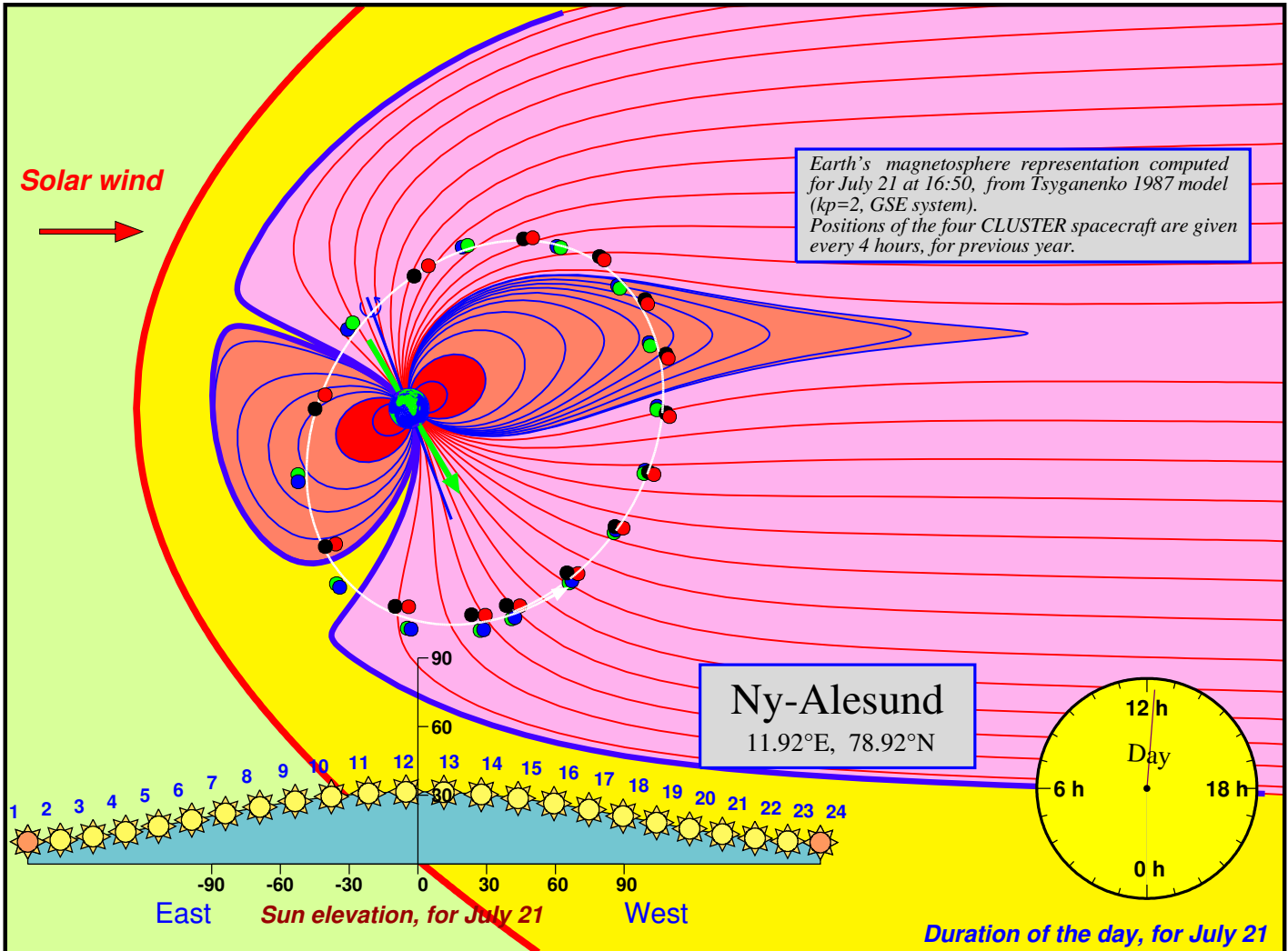
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
18	30 120 - 245 Day at anytime 24:00 +0 m. 26°	1 121 - 244 Day at anytime 24:00 +0 m. 26°	2 122 - 243 Day at anytime 24:00 +0 m. 27°	3 123 - 242 Day at anytime 24:00 +0 m. 27°	4 124 - 241 Day at anytime 24:00 +0 m. 27°	5 125 - 240 Day at anytime 24:00 +0 m. 27°	6 126 - 239 Day at anytime 24:00 +0 m. 28°
19	7 127 - 238 Day at anytime 24:00 +0 m. 28°	8 128 - 237 Day at anytime 24:00 +0 m. 28°	9 129 - 236 Day at anytime 24:00 +0 m. 29°	10 130 - 235 Day at anytime 24:00 +0 m. 29°	11 131 - 234 Day at anytime 24:00 +0 m. 29°	12 132 - 233 Day at anytime 24:00 +0 m. 29°	13 133 - 232 Day at anytime 24:00 +0 m. 30°
20	14 134 - 231 Day at anytime 24:00 +0 m. 30°	15 135 - 230 Day at anytime 24:00 +0 m. 30°	16 136 - 229 Day at anytime 24:00 +0 m. 30°	17 137 - 228 Day at anytime 24:00 +0 m. 30°	18 138 - 227 Day at anytime 24:00 +0 m. 31°	19 139 - 226 Day at anytime 24:00 +0 m. 31°	20 140 - 225 Day at anytime 24:00 +0 m. 31°
21	21 141 - 224 Day at anytime 24:00 +0 m. 31°	22 142 - 223 Day at anytime 24:00 +0 m. 32°	23 143 - 222 Day at anytime 24:00 +0 m. 32°	24 144 - 221 Day at anytime 24:00 +0 m. 32°	25 145 - 220 Day at anytime 24:00 +0 m. 32°	26 146 - 219 Day at anytime 24:00 +0 m. 32°	27 147 - 218 Day at anytime 24:00 +0 m. 32°
22	28 148 - 217 Day at anytime 24:00 +0 m. 33°	29 149 - 216 Day at anytime 24:00 +0 m. 33°	30 150 - 215 Day at anytime 24:00 +0 m. 33°	31 151 - 214 Day at anytime 24:00 +0 m. 33°	1 152 - 213 Day at anytime 24:00 +0 m. 33°	2 153 - 212 Day at anytime 24:00 +0 m. 33°	3 154 - 211 Day at anytime 24:00 +0 m. 33°



June 2018

Sunrise and Sunset at Ny-Alesund (TL ± 1 mn)
Duration of the day - Variation - Sun maximal elevation (°)

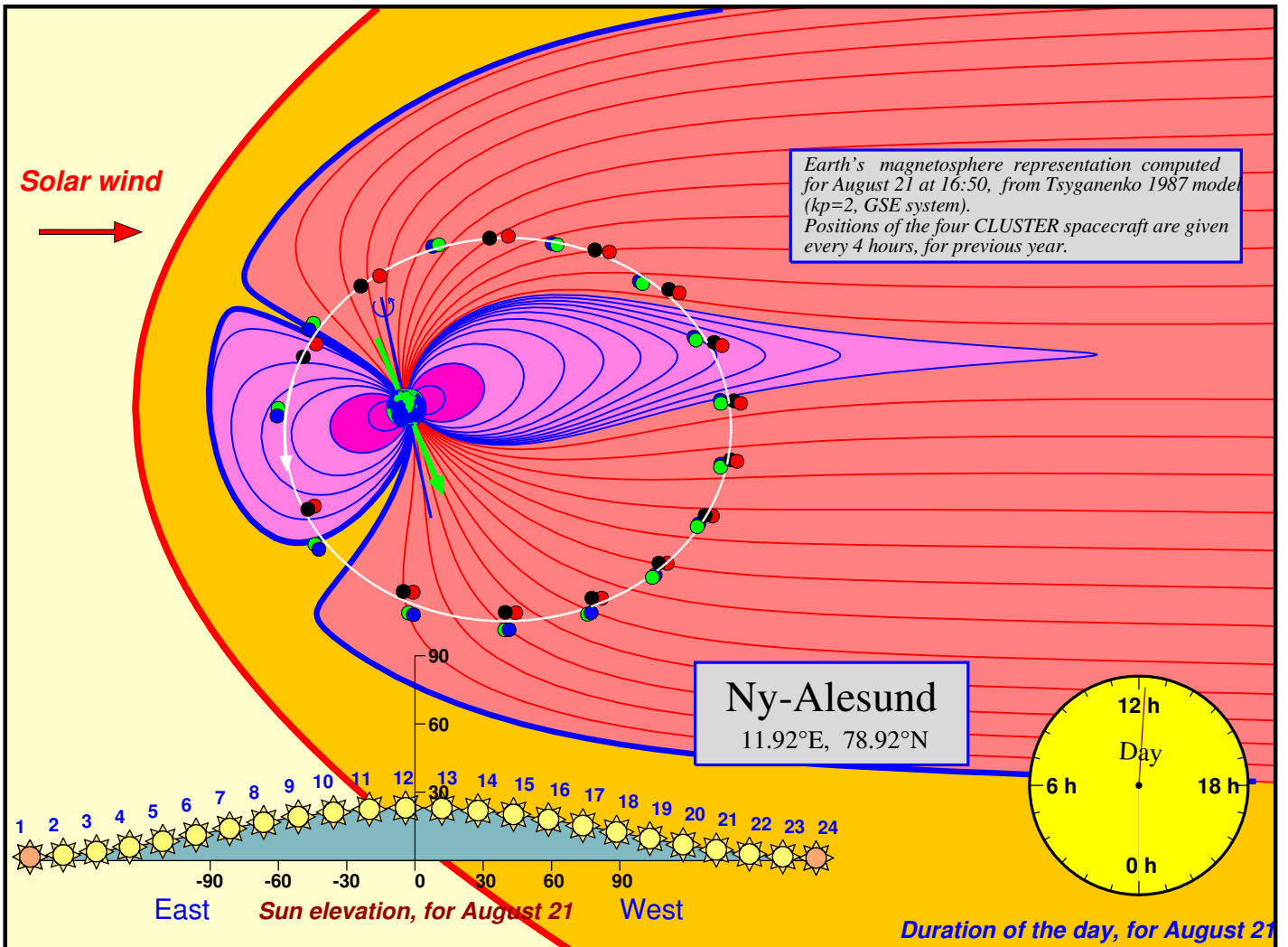
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
22	28 148 - 217 Day at anytime 24:00 +0 m. 33°	29 149 - 216 Day at anytime 24:00 +0 m. 33°	30 150 - 215 Day at anytime 24:00 +0 m. 33°	31 151 - 214 Day at anytime 24:00 +0 m. 33°	1 152 - 213 Day at anytime 24:00 +0 m. 33°	2 153 - 212 Day at anytime 24:00 +0 m. 33°	3 154 - 211 Day at anytime 24:00 +0 m. 33°
23	4 155 - 210 Day at anytime 24:00 +0 m. 34°	5 156 - 209 Day at anytime 24:00 +0 m. 34°	6 157 - 208 Day at anytime 24:00 +0 m. 34°	7 158 - 207 Day at anytime 24:00 +0 m. 34°	8 159 - 206 Day at anytime 24:00 +0 m. 34°	9 160 - 205 Day at anytime 24:00 +0 m. 34°	10 161 - 204 Day at anytime 24:00 +0 m. 34°
24	11 162 - 203 Day at anytime 24:00 +0 m. 34°	12 163 - 202 Day at anytime 24:00 +0 m. 34°	13 164 - 201 Day at anytime 24:00 +0 m. 34°	14 165 - 200 Day at anytime 24:00 +0 m. 34°	15 166 - 199 Day at anytime 24:00 +0 m. 34°	16 167 - 198 Day at anytime 24:00 +0 m. 34°	17 168 - 197 Day at anytime 24:00 +0 m. 34°
25	18 169 - 196 Day at anytime 24:00 +0 m. 35°	19 170 - 195 Day at anytime 24:00 +0 m. 35°	20 171 - 194 Day at anytime 24:00 +0 m. 35°	21 172 - 193 Day at anytime 24:00 +0 m. 35°	22 173 - 192 Day at anytime 24:00 +0 m. 35°	23 174 - 191 Day at anytime 24:00 +0 m. 35°	24 175 - 190 Day at anytime 24:00 +0 m. 35°
26	25 176 - 189 Day at anytime 24:00 +0 m. 34°	26 177 - 188 Day at anytime 24:00 +0 m. 34°	27 178 - 187 Day at anytime 24:00 +0 m. 34°	28 179 - 186 Day at anytime 24:00 +0 m. 34°	29 180 - 185 Day at anytime 24:00 +0 m. 34°	30 181 - 184 Day at anytime 24:00 +0 m. 34°	1 182 - 183 Day at anytime 24:00 +0 m. 34°



July 2018

Sunrise and Sunset at Ny-Alesund (TL ± 1 mn)
Duration of the day - Variation - Sun maximal elevation (°)

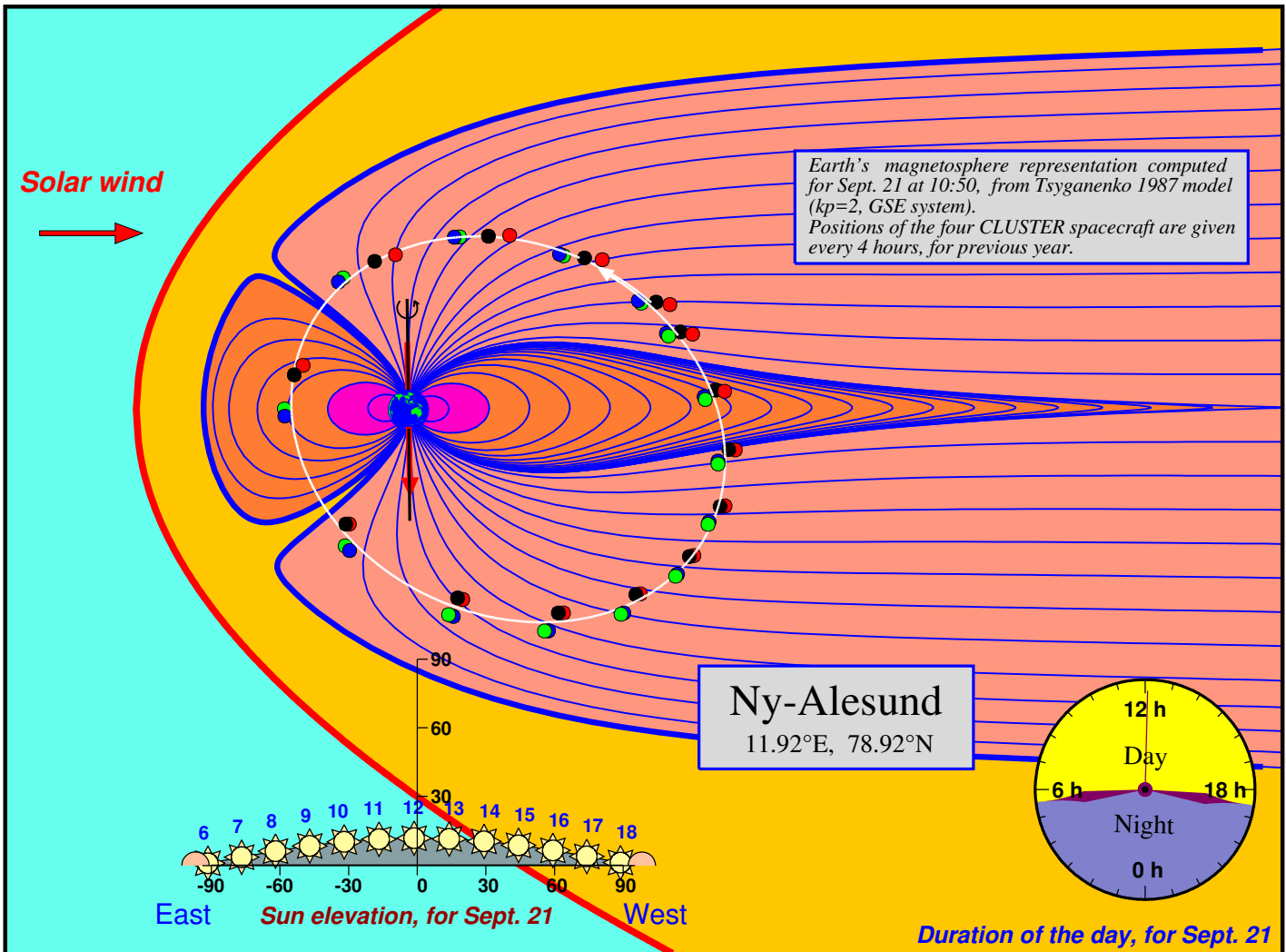
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
26	25 176 - 189 Day at anytime 24:00 +0 m. 34°	26 177 - 188 Day at anytime 24:00 +0 m. 34°	27 178 - 187 Day at anytime 24:00 +0 m. 34°	28 179 - 186 Day at anytime 24:00 +0 m. 34°	29 180 - 185 Day at anytime 24:00 +0 m. 34°	30 181 - 184 Day at anytime 24:00 +0 m. 34°	1 182 - 183 Day at anytime 24:00 +0 m. 34°
27	2 183 - 182 Day at anytime 24:00 +0 m. 34°	3 184 - 181 Day at anytime 24:00 +0 m. 34°	4 185 - 180 Day at anytime 24:00 +0 m. 34°	5 186 - 179 Day at anytime 24:00 +0 m. 34°	6 187 - 178 Day at anytime 24:00 +0 m. 34°	7 188 - 177 Day at anytime 24:00 +0 m. 34°	8 189 - 176 Day at anytime 24:00 +0 m. 34°
28	9 190 - 175 Day at anytime 24:00 +0 m. 33°	10 191 - 174 Day at anytime 24:00 +0 m. 33°	11 192 - 173 Day at anytime 24:00 +0 m. 33°	12 193 - 172 Day at anytime 24:00 +0 m. 33°	13 194 - 171 Day at anytime 24:00 +0 m. 33°	14 195 - 170 Day at anytime 24:00 +0 m. 33°	15 196 - 169 Day at anytime 24:00 +0 m. 33°
29	16 197 - 168 Day at anytime 24:00 +0 m. 32°	17 198 - 167 Day at anytime 24:00 +0 m. 32°	18 199 - 166 Day at anytime 24:00 +0 m. 32°	19 200 - 165 Day at anytime 24:00 +0 m. 32°	20 201 - 164 Day at anytime 24:00 +0 m. 32°	21 202 - 163 Day at anytime 24:00 +0 m. 32°	22 203 - 162 Day at anytime 24:00 +0 m. 31°
30	23 204 - 161 Day at anytime 24:00 +0 m. 31°	24 205 - 160 Day at anytime 24:00 +0 m. 31°	25 206 - 159 Day at anytime 24:00 +0 m. 31°	26 207 - 158 Day at anytime 24:00 +0 m. 30°	27 208 - 157 Day at anytime 24:00 +0 m. 30°	28 209 - 156 Day at anytime 24:00 +0 m. 30°	29 210 - 155 Day at anytime 24:00 +0 m. 30°
31	30 211 - 154 Day at anytime 24:00 +0 m. 30°	31 212 - 153 Day at anytime 24:00 +0 m. 29°	1 213 - 152 Day at anytime 24:00 +0 m. 29°	2 214 - 151 Day at anytime 24:00 +0 m. 29°	3 215 - 150 Day at anytime 24:00 +0 m. 29°	4 216 - 149 Day at anytime 24:00 +0 m. 28°	5 217 - 148 Day at anytime 24:00 +0 m. 28°



August 2018

Sunrise and Sunset at Ny-Alesund (TL ± 1 mn)
Duration of the day - Variation - Sun maximal elevation (°)

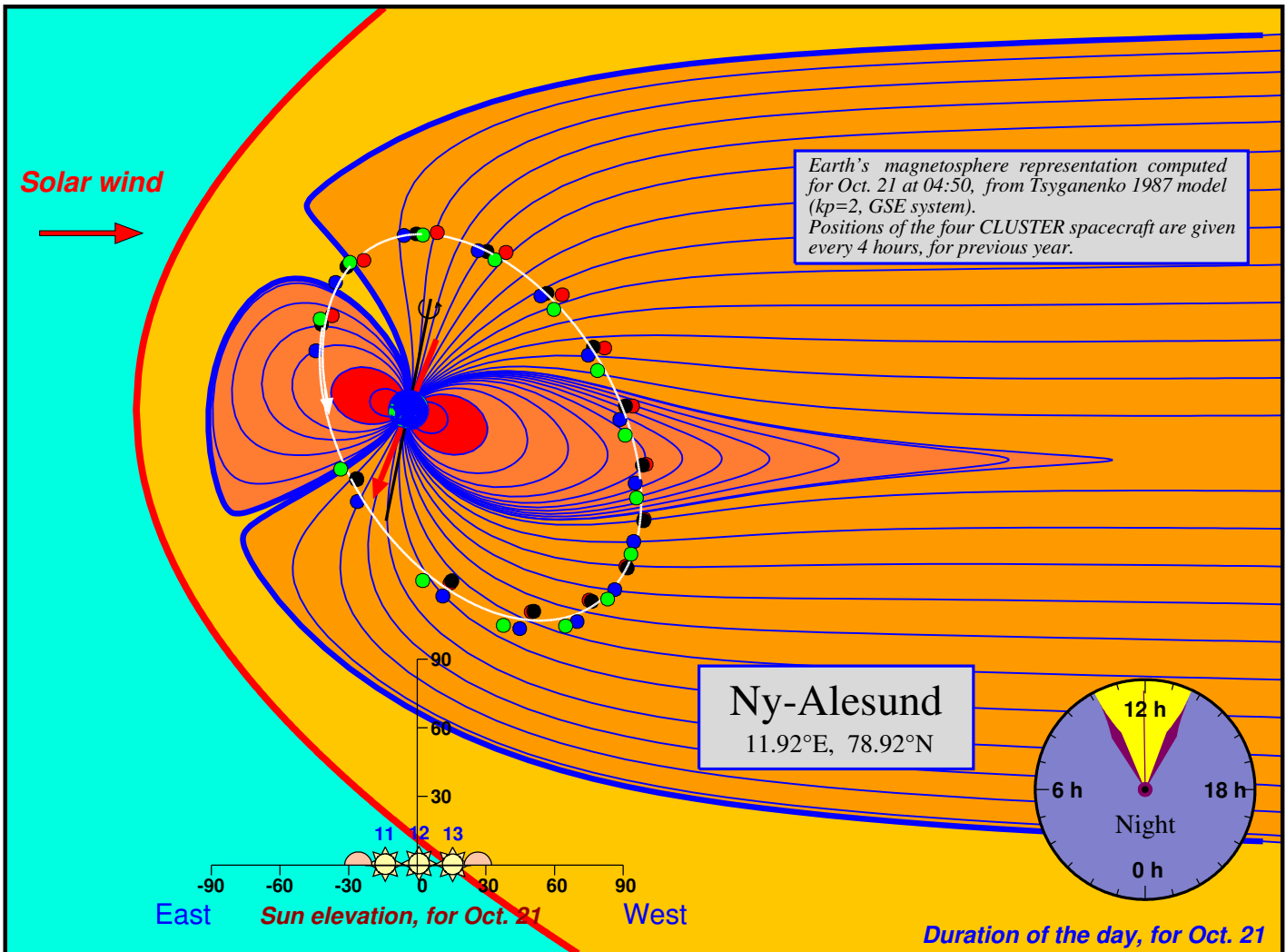
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
31	30 211 - 154 Day at anytime 24:00 +0 m. 30°	31 212 - 153 Day at anytime 24:00 +0 m. 29°	1 213 - 152 Day at anytime 24:00 +0 m. 29°	2 214 - 151 Day at anytime 24:00 +0 m. 29°	3 215 - 150 Day at anytime 24:00 +0 m. 29°	4 216 - 149 Day at anytime 24:00 +0 m. 28°	5 217 - 148 Day at anytime 24:00 +0 m. 28°
32	6 218 - 147 Day at anytime 24:00 +0 m. 28°	7 219 - 146 Day at anytime 24:00 +0 m. 27°	8 220 - 145 Day at anytime 24:00 +0 m. 27°	9 221 - 144 Day at anytime 24:00 +0 m. 27°	10 222 - 143 Day at anytime 24:00 +0 m. 27°	11 223 - 142 Day at anytime 24:00 +0 m. 26°	12 224 - 141 Day at anytime 24:00 +0 m. 26°
33	13 225 - 140 Day at anytime 24:00 +0 m. 26°	14 226 - 139 Day at anytime 24:00 +0 m. 25°	15 227 - 138 Day at anytime 24:00 +0 m. 25°	16 228 - 137 Day at anytime 24:00 +0 m. 25°	17 229 - 136 Day at anytime 24:00 +0 m. 24°	18 230 - 135 Day at anytime 24:00 +0 m. 24°	19 231 - 134 Day at anytime 24:00 +0 m. 24°
34	20 232 - 133 Day at anytime 24:00 +0 m. 23°	21 233 - 132 Day at anytime 24:00 +0 m. 23°	22 234 - 131 Day at anytime 24:00 +0 m. 23°	23 235 - 130 Day at anytime 24:00 +0 m. 22°	24 236 - 129 Day at anytime 24:00 +0 m. 22°	25 237 - 128 Day at anytime 24:00 +0 m. 22°	26 238 - 127 00:44 - 23:47 23:03 -57 m. 21°
35	27 239 - 126 01:00 - 23:10 22:10 -53 m. 21°	28 240 - 125 01:20 - 22:47 21:27 -43 m. 21°	29 241 - 124 01:43 - 22:28 20:46 -41 m. 20°	30 242 - 123 02:01 - 22:12 20:12 -34 m. 20°	31 243 - 122 02:16 - 21:58 19:42 -30 m. 20°	1 244 - 121 02:30 - 21:45 19:15 -27 m. 19°	2 245 - 120 02:43 - 21:32 18:50 -25 m. 19°



September 2018

Sunrise and Sunset at Ny-Alesund (TL ± 1 mn)
Duration of the day - Variation - Sun maximal elevation (°)

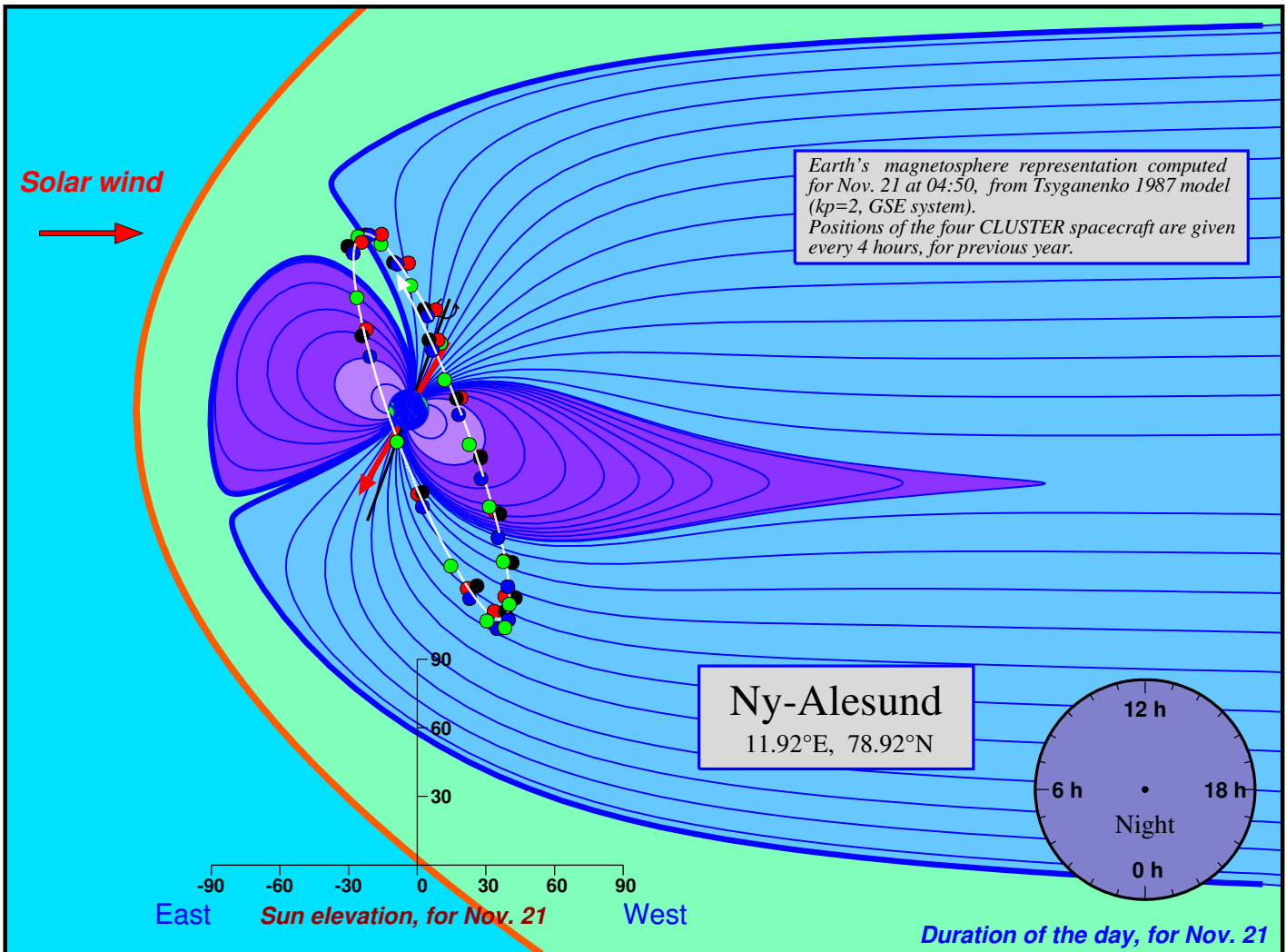
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
35	27 239 - 126 01:00 - 23:10 22:10 -53 m. 21°	28 240 - 125 01:20 - 22:47 21:27 -43 m. 21°	29 241 - 124 01:43 - 22:28 20:46 -41 m. 20°	30 242 - 123 02:01 - 22:12 20:12 -34 m. 20°	31 243 - 122 02:16 - 21:58 19:42 -30 m. 20°	1 244 - 121 02:30 - 21:45 19:15 -27 m. 19°	2 245 - 120 02:43 - 21:32 18:50 -25 m. 19°
36	3 246 - 119 02:54 - 21:20 18:26 -24 m. 19°	4 247 - 118 03:06 - 21:09 18:04 -22 m. 18°	5 248 - 117 03:16 - 20:58 17:42 -22 m. 18°	6 249 - 116 03:26 - 20:48 17:22 -20 m. 17°	7 250 - 115 03:36 - 20:38 17:02 -20 m. 17°	8 251 - 114 03:46 - 20:28 16:42 -20 m. 17°	9 252 - 113 03:55 - 20:18 16:24 -18 m. 16°
37	10 253 - 112 04:04 - 20:09 16:05 -19 m. 16°	11 254 - 111 04:13 - 20:00 15:47 -18 m. 16°	12 255 - 110 04:21 - 19:51 15:30 -17 m. 15°	13 256 - 109 04:30 - 19:42 15:12 -18 m. 15°	14 257 - 108 04:38 - 19:33 14:55 -17 m. 14°	15 258 - 107 04:46 - 19:24 14:38 -17 m. 14°	16 259 - 106 04:54 - 19:16 14:22 -16 m. 14°
38	17 260 - 105 05:02 - 19:07 14:05 -17 m. 13°	18 261 - 104 05:10 - 18:59 13:49 -16 m. 13°	19 262 - 103 05:18 - 18:50 13:33 -16 m. 13°	20 263 - 102 05:26 - 18:42 13:16 -17 m. 12°	21 264 - 101 05:33 - 18:34 13:00 -16 m. 12°	22 265 - 100 05:41 - 18:25 12:44 -16 m. 11°	23 266 - 99 05:49 - 18:17 12:29 -15 m. 11°
39	24 267 - 98 05:56 - 18:09 12:13 -16 m. 11°	25 268 - 97 06:04 - 18:00 11:57 -16 m. 10°	26 269 - 96 06:12 - 17:52 11:41 -16 m. 10°	27 270 - 95 06:19 - 17:44 11:25 -16 m. 9°	28 271 - 94 06:27 - 17:36 11:09 -16 m. 9°	29 272 - 93 06:35 - 17:27 10:53 -16 m. 9°	30 273 - 92 06:42 - 17:19 10:37 -16 m. 8°



October 2018

Sunrise and Sunset at Ny-Alesund (TL ± 1 mn)
Duration of the day - Variation - Sun maximal elevation (°)

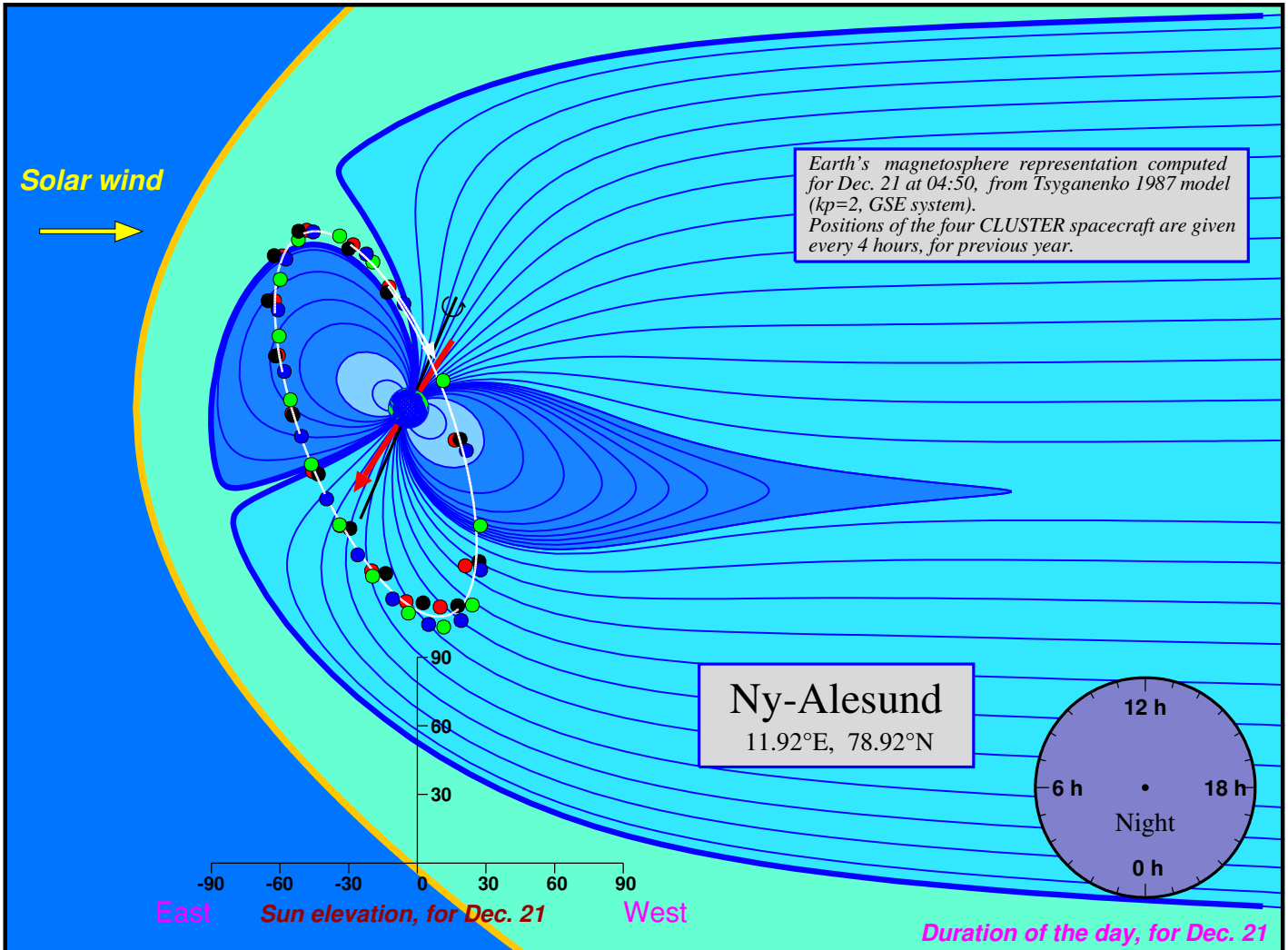
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
40	1 274 - 91 06:50 - 17:11 10:20 -17 m. 8°	2 275 - 90 06:58 - 17:02 10:04 -16 m. 8°	3 276 - 89 07:06 - 16:54 9:47 -17 m. 7°	4 277 - 88 07:14 - 16:45 9:31 -16 m. 7°	5 278 - 87 07:22 - 16:36 9:14 -17 m. 6°	6 279 - 86 07:30 - 16:28 8:57 -17 m. 6°	7 280 - 85 07:39 - 16:19 8:40 -17 m. 6°
41	8 281 - 84 07:47 - 16:10 8:22 -18 m. 5°	9 282 - 83 07:56 - 16:01 8:04 -18 m. 5°	10 283 - 82 08:05 - 15:51 7:46 -18 m. 5°	11 284 - 81 08:14 - 15:42 7:28 -18 m. 4°	12 285 - 80 08:23 - 15:32 7:09 -19 m. 4°	13 286 - 79 08:33 - 15:22 6:49 -20 m. 3°	14 287 - 78 08:43 - 15:12 6:29 -20 m. 3°
42	15 288 - 77 08:53 - 15:01 6:08 -21 m. 3°	16 289 - 76 09:04 - 14:50 5:46 -22 m. 2°	17 290 - 75 09:15 - 14:38 5:23 -23 m. 2°	18 291 - 74 09:27 - 14:26 4:59 -24 m. 2°	19 292 - 73 09:40 - 14:13 4:33 -26 m. 1°	20 293 - 72 09:54 - 13:58 4:04 -29 m. 1°	21 294 - 71 10:09 - 13:43 3:33 -31 m. 1°
43	22 295 - 70 10:27 - 13:24 2:57 -36 m. 1°	23 296 - 69 10:49 - 13:02 2:12 -45 m. 0°	24 297 - 68 11:24 - 12:27 1:02 -70 m. 0°	25 298 - 67 Polar Night	26 299 - 66 Polar Night	27 300 - 65 Polar Night	28 301 - 64 Polar Night
44	29 302 - 63 Polar Night	30 303 - 62 Polar Night	31 304 - 61 Polar Night	1 305 - 60 Polar Night	2 306 - 59 Polar Night	3 307 - 58 Polar Night	4 308 - 57 Polar Night



November 2018

Sunrise and Sunset at Ny-Alesund (TL ± 1 mn)
Duration of the day - Variation - Sun maximal elevation (°)

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
44	29 302 - 63 Polar Night	30 303 - 62 Polar Night	31 304 - 61 Polar Night	1 305 - 60 Polar Night	2 306 - 59 Polar Night	3 307 - 58 Polar Night	4 308 - 57 Polar Night
45	5 309 - 56 Polar Night	6 310 - 55 Polar Night	7 311 - 54 Polar Night	8 312 - 53 Polar Night	9 313 - 52 Polar Night	10 314 - 51 Polar Night	11 315 - 50 Polar Night
46	12 316 - 49 Polar Night	13 317 - 48 Polar Night	14 318 - 47 Polar Night	15 319 - 46 Polar Night	16 320 - 45 Polar Night	17 321 - 44 Polar Night	18 322 - 43 Polar Night
47	19 323 - 42 Polar Night	20 324 - 41 Polar Night	21 325 - 40 Polar Night	22 326 - 39 Polar Night	23 327 - 38 Polar Night	24 328 - 37 Polar Night	25 329 - 36 Polar Night
48	26 330 - 35 Polar Night	27 331 - 34 Polar Night	28 332 - 33 Polar Night	29 333 - 32 Polar Night	30 334 - 31 Polar Night	1 335 - 30 Polar Night	2 336 - 29 Polar Night



December 2018

Sunrise and Sunset at Ny-Alesund (TL ± 1 mn)
Duration of the day - Variation - Sun maximal elevation (°)

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
48	26 330 - 35 Polar Night	27 331 - 34 Polar Night	28 332 - 33 Polar Night	29 333 - 32 Polar Night	30 334 - 31 Polar Night	1 335 - 30 Polar Night	2 336 - 29 Polar Night
49	3 337 - 28 Polar Night	4 338 - 27 Polar Night	5 339 - 26 Polar Night	6 340 - 25 Polar Night	7 341 - 24 Polar Night	8 342 - 23 Polar Night	9 343 - 22 Polar Night
50	10 344 - 21 Polar Night	11 345 - 20 Polar Night	12 346 - 19 Polar Night	13 347 - 18 Polar Night	14 348 - 17 Polar Night	15 349 - 16 Polar Night	16 350 - 15 Polar Night
51	17 351 - 14 Polar Night	18 352 - 13 Polar Night	19 353 - 12 Polar Night	20 354 - 11 Polar Night	21 355 - 10 Polar Night	22 356 - 9 Polar Night	23 357 - 8 Polar Night
52	24 358 - 7 Polar Night	25 359 - 6 Polar Night	26 360 - 5 Polar Night	27 361 - 4 Polar Night	28 362 - 3 Polar Night	29 363 - 2 Polar Night	30 364 - 1 Polar Night
53	31 365 - 0 Polar Night						

Visualisation of magnetic field lines of the Earth

Model: Tsyganenko 87 version exshor ikp=4 (kp= 2+) Date/Time: 16 janvier 2001 02:00 Coordinates: GSM

P. Robert, 1996

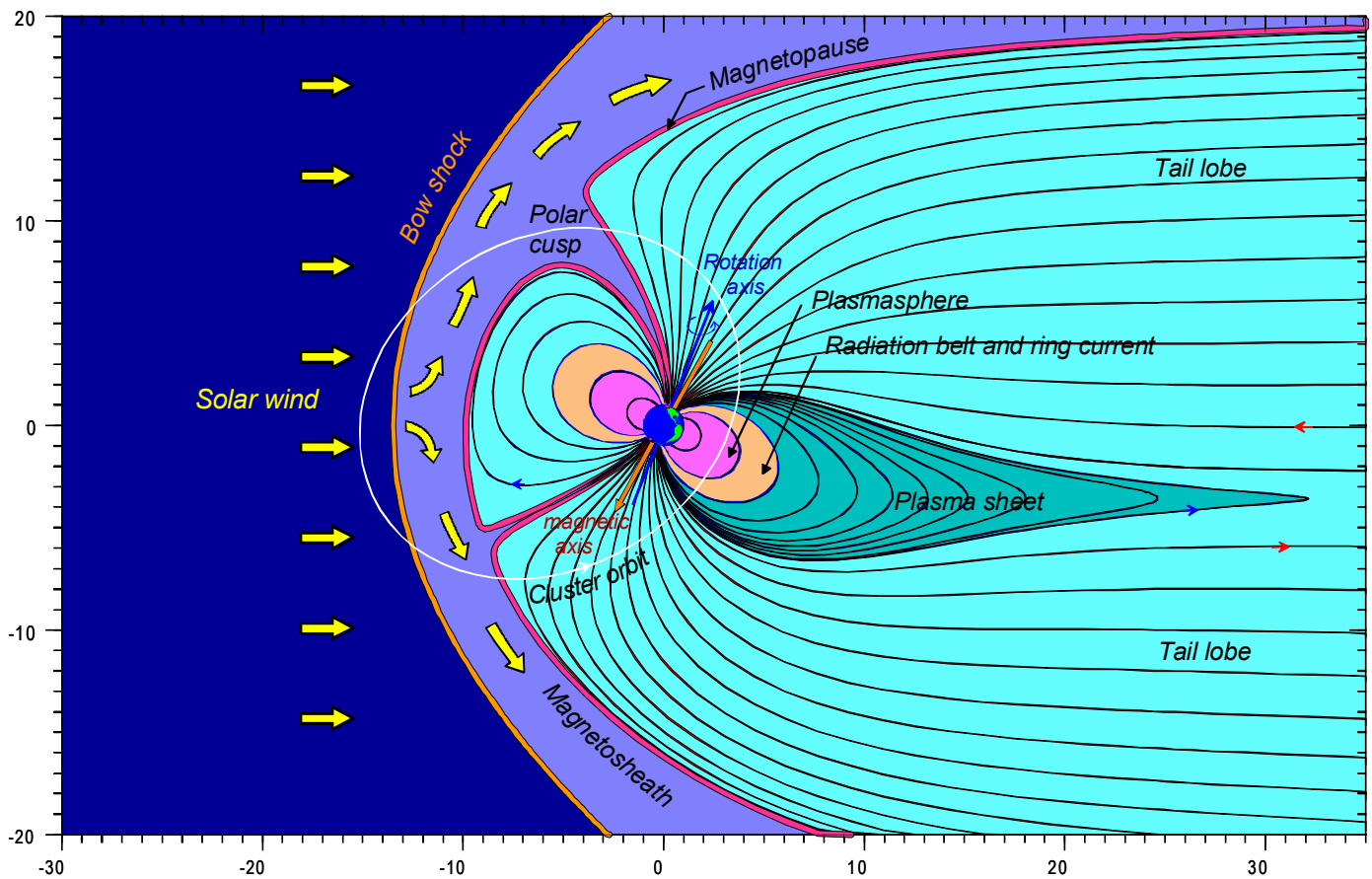


Illustration : Visualization of magnetic field lines of the Earth, showing the magnetosphere.

The magnetic Earth's field lines, due to the internal field, initially dipolar and symmetric around the axis of the magnetic dipole, are deformed by the solar wind, which create a closed cavity, named magnetosphere, and a shock wave upstream of this cavity. The various regions are artificially colored. The color choice, here as well as from one season to another for the calendar, is purely esthetical.

The magnetic field model used is the one of Tsyganenko 1987. The computation of the magnetosphere geometries, from the magnetic field model, is done from a specific library developed, the "Comagnetolib". All the graphical is produced by an own library, the "Rogralib".

Calendar:

The sunrise and sunset time, the computation of the maximal elevation of the Sun at the local noon, the duration of the day, are computed thanks to a coordinate system library, developed initially for the CLUSTER mission in 1992, the "Rocotlib", then completed by all the routines allowing calendar and time conversions. Sunrise, sunset and local noon time are now available for polar zones in the last version of this library.

Computations are done assuming a spherical Earth, and for a constant value of the indices of refraction of the air at the horizon. Computations have been checked with the ephemerid values delivered by the "Institut de Mécanique Céleste" in Paris. The accuracy is around one minute in time and a few minutes in angles. Sunrise and sunset are defined when the apparent upper edge of the sun reach the local horizon.

This calendar can be automatically produced for any city in the world, including polar zones, and for all years between 1901 and 2099.

For any more information, contact Patrickjf.Robert@gmail.com

Many calendar examples computed for various places in the world are available here : <http://www.scientidev.fr>