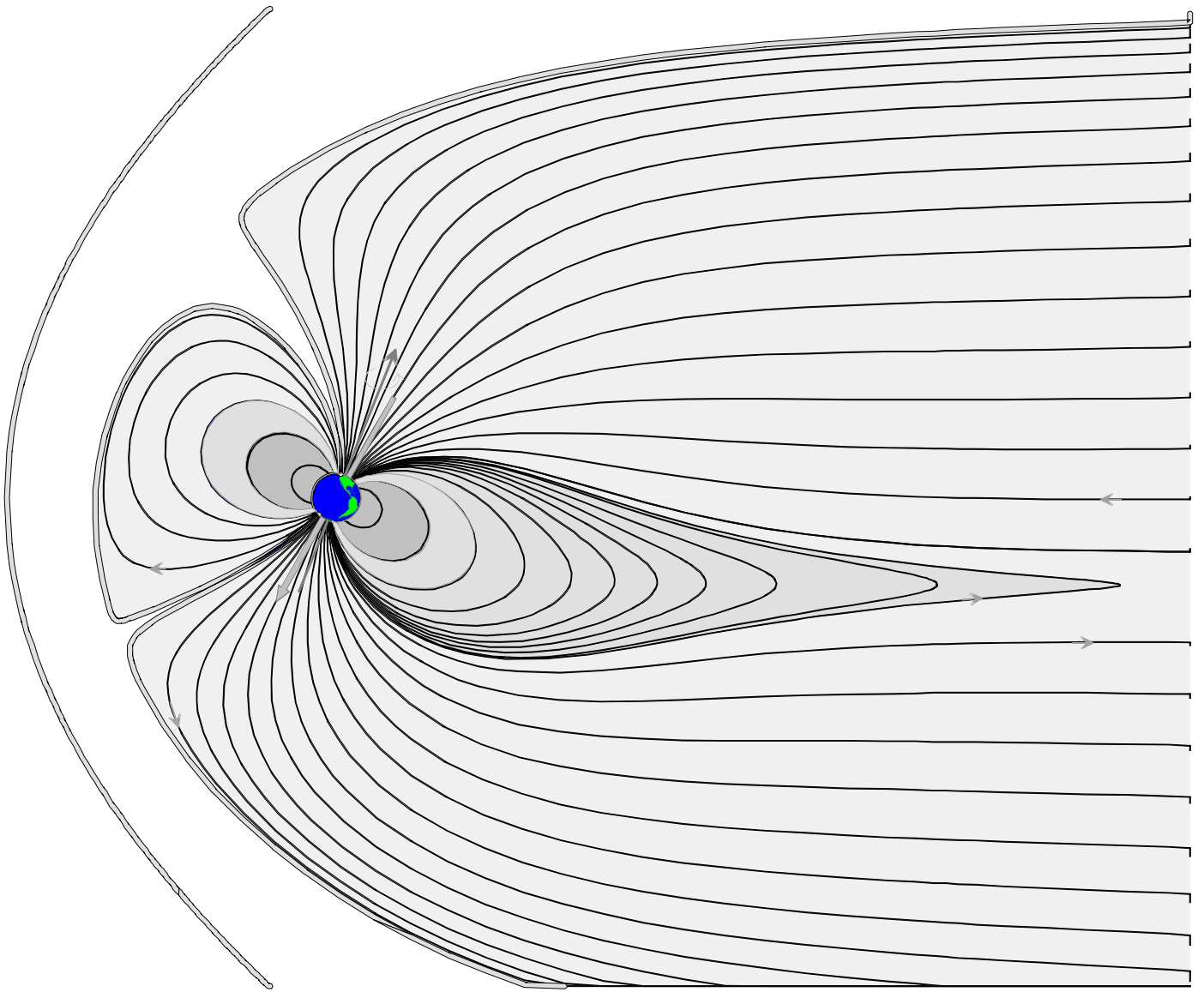


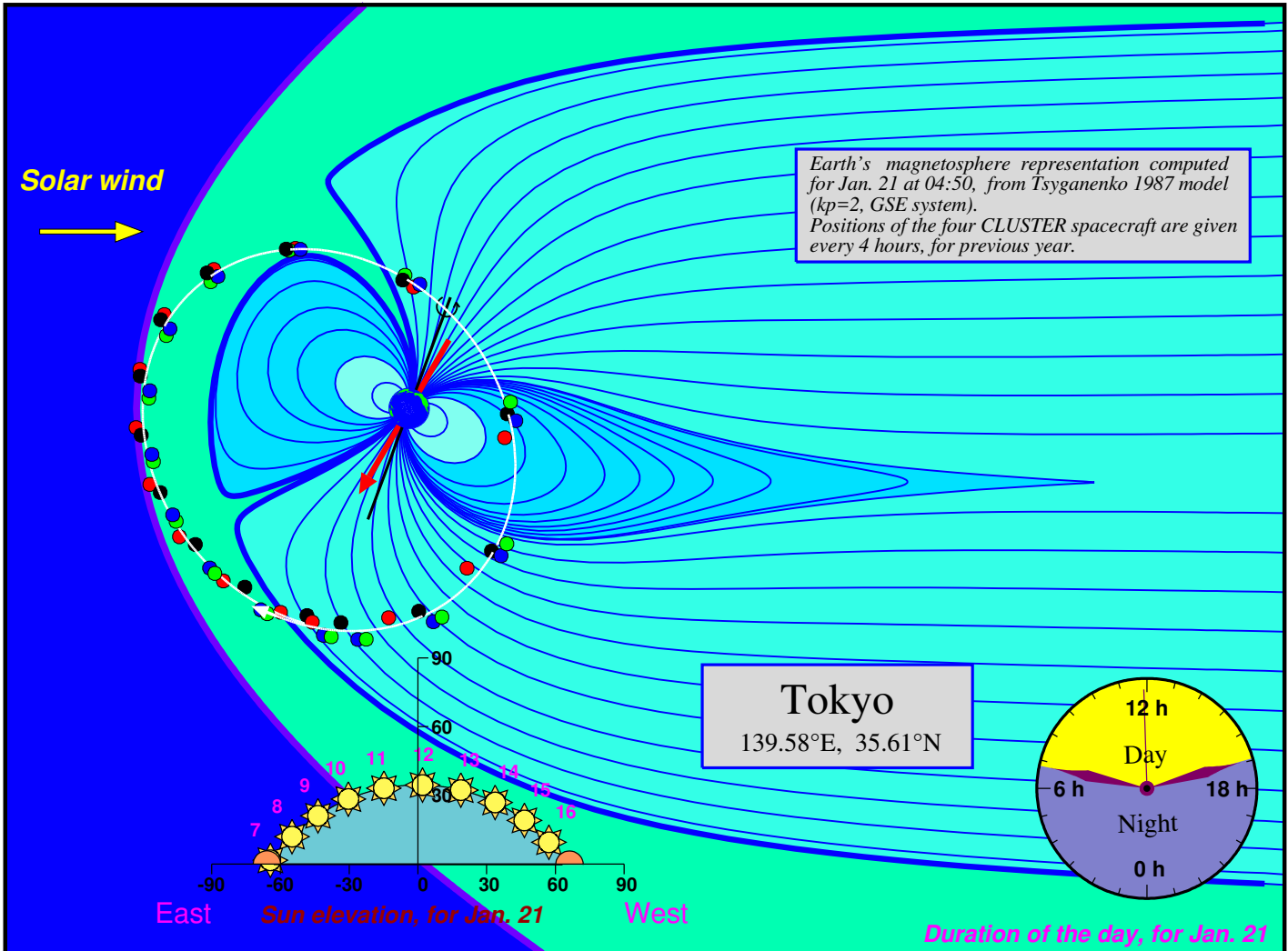


*Here is the classical magnetospheric calendar **2018**,
available for any city across the world,*

English or French version

Happy new year for everybody

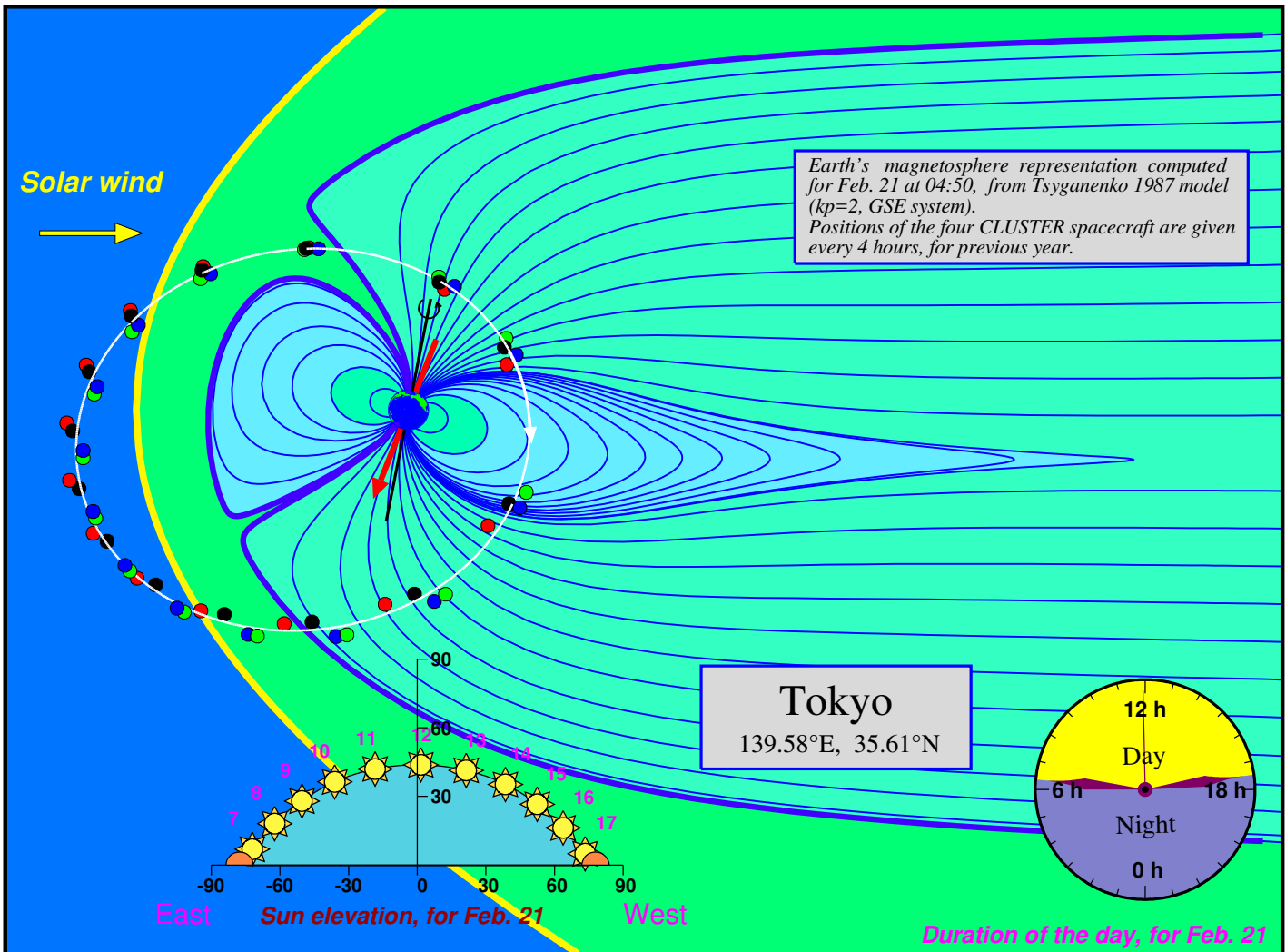
Patrick



January 2018

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

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1	1 1 - 364 06:52 - 16:39 9:47 +0 m.31°	2 2 - 363 06:52 - 16:40 9:48 +1 m.31°	3 3 - 362 06:52 - 16:41 9:49 +1 m.32°	4 4 - 361 06:52 - 16:42 9:49 +0 m.32°	5 5 - 360 06:52 - 16:42 9:50 +1 m.32°	6 6 - 359 06:52 - 16:43 9:51 +1 m.32°	7 7 - 358 06:52 - 16:44 9:52 +1 m.32°
	8 8 - 357 06:52 - 16:45 9:53 +1 m.32°	9 9 - 356 06:52 - 16:46 9:54 +1 m.32°	10 10 - 355 06:52 - 16:47 9:55 +1 m.32°	11 11 - 354 06:52 - 16:48 9:56 +1 m.33°	12 12 - 353 06:51 - 16:49 9:57 +1 m.33°	13 13 - 352 06:51 - 16:50 9:58 +1 m.33°	14 14 - 351 06:51 - 16:51 9:59 +1 m.33°
	15 15 - 350 06:51 - 16:52 10:01 +2 m.33°	16 16 - 349 06:50 - 16:53 10:02 +1 m.33°	17 17 - 348 06:50 - 16:54 10:04 +2 m.34°	18 18 - 347 06:50 - 16:55 10:05 +1 m.34°	19 19 - 346 06:49 - 16:56 10:06 +1 m.34°	20 20 - 345 06:49 - 16:57 10:08 +2 m.34°	21 21 - 344 06:48 - 16:58 10:09 +1 m.34°
4	22 22 - 343 06:48 - 16:59 10:11 +2 m.35°	23 23 - 342 06:47 - 17:00 10:12 +1 m.35°	24 24 - 341 06:47 - 17:01 10:14 +2 m.35°	25 25 - 340 06:46 - 17:02 10:15 +1 m.35°	26 26 - 339 06:46 - 17:03 10:17 +2 m.36°	27 27 - 338 06:45 - 17:04 10:19 +2 m.36°	28 28 - 337 06:44 - 17:05 10:21 +2 m.36°
	29 29 - 336 06:44 - 17:06 10:22 +1 m.36°	30 30 - 335 06:43 - 17:07 10:24 +2 m.37°	31 31 - 334 06:42 - 17:08 10:26 +2 m.37°	1 32 - 333 06:41 - 17:09 10:28 +2 m.37°	2 33 - 332 06:41 - 17:10 10:29 +1 m.38°	3 34 - 331 06:40 - 17:11 10:31 +2 m.38°	4 35 - 330 06:39 - 17:12 10:33 +2 m.38°

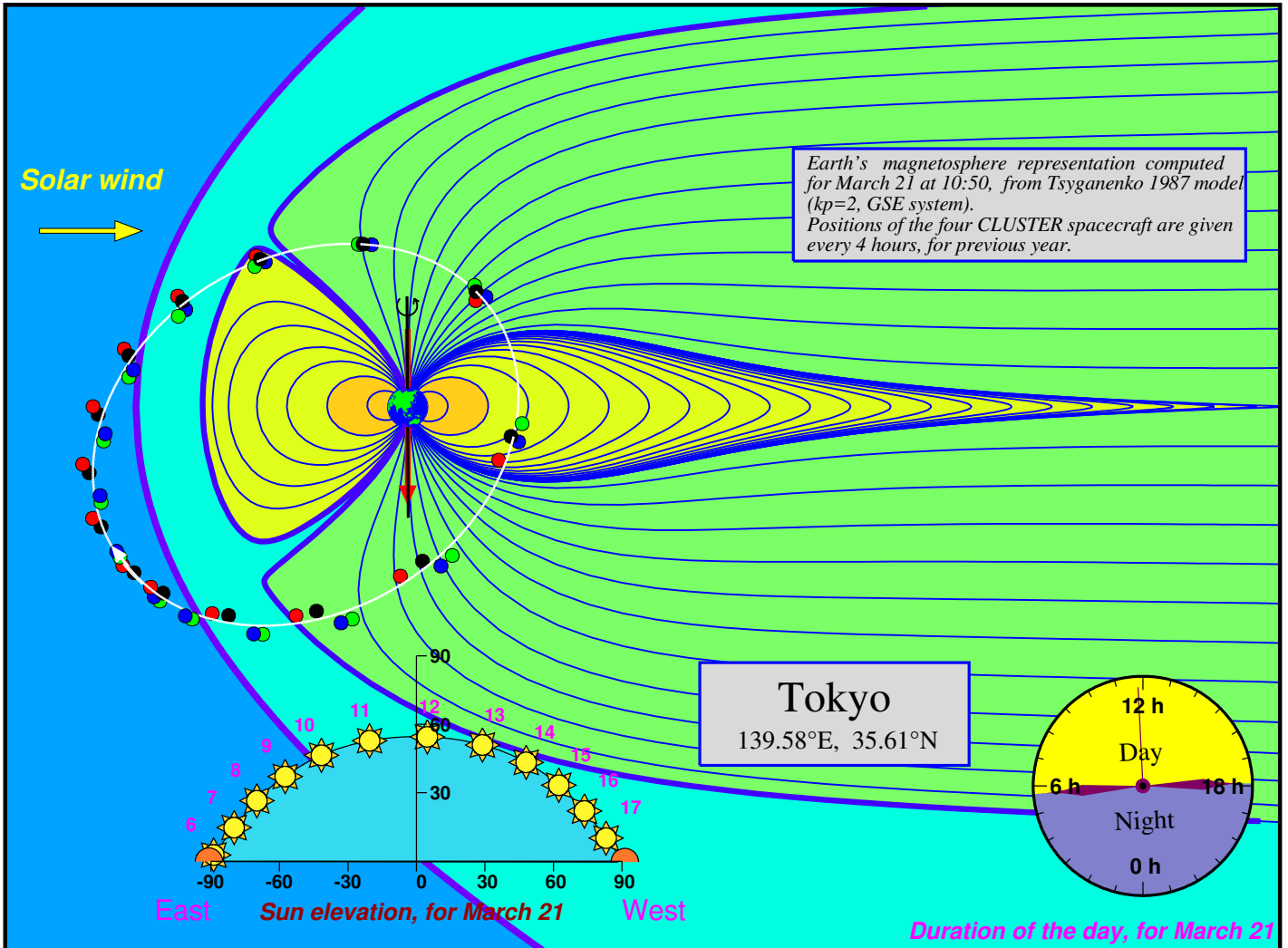


February 2018

Sunrise and Sunset at Tokyo (TL ± 1 mn)

Duration of the day - Variation - Sun maximal elevation (°)

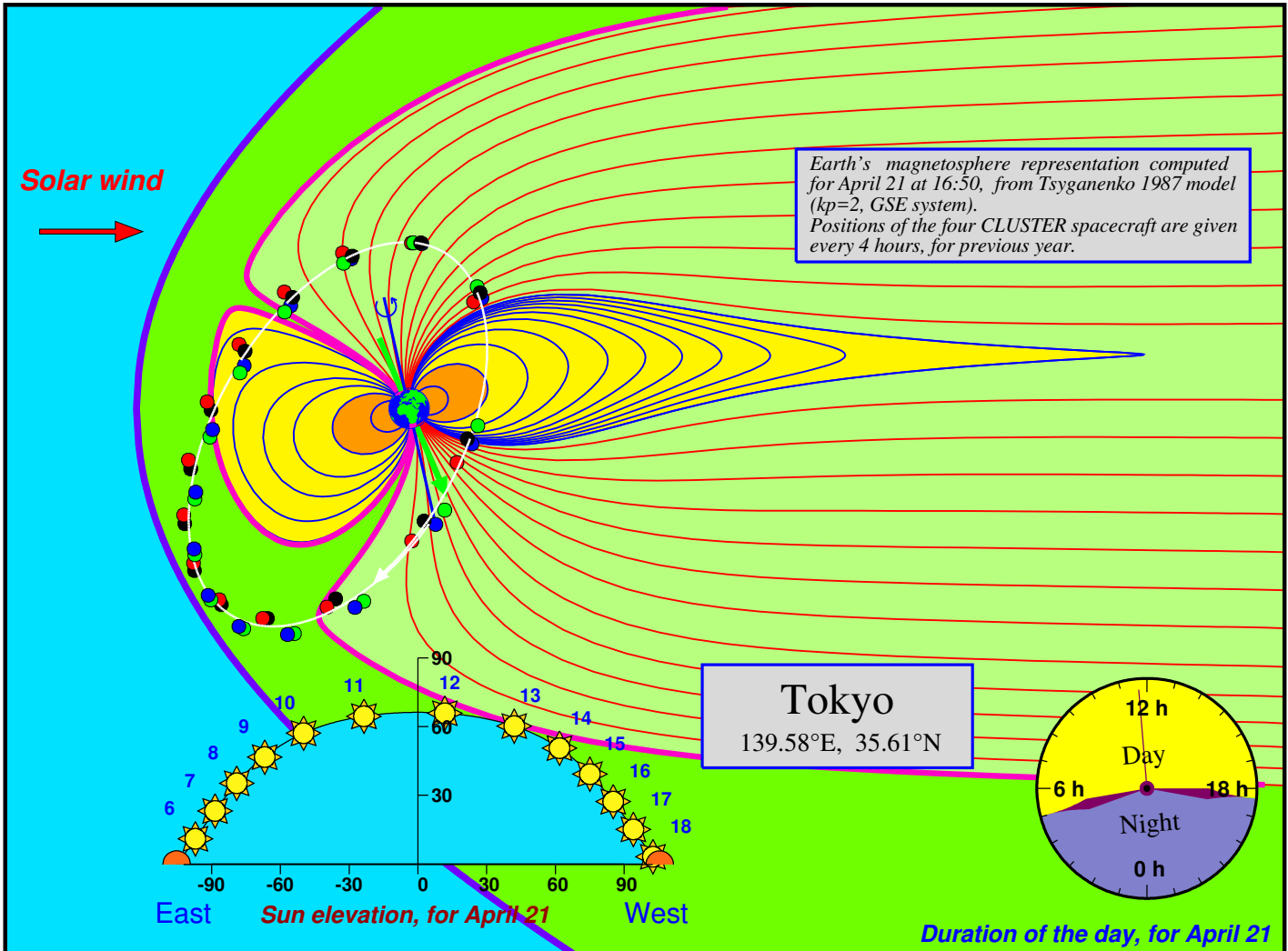
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
5	29 29 - 336 06:44 - 17:06 10:22 +1 m. 36°	30 30 - 335 06:43 - 17:07 10:24 +2 m. 37°	31 31 - 334 06:42 - 17:08 10:26 +2 m. 37°	1 32 - 333 06:41 - 17:09 10:28 +2 m. 37°	2 33 - 332 06:41 - 17:10 10:29 +1 m. 38°	3 34 - 331 06:40 - 17:11 10:31 +2 m. 38°	4 35 - 330 06:39 - 17:12 10:33 +2 m. 38°
	5 36 - 329 06:38 - 17:13 10:35 +2 m. 38°	6 37 - 328 06:37 - 17:14 10:37 +2 m. 39°	7 38 - 327 06:36 - 17:15 10:39 +2 m. 39°	8 39 - 326 06:35 - 17:16 10:41 +2 m. 39°	9 40 - 325 06:34 - 17:17 10:43 +2 m. 40°	10 41 - 324 06:33 - 17:18 10:45 +2 m. 40°	11 42 - 323 06:32 - 17:19 10:47 +2 m. 40°
	12 43 - 322 06:31 - 17:20 10:49 +2 m. 41°	13 44 - 321 06:30 - 17:21 10:51 +2 m. 41°	14 45 - 320 06:29 - 17:22 10:53 +2 m. 41°	15 46 - 319 06:28 - 17:23 10:55 +2 m. 42°	16 47 - 318 06:27 - 17:24 10:57 +2 m. 42°	17 48 - 317 06:26 - 17:25 10:59 +2 m. 42°	18 49 - 316 06:25 - 17:26 11:02 +3 m. 43°
8	19 50 - 315 06:24 - 17:27 11:04 +2 m. 43°	20 51 - 314 06:22 - 17:28 11:06 +2 m. 43°	21 52 - 313 06:21 - 17:29 11:08 +2 m. 44°	22 53 - 312 06:20 - 17:30 11:10 +2 m. 44°	23 54 - 311 06:19 - 17:31 11:12 +2 m. 45°	24 55 - 310 06:18 - 17:32 11:14 +2 m. 45°	25 56 - 309 06:16 - 17:33 11:17 +3 m. 45°
	26 57 - 308 06:15 - 17:34 11:19 +2 m. 46°	27 58 - 307 06:14 - 17:35 11:21 +2 m. 46°	28 59 - 306 06:12 - 17:36 11:23 +2 m. 46°	1 60 - 305 06:11 - 17:37 11:26 +3 m. 47°	2 61 - 304 06:10 - 17:37 11:28 +2 m. 47°	3 62 - 303 06:09 - 17:38 11:30 +2 m. 48°	4 63 - 302 06:07 - 17:39 11:32 +2 m. 48°



March 2018

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

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
9	26 57 - 308 06:15 - 17:34 11:19 +2 m. 46°	27 58 - 307 06:14 - 17:35 11:21 +2 m. 46°	28 59 - 306 06:12 - 17:36 11:23 +2 m. 46°	1 60 - 305 06:11 - 17:37 11:26 +3 m. 47°	2 61 - 304 06:10 - 17:37 11:28 +2 m. 47°	3 62 - 303 06:09 - 17:38 11:30 +2 m. 48°	4 63 - 302 06:07 - 17:39 11:32 +2 m. 48°
10	5 64 - 301 06:06 - 17:40 11:34 +2 m. 48°	6 65 - 300 06:05 - 17:41 11:37 +3 m. 49°	7 66 - 299 06:03 - 17:42 11:39 +2 m. 49°	8 67 - 298 06:02 - 17:43 11:41 +2 m. 49°	9 68 - 297 06:00 - 17:44 11:43 +2 m. 50°	10 69 - 296 05:59 - 17:45 11:46 +3 m. 50°	11 70 - 295 05:58 - 17:45 11:48 +2 m. 51°
11	12 71 - 294 05:56 - 17:46 11:50 +2 m. 51°	13 72 - 293 05:55 - 17:47 11:53 +3 m. 51°	14 73 - 292 05:53 - 17:48 11:55 +2 m. 52°	15 74 - 291 05:52 - 17:49 11:57 +2 m. 52°	16 75 - 290 05:51 - 17:50 11:59 +2 m. 53°	17 76 - 289 05:49 - 17:51 12:01 +2 m. 53°	18 77 - 288 05:48 - 17:51 12:04 +3 m. 53°
12	19 78 - 287 05:46 - 17:52 12:06 +2 m. 54°	20 79 - 286 05:45 - 17:53 12:08 +2 m. 54°	21 80 - 285 05:43 - 17:54 12:11 +3 m. 55°	22 81 - 284 05:42 - 17:55 12:13 +2 m. 55°	23 82 - 283 05:41 - 17:56 12:15 +2 m. 55°	24 83 - 282 05:39 - 17:56 12:17 +2 m. 56°	25 84 - 281 05:38 - 17:57 12:20 +3 m. 56°
13	26 85 - 280 05:36 - 17:58 12:22 +2 m. 57°	27 86 - 279 05:35 - 17:59 12:24 +2 m. 57°	28 87 - 278 05:33 - 18:00 12:26 +2 m. 57°	29 88 - 277 05:32 - 18:01 12:29 +3 m. 58°	30 89 - 276 05:31 - 18:01 12:31 +2 m. 58°	31 90 - 275 05:29 - 18:02 12:33 +2 m. 58°	1 91 - 274 05:28 - 18:03 12:35 +2 m. 59°

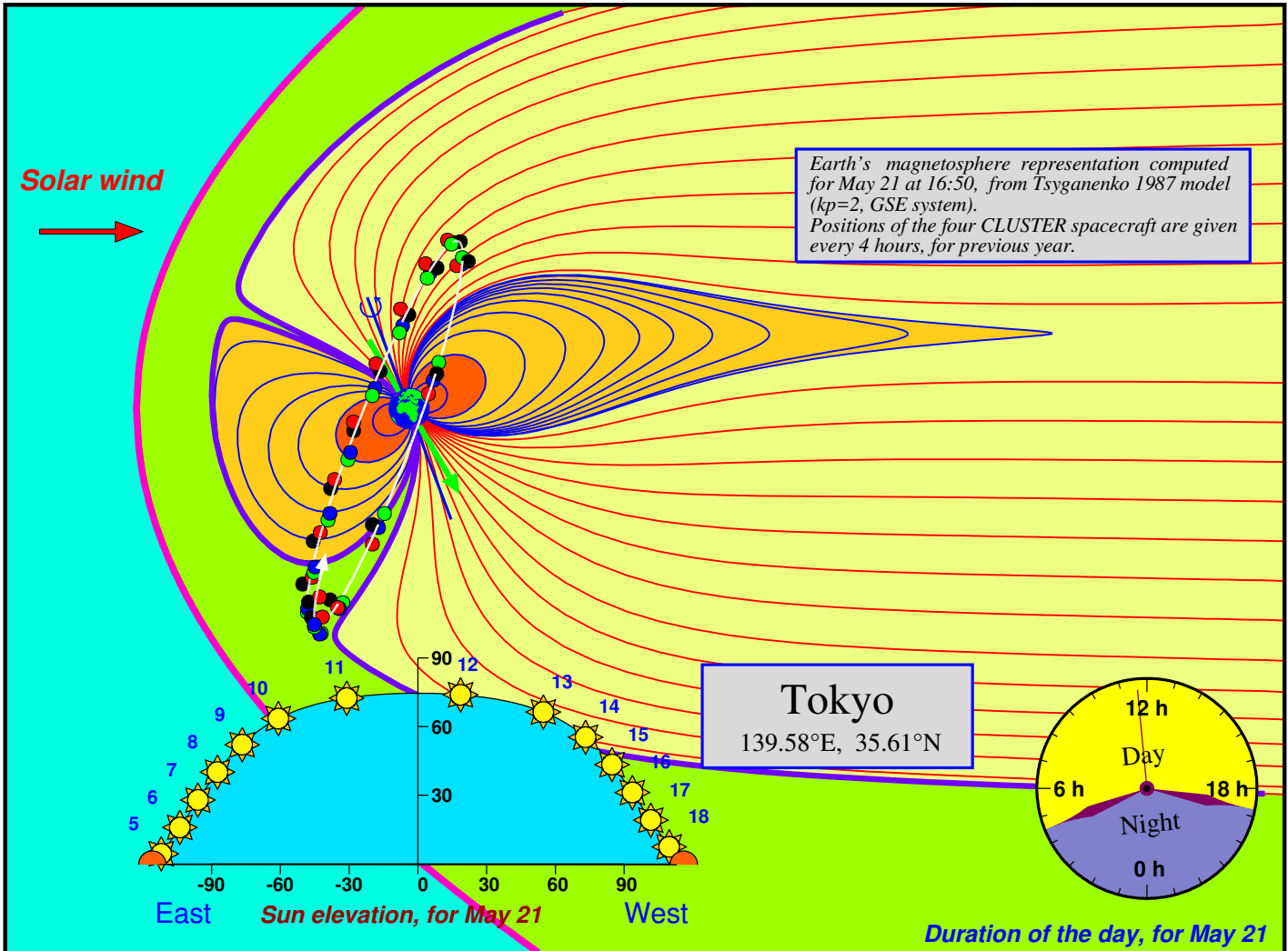


April 2018

Sunrise and Sunset at Tokyo (TL ± 1 mn)

Duration of the day - Variation - Sun maximal elevation (°)

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
13	26 85 - 280 05:36 - 17:58 12:22 +2 m. 57°	27 86 - 279 05:35 - 17:59 12:24 +2 m. 57°	28 87 - 278 05:33 - 18:00 12:26 +2 m. 57°	29 88 - 277 05:32 - 18:01 12:29 +3 m. 58°	30 89 - 276 05:31 - 18:01 12:31 +2 m. 58°	31 90 - 275 05:29 - 18:02 12:33 +2 m. 58°	1 91 - 274 05:28 - 18:03 12:35 +2 m. 59°
14	2 92 - 273 05:26 - 18:04 12:38 +3 m. 59°	3 93 - 272 05:25 - 18:05 12:40 +2 m. 60°	4 94 - 271 05:24 - 18:06 12:42 +2 m. 60°	5 95 - 270 05:22 - 18:06 12:44 +2 m. 60°	6 96 - 269 05:21 - 18:07 12:46 +2 m. 61°	7 97 - 268 05:19 - 18:08 12:49 +3 m. 61°	8 98 - 267 05:18 - 18:09 12:51 +2 m. 62°
15	9 99 - 266 05:17 - 18:10 12:53 +2 m. 62°	10 100 - 265 05:15 - 18:10 12:55 +2 m. 62°	11 101 - 264 05:14 - 18:11 12:57 +2 m. 63°	12 102 - 263 05:13 - 18:12 13:00 +3 m. 63°	13 103 - 262 05:11 - 18:13 13:02 +2 m. 63°	14 104 - 261 05:10 - 18:14 13:04 +2 m. 64°	15 105 - 260 05:09 - 18:15 13:06 +2 m. 64°
16	16 106 - 259 05:07 - 18:15 13:08 +2 m. 64°	17 107 - 258 05:06 - 18:16 13:10 +2 m. 65°	18 108 - 257 05:05 - 18:17 13:12 +2 m. 65°	19 109 - 256 05:04 - 18:18 13:14 +2 m. 66°	20 110 - 255 05:02 - 18:19 13:17 +3 m. 66°	21 111 - 254 05:01 - 18:20 13:19 +2 m. 66°	22 112 - 253 05:00 - 18:20 13:21 +2 m. 67°
17	23 113 - 252 04:59 - 18:21 13:23 +2 m. 67°	24 114 - 251 04:57 - 18:22 13:25 +2 m. 67°	25 115 - 250 04:56 - 18:23 13:27 +2 m. 68°	26 116 - 249 04:55 - 18:24 13:29 +2 m. 68°	27 117 - 248 04:54 - 18:25 13:31 +2 m. 68°	28 118 - 247 04:53 - 18:25 13:33 +2 m. 68°	29 119 - 246 04:52 - 18:26 13:35 +2 m. 69°
18	30 120 - 245 04:51 - 18:27 13:37 +2 m. 69°	1 121 - 244 04:50 - 18:28 13:38 +1 m. 69°	2 122 - 243 04:48 - 18:29 13:40 +2 m. 70°	3 123 - 242 04:47 - 18:30 13:42 +2 m. 70°	4 124 - 241 04:46 - 18:30 13:44 +2 m. 70°	5 125 - 240 04:45 - 18:31 13:46 +2 m. 71°	6 126 - 239 04:44 - 18:32 13:48 +2 m. 71°

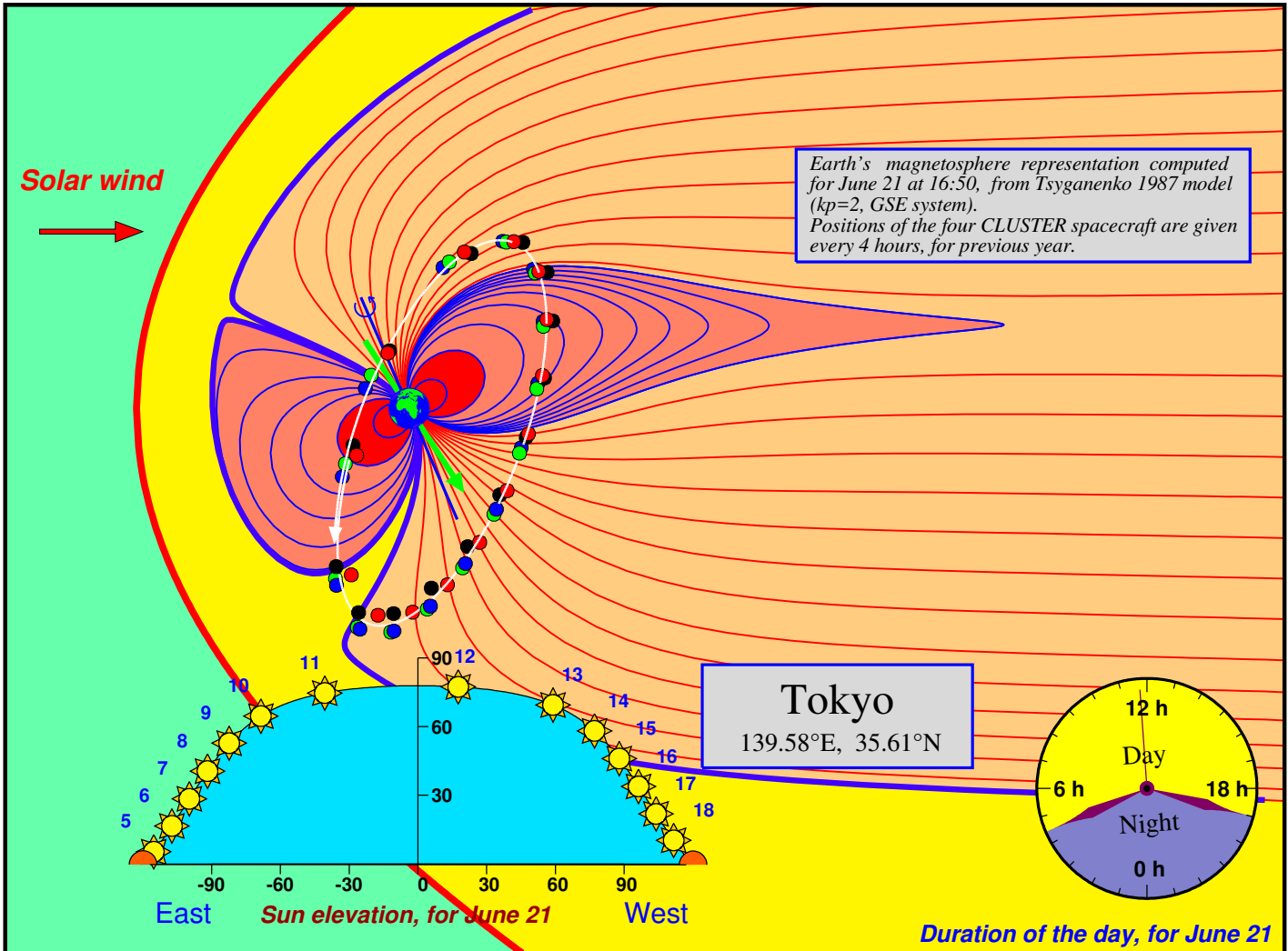


May 2018

Sunrise and Sunset at Tokyo (TL ± 1 mn)

Duration of the day - Variation - Sun maximal elevation (°)

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
18	30 120 - 245 04:51 - 18:27 13:37 +2 m. 69°	1 121 - 244 04:50 - 18:28 13:38 +1 m. 69°	2 122 - 243 04:48 - 18:29 13:40 +2 m. 70°	3 123 - 242 04:47 - 18:30 13:42 +2 m. 70°	4 124 - 241 04:46 - 18:30 13:44 +2 m. 70°	5 125 - 240 04:45 - 18:31 13:46 +2 m. 71°	6 126 - 239 04:44 - 18:32 13:48 +2 m. 71°
19	7 127 - 238 04:43 - 18:33 13:50 +2 m. 71°	8 128 - 237 04:43 - 18:34 13:51 +1 m. 71°	9 129 - 236 04:42 - 18:35 13:53 +2 m. 72°	10 130 - 235 04:41 - 18:35 13:55 +2 m. 72°	11 131 - 234 04:40 - 18:36 13:56 +1 m. 72°	12 132 - 233 04:39 - 18:37 13:58 +2 m. 72°	13 133 - 232 04:38 - 18:38 14:00 +2 m. 73°
20	14 134 - 231 04:37 - 18:39 14:01 +1 m. 73°	15 135 - 230 04:37 - 18:39 14:03 +2 m. 73°	16 136 - 229 04:36 - 18:40 14:04 +1 m. 73°	17 137 - 228 04:35 - 18:41 14:06 +2 m. 74°	18 138 - 227 04:34 - 18:42 14:07 +1 m. 74°	19 139 - 226 04:34 - 18:43 14:09 +2 m. 74°	20 140 - 225 04:33 - 18:43 14:10 +1 m. 74°
21	21 141 - 224 04:32 - 18:44 14:12 +2 m. 75°	22 142 - 223 04:32 - 18:45 14:13 +1 m. 75°	23 143 - 222 04:31 - 18:46 14:14 +1 m. 75°	24 144 - 221 04:31 - 18:46 14:16 +2 m. 75°	25 145 - 220 04:30 - 18:47 14:17 +1 m. 75°	26 146 - 219 04:30 - 18:48 14:18 +1 m. 75°	27 147 - 218 04:29 - 18:49 14:19 +1 m. 76°
22	28 148 - 217 04:29 - 18:49 14:20 +1 m. 76°	29 149 - 216 04:28 - 18:50 14:22 +2 m. 76°	30 150 - 215 04:28 - 18:51 14:23 +1 m. 76°	31 151 - 214 04:28 - 18:51 14:24 +1 m. 76°	1 152 - 213 04:27 - 18:52 14:25 +1 m. 76°	2 153 - 212 04:27 - 18:52 14:25 +0 m. 77°	3 154 - 211 04:27 - 18:53 14:26 +1 m. 77°

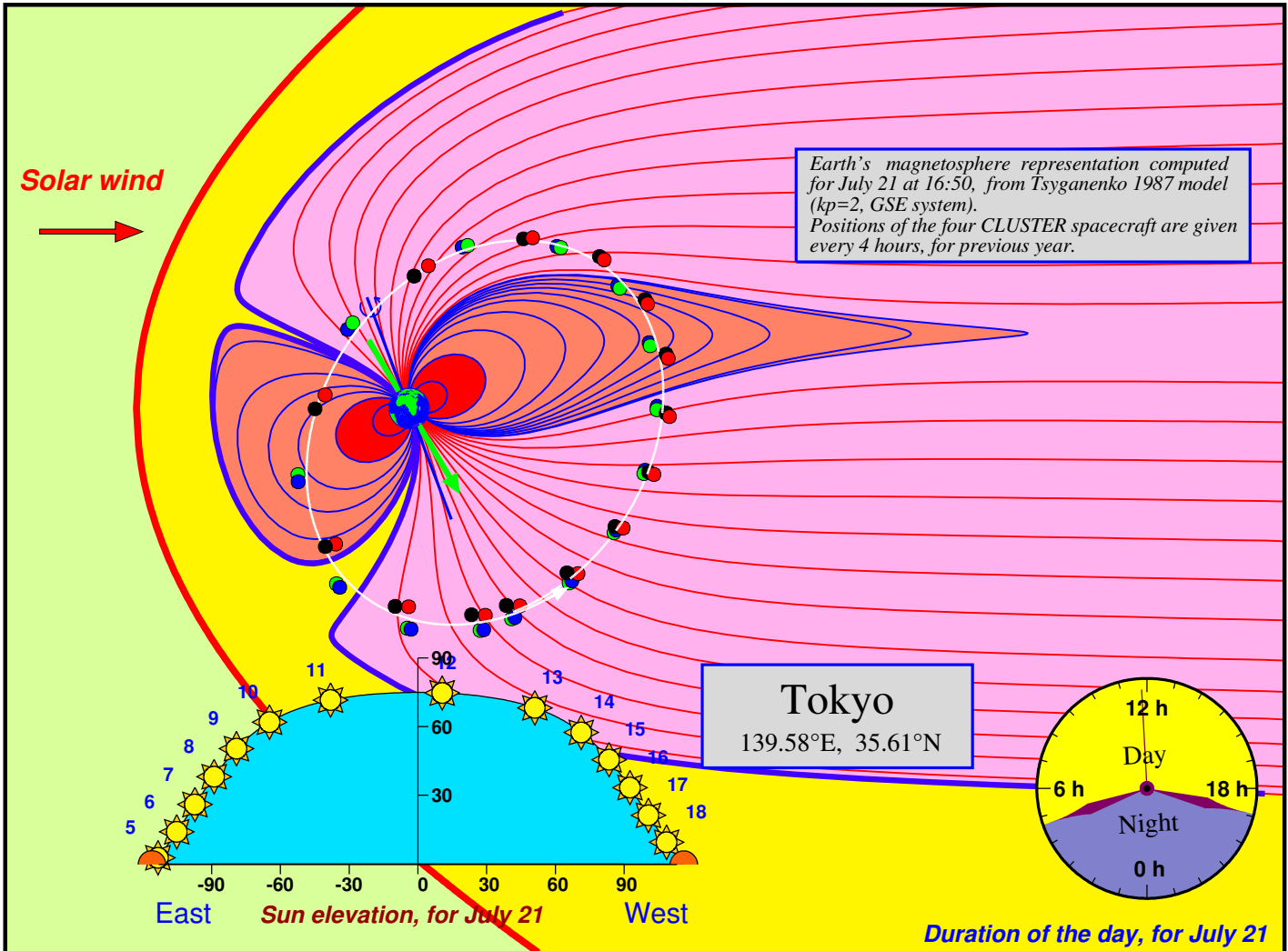


June 2018

Sunrise and Sunset at Tokyo (TL ± 1 mn)

Duration of the day - Variation - Sun maximal elevation (°)

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
22	28 148 - 217 04:29 - 18:49 14:20 +1 m. 76°	29 149 - 216 04:28 - 18:50 14:22 +2 m. 76°	30 150 - 215 04:28 - 18:51 14:23 +1 m. 76°	31 151 - 214 04:28 - 18:51 14:24 +1 m. 76°	1 152 - 213 04:27 - 18:52 14:25 +1 m. 76°	2 153 - 212 04:27 - 18:52 14:25 +0 m. 77°	3 154 - 211 04:27 - 18:53 14:26 +1 m. 77°
23	4 155 - 210 04:27 - 18:54 14:27 +1 m. 77°	5 156 - 209 04:26 - 18:54 14:28 +1 m. 77°	6 157 - 208 04:26 - 18:55 14:29 +1 m. 77°	7 158 - 207 04:26 - 18:55 14:29 +0 m. 77°	8 159 - 206 04:26 - 18:56 14:30 +1 m. 77°	9 160 - 205 04:26 - 18:56 14:31 +1 m. 77°	10 161 - 204 04:26 - 18:57 14:31 +0 m. 77°
24	11 162 - 203 04:26 - 18:57 14:32 +1 m. 77°	12 163 - 202 04:26 - 18:58 14:32 +0 m. 78°	13 164 - 201 04:26 - 18:58 14:33 +1 m. 78°	14 165 - 200 04:26 - 18:59 14:33 +0 m. 78°	15 166 - 199 04:26 - 18:59 14:33 +0 m. 78°	16 167 - 198 04:26 - 18:59 14:34 +1 m. 78°	17 168 - 197 04:26 - 19:00 14:34 +0 m. 78°
25	18 169 - 196 04:26 - 19:00 14:34 +0 m. 78°	19 170 - 195 04:26 - 19:00 14:34 +0 m. 78°	20 171 - 194 04:26 - 19:00 14:34 +0 m. 78°	21 172 - 193 04:27 - 19:01 14:34 +0 m. 78°	22 173 - 192 04:27 - 19:01 14:34 +0 m. 78°	23 174 - 191 04:27 - 19:01 14:34 +0 m. 78°	24 175 - 190 04:27 - 19:01 14:34 +0 m. 78°
26	25 176 - 189 04:28 - 19:01 14:34 +0 m. 78°	26 177 - 188 04:28 - 19:01 14:33 -1 m. 78°	27 178 - 187 04:28 - 19:02 14:33 +0 m. 78°	28 179 - 186 04:29 - 19:02 14:33 +0 m. 78°	29 180 - 185 04:29 - 19:02 14:32 -1 m. 78°	30 181 - 184 04:30 - 19:02 14:32 +0 m. 78°	1 182 - 183 04:30 - 19:02 14:32 +0 m. 78°

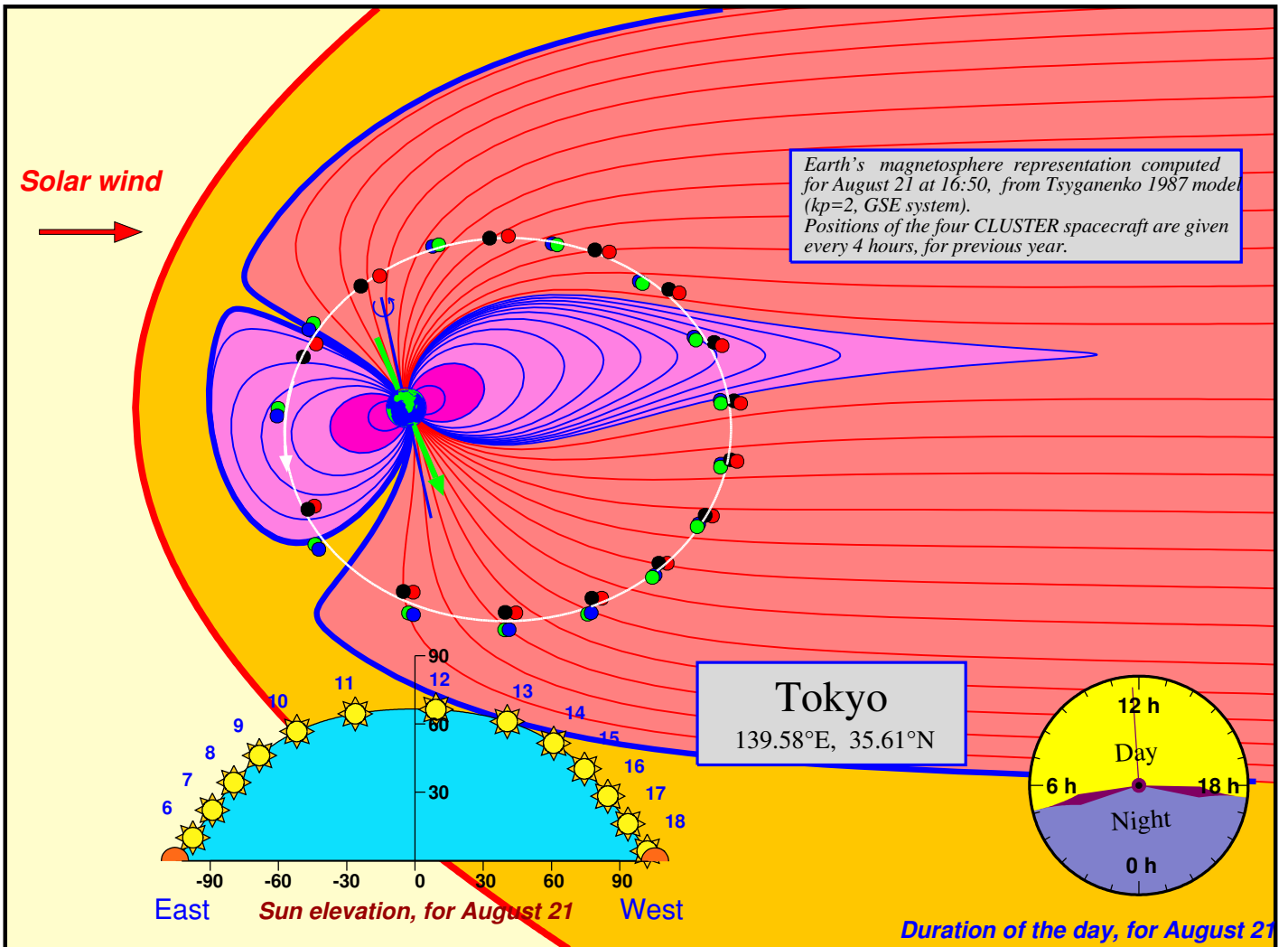


July 2018

Sunrise and Sunset at Tokyo (TL ± 1 mn)

Duration of the day - Variation - Sun maximal elevation (°)

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
26	25 176 - 189 04:28 - 19:01 14:34 +0 m. 78°	26 177 - 188 04:28 - 19:01 14:33 -1 m. 78°	27 178 - 187 04:28 - 19:02 14:33 +0 m. 78°	28 179 - 186 04:29 - 19:02 14:33 +0 m. 78°	29 180 - 185 04:29 - 19:02 14:32 -1 m. 78°	30 181 - 184 04:30 - 19:02 14:32 +0 m. 78°	1 182 - 183 04:30 - 19:02 14:32 +0 m. 78°
27	2 183 - 182 04:31 - 19:01 14:31 -1 m. 77°	3 184 - 181 04:31 - 19:01 14:31 +0 m. 77°	4 185 - 180 04:31 - 19:01 14:30 -1 m. 77°	5 186 - 179 04:32 - 19:01 14:29 -1 m. 77°	6 187 - 178 04:33 - 19:01 14:28 -1 m. 77°	7 188 - 177 04:33 - 19:01 14:28 +0 m. 77°	8 189 - 176 04:34 - 19:00 14:27 -1 m. 77°
28	9 190 - 175 04:34 - 19:00 14:26 -1 m. 77°	10 191 - 174 04:35 - 19:00 14:25 -1 m. 77°	11 192 - 173 04:35 - 19:00 14:24 -1 m. 77°	12 193 - 172 04:36 - 18:59 14:23 -1 m. 76°	13 194 - 171 04:37 - 18:59 14:22 -1 m. 76°	14 195 - 170 04:37 - 18:58 14:21 -1 m. 76°	15 196 - 169 04:38 - 18:58 14:20 -1 m. 76°
29	16 197 - 168 04:39 - 18:58 14:19 -1 m. 76°	17 198 - 167 04:39 - 18:57 14:18 -1 m. 76°	18 199 - 166 04:40 - 18:56 14:17 -1 m. 75°	19 200 - 165 04:41 - 18:56 14:15 -2 m. 75°	20 201 - 164 04:41 - 18:55 14:14 -1 m. 75°	21 202 - 163 04:42 - 18:55 14:13 -1 m. 75°	22 203 - 162 04:43 - 18:54 14:11 -2 m. 75°
30	23 204 - 161 04:44 - 18:53 14:10 -1 m. 74°	24 205 - 160 04:44 - 18:53 14:09 -1 m. 74°	25 206 - 159 04:45 - 18:52 14:07 -2 m. 74°	26 207 - 158 04:46 - 18:51 14:06 -1 m. 74°	27 208 - 157 04:47 - 18:51 14:04 -2 m. 74°	28 209 - 156 04:47 - 18:50 14:03 -1 m. 73°	29 210 - 155 04:48 - 18:49 14:01 -2 m. 73°
31	30 211 - 154 04:49 - 18:48 13:59 -2 m. 73°	31 212 - 153 04:50 - 18:47 13:58 -1 m. 73°	1 213 - 152 04:50 - 18:46 13:56 -2 m. 72°	2 214 - 151 04:51 - 18:45 13:54 -2 m. 72°	3 215 - 150 04:52 - 18:45 13:53 -1 m. 72°	4 216 - 149 04:53 - 18:44 13:51 -2 m. 72°	5 217 - 148 04:53 - 18:43 13:49 -2 m. 71°

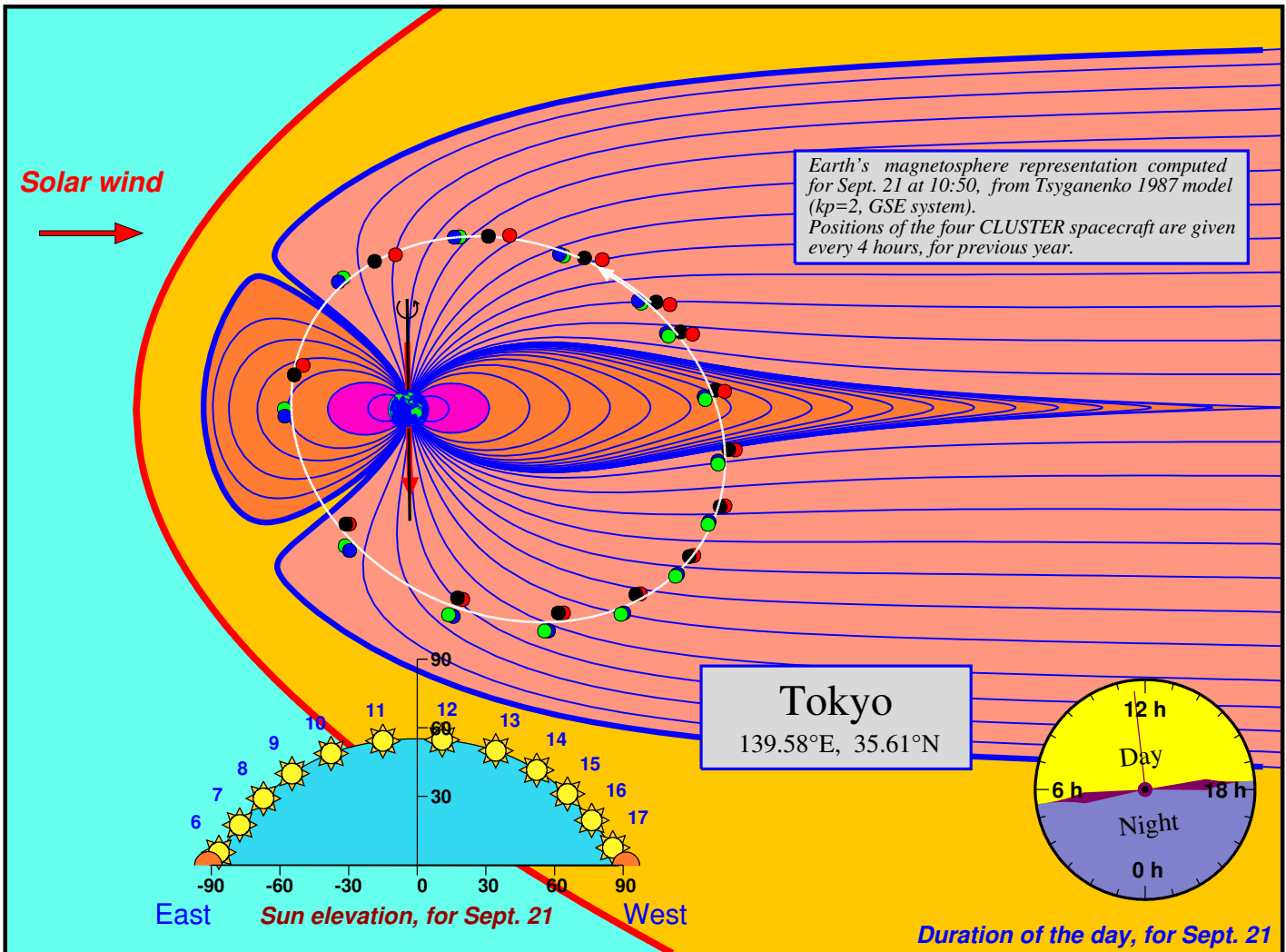


August 2018

Sunrise and Sunset at Tokyo (TL ± 1 mn)

Duration of the day - Variation - Sun maximal elevation (°)

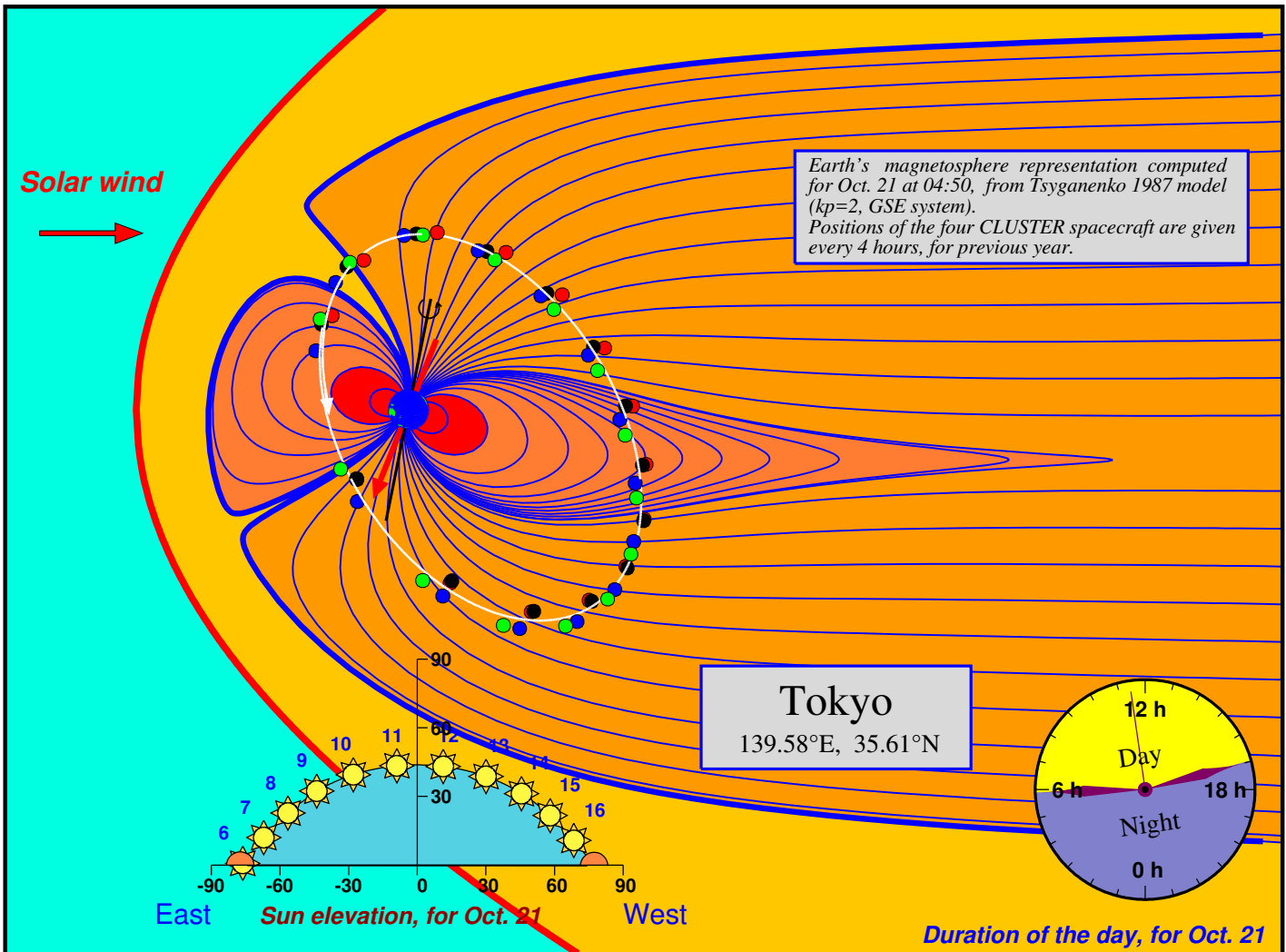
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
31	30 211 - 154 04:49 - 18:48 13:59 -2 m. 73°	31 212 - 153 04:50 - 18:47 13:58 -1 m. 73°	1 213 - 152 04:50 - 18:46 13:56 -2 m. 72°	2 214 - 151 04:51 - 18:45 13:54 -2 m. 72°	3 215 - 150 04:52 - 18:45 13:53 -1 m. 72°	4 216 - 149 04:53 - 18:44 13:51 -2 m. 72°	5 217 - 148 04:53 - 18:43 13:49 -2 m. 71°
32	6 218 - 147 04:54 - 18:42 13:47 -2 m. 71°	7 219 - 146 04:55 - 18:41 13:46 -1 m. 71°	8 220 - 145 04:56 - 18:40 13:44 -2 m. 71°	9 221 - 144 04:57 - 18:39 13:42 -2 m. 70°	10 222 - 143 04:57 - 18:37 13:40 -2 m. 70°	11 223 - 142 04:58 - 18:36 13:38 -2 m. 70°	12 224 - 141 04:59 - 18:35 13:36 -2 m. 69°
33	13 225 - 140 05:00 - 18:34 13:34 -2 m. 69°	14 226 - 139 05:00 - 18:33 13:33 -1 m. 69°	15 227 - 138 05:01 - 18:32 13:31 -2 m. 68°	16 228 - 137 05:02 - 18:31 13:29 -2 m. 68°	17 229 - 136 05:03 - 18:29 13:27 -2 m. 68°	18 230 - 135 05:04 - 18:28 13:25 -2 m. 68°	19 231 - 134 05:04 - 18:27 13:23 -2 m. 67°
34	20 232 - 133 05:05 - 18:26 13:21 -2 m. 67°	21 233 - 132 05:06 - 18:25 13:19 -2 m. 67°	22 234 - 131 05:07 - 18:23 13:17 -2 m. 66°	23 235 - 130 05:07 - 18:22 13:15 -2 m. 66°	24 236 - 129 05:08 - 18:21 13:12 -3 m. 66°	25 237 - 128 05:09 - 18:19 13:11 -1 m. 65°	26 238 - 127 05:10 - 18:18 13:08 -3 m. 65°
35	27 239 - 126 05:10 - 18:17 13:06 -2 m. 65°	28 240 - 125 05:11 - 18:15 13:04 -2 m. 64°	29 241 - 124 05:12 - 18:14 13:02 -2 m. 64°	30 242 - 123 05:13 - 18:13 13:00 -2 m. 63°	31 243 - 122 05:14 - 18:11 12:58 -2 m. 63°	1 244 - 121 05:14 - 18:10 12:56 -2 m. 63°	2 245 - 120 05:15 - 18:08 12:53 -3 m. 62°



September 2018

Sunrise and Sunset at Tokyo (TL $\pm$ 1 mn)
Duration of the day - Variation - Sun maximal elevation (°)

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
35	27 239 - 126 05:10 - 18:17 13:06 -2 m. 65°	28 240 - 125 05:11 - 18:15 13:04 -2 m. 64°	29 241 - 124 05:12 - 18:14 13:02 -2 m. 64°	30 242 - 123 05:13 - 18:13 13:00 -2 m. 63°	31 243 - 122 05:14 - 18:11 12:58 -2 m. 63°	1 244 - 121 05:14 - 18:10 12:56 -2 m. 63°	2 245 - 120 05:15 - 18:08 12:53 -3 m. 62°
36	3 246 - 119 05:16 - 18:07 12:51 -2 m. 62°	4 247 - 118 05:17 - 18:06 12:49 -2 m. 62°	5 248 - 117 05:17 - 18:04 12:47 -2 m. 61°	6 249 - 116 05:18 - 18:03 12:45 -2 m. 61°	7 250 - 115 05:19 - 18:01 12:43 -2 m. 61°	8 251 - 114 05:20 - 18:00 12:40 -3 m. 60°	9 252 - 113 05:20 - 17:59 12:38 -2 m. 60°
37	10 253 - 112 05:21 - 17:57 12:36 -2 m. 59°	11 254 - 111 05:22 - 17:56 12:34 -2 m. 59°	12 255 - 110 05:23 - 17:54 12:32 -2 m. 59°	13 256 - 109 05:23 - 17:53 12:30 -2 m. 58°	14 257 - 108 05:24 - 17:51 12:27 -3 m. 58°	15 258 - 107 05:25 - 17:50 12:25 -2 m. 57°	16 259 - 106 05:26 - 17:48 12:23 -2 m. 57°
38	17 260 - 105 05:26 - 17:47 12:21 -2 m. 57°	18 261 - 104 05:27 - 17:45 12:18 -3 m. 56°	19 262 - 103 05:28 - 17:44 12:16 -2 m. 56°	20 263 - 102 05:29 - 17:42 12:14 -2 m. 56°	21 264 - 101 05:29 - 17:41 12:12 -2 m. 55°	22 265 - 100 05:30 - 17:40 12:10 -2 m. 55°	23 266 - 99 05:31 - 17:38 12:07 -3 m. 54°
39	24 267 - 98 05:32 - 17:37 12:05 -2 m. 54°	25 268 - 97 05:32 - 17:35 12:03 -2 m. 54°	26 269 - 96 05:33 - 17:34 12:01 -2 m. 53°	27 270 - 95 05:34 - 17:32 11:58 -3 m. 53°	28 271 - 94 05:35 - 17:31 11:56 -2 m. 52°	29 272 - 93 05:36 - 17:29 11:54 -2 m. 52°	30 273 - 92 05:36 - 17:28 11:52 -2 m. 52°

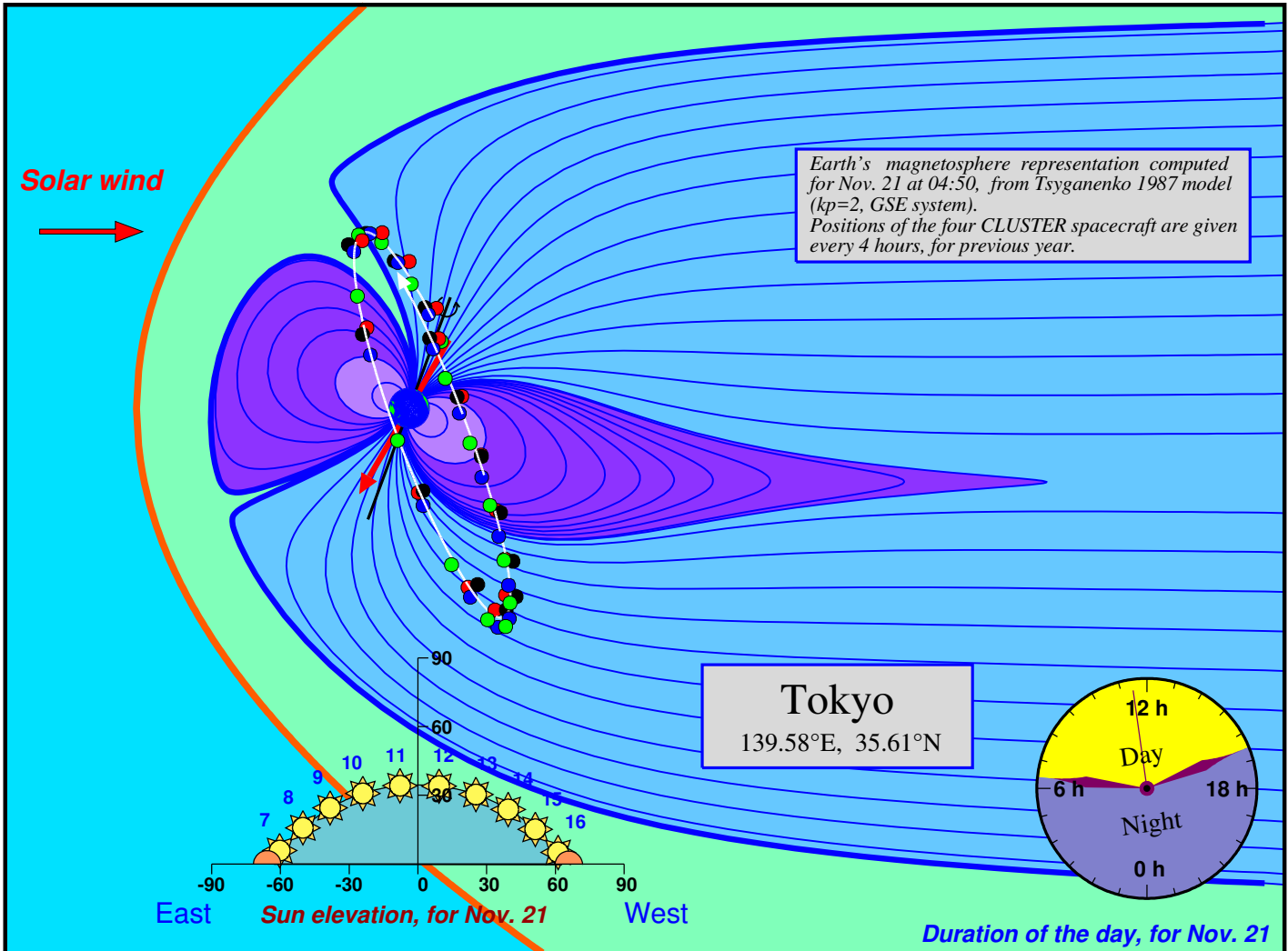


October 2018

Sunrise and Sunset at Tokyo (TL $\pm$ 1 mn)

Duration of the day - Variation - Sun maximal elevation (°)

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
40	1 274 - 91 05:37 - 17:26 11:49 -3 m. 51°	2 275 - 90 05:38 - 17:25 11:47 -2 m. 51°	3 276 - 89 05:39 - 17:24 11:45 -2 m. 51°	4 277 - 88 05:39 - 17:22 11:43 -2 m. 50°	5 278 - 87 05:40 - 17:21 11:41 -2 m. 50°	6 279 - 86 05:41 - 17:19 11:38 -3 m. 49°	7 280 - 85 05:42 - 17:18 11:36 -2 m. 49°
41	8 281 - 84 05:43 - 17:17 11:34 -2 m. 49°	9 282 - 83 05:44 - 17:15 11:32 -2 m. 48°	10 283 - 82 05:44 - 17:14 11:29 -3 m. 48°	11 284 - 81 05:45 - 17:12 11:27 -2 m. 47°	12 285 - 80 05:46 - 17:11 11:25 -2 m. 47°	13 286 - 79 05:47 - 17:10 11:23 -2 m. 47°	14 287 - 78 05:48 - 17:08 11:21 -2 m. 46°
42	15 288 - 77 05:49 - 17:07 11:19 -2 m. 46°	16 289 - 76 05:50 - 17:06 11:16 -3 m. 46°	17 290 - 75 05:50 - 17:05 11:14 -2 m. 45°	18 291 - 74 05:51 - 17:03 11:12 -2 m. 45°	19 292 - 73 05:52 - 17:02 11:10 -2 m. 44°	20 293 - 72 05:53 - 17:01 11:08 -2 m. 44°	21 294 - 71 05:54 - 17:00 11:06 -2 m. 44°
43	22 295 - 70 05:55 - 16:58 11:04 -2 m. 43°	23 296 - 69 05:56 - 16:57 11:01 -3 m. 43°	24 297 - 68 05:57 - 16:56 10:59 -2 m. 43°	25 298 - 67 05:58 - 16:55 10:57 -2 m. 42°	26 299 - 66 05:59 - 16:54 10:55 -2 m. 42°	27 300 - 65 05:59 - 16:53 10:53 -2 m. 42°	28 301 - 64 06:00 - 16:51 10:51 -2 m. 41°
44	29 302 - 63 06:01 - 16:50 10:49 -2 m. 41°	30 303 - 62 06:02 - 16:49 10:47 -2 m. 41°	31 304 - 61 06:03 - 16:48 10:45 -2 m. 40°	1 305 - 60 06:04 - 16:47 10:43 -2 m. 40°	2 306 - 59 06:05 - 16:46 10:41 -2 m. 40°	3 307 - 58 06:06 - 16:45 10:39 -2 m. 39°	4 308 - 57 06:07 - 16:44 10:37 -2 m. 39°

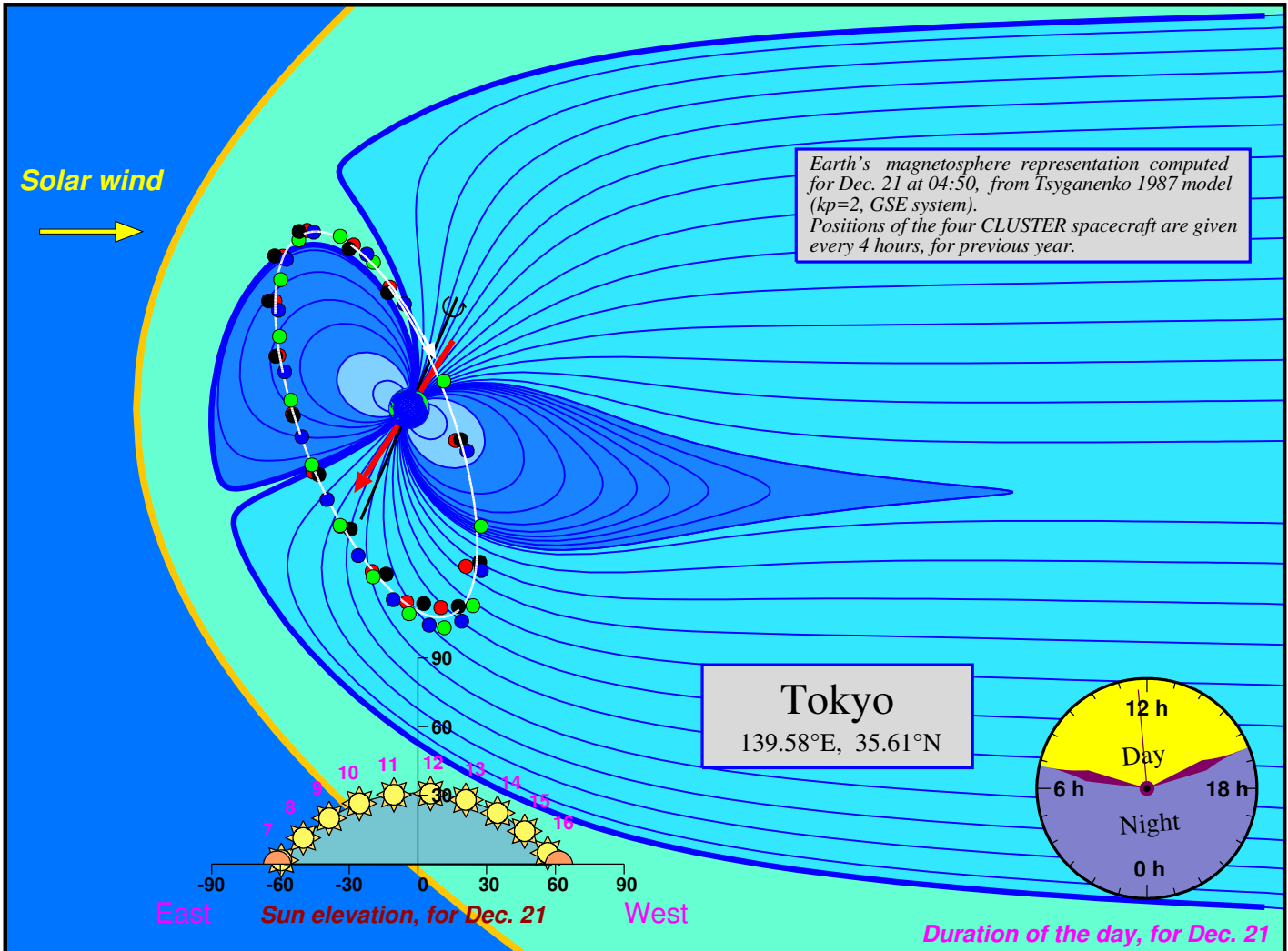


November 2018

Sunrise and Sunset at Tokyo (TL ± 1 mn)

Duration of the day - Variation - Sun maximal elevation (°)

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
44	29 302 - 63 06:01 - 16:50 10:49 -2 m. 41°	30 303 - 62 06:02 - 16:49 10:47 -2 m. 41°	31 304 - 61 06:03 - 16:48 10:45 -2 m. 40°	1 305 - 60 06:04 - 16:47 10:43 -2 m. 40°	2 306 - 59 06:05 - 16:46 10:41 -2 m. 40°	3 307 - 58 06:06 - 16:45 10:39 -2 m. 39°	4 308 - 57 06:07 - 16:44 10:37 -2 m. 39°
45	5 309 - 56 06:08 - 16:43 10:35 -2 m. 39°	6 310 - 55 06:09 - 16:42 10:33 -2 m. 38°	7 311 - 54 06:10 - 16:42 10:32 -1 m. 38°	8 312 - 53 06:11 - 16:41 10:30 -2 m. 38°	9 313 - 52 06:12 - 16:40 10:28 -2 m. 38°	10 314 - 51 06:13 - 16:39 10:26 -2 m. 37°	11 315 - 50 06:14 - 16:38 10:24 -2 m. 37°
46	12 316 - 49 06:15 - 16:38 10:23 -1 m. 37°	13 317 - 48 06:16 - 16:37 10:21 -2 m. 36°	14 318 - 47 06:17 - 16:36 10:19 -2 m. 36°	15 319 - 46 06:18 - 16:35 10:18 -1 m. 36°	16 320 - 45 06:19 - 16:35 10:16 -2 m. 36°	17 321 - 44 06:20 - 16:34 10:14 -2 m. 35°	18 322 - 43 06:21 - 16:34 10:13 -1 m. 35°
47	19 323 - 42 06:22 - 16:33 10:11 -2 m. 35°	20 324 - 41 06:23 - 16:32 10:10 -1 m. 35°	21 325 - 40 06:24 - 16:32 10:08 -2 m. 35°	22 326 - 39 06:25 - 16:32 10:07 -1 m. 34°	23 327 - 38 06:26 - 16:31 10:05 -2 m. 34°	24 328 - 37 06:27 - 16:31 10:04 -1 m. 34°	25 329 - 36 06:28 - 16:30 10:03 -1 m. 34°
48	26 330 - 35 06:29 - 16:30 10:01 -2 m. 34°	27 331 - 34 06:30 - 16:30 10:00 -1 m. 33°	28 332 - 33 06:31 - 16:29 9:58 -2 m. 33°	29 333 - 32 06:32 - 16:29 9:57 -1 m. 33°	30 334 - 31 06:32 - 16:29 9:56 -1 m. 33°	1 335 - 30 06:33 - 16:29 9:55 -1 m. 33°	2 336 - 29 06:34 - 16:29 9:54 -1 m. 32°



December 2018

Sunrise and Sunset at Tokyo (TL ± 1 mn)

Duration of the day - Variation - Sun maximal elevation (°)

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
48	26 330 - 35 06:29 - 16:30 10:01 -2 m. 34°	27 331 - 34 06:30 - 16:30 10:00 -1 m. 33°	28 332 - 33 06:31 - 16:29 9:58 -2 m. 33°	29 333 - 32 06:32 - 16:29 9:57 -1 m. 33°	30 334 - 31 06:32 - 16:29 9:56 -1 m. 33°	1 335 - 30 06:33 - 16:29 9:55 -1 m. 33°	2 336 - 29 06:34 - 16:29 9:54 -1 m. 32°
49	3 337 - 28 06:35 - 16:29 9:53 -1 m. 32°	4 338 - 27 06:36 - 16:28 9:52 -1 m. 32°	5 339 - 26 06:37 - 16:28 9:51 -1 m. 32°	6 340 - 25 06:38 - 16:28 9:50 -1 m. 32°	7 341 - 24 06:38 - 16:28 9:50 +0 m. 32°	8 342 - 23 06:39 - 16:28 9:49 -1 m. 32°	9 343 - 22 06:40 - 16:29 9:48 -1 m. 32°
50	10 344 - 21 06:41 - 16:29 9:48 +0 m. 32°	11 345 - 20 06:42 - 16:29 9:47 -1 m. 31°	12 346 - 19 06:42 - 16:29 9:46 -1 m. 31°	13 347 - 18 06:43 - 16:29 9:46 +0 m. 31°	14 348 - 17 06:44 - 16:30 9:46 +0 m. 31°	15 349 - 16 06:44 - 16:30 9:45 -1 m. 31°	16 350 - 15 06:45 - 16:30 9:45 +0 m. 31°
51	17 351 - 14 06:46 - 16:30 9:44 -1 m. 31°	18 352 - 13 06:46 - 16:31 9:44 +0 m. 31°	19 353 - 12 06:47 - 16:31 9:44 +0 m. 31°	20 354 - 11 06:47 - 16:32 9:44 +0 m. 31°	21 355 - 10 06:48 - 16:32 9:44 +0 m. 31°	22 356 - 9 06:48 - 16:33 9:44 +0 m. 31°	23 357 - 8 06:49 - 16:33 9:44 +0 m. 31°
52	24 358 - 7 06:49 - 16:34 9:44 +0 m. 31°	25 359 - 6 06:50 - 16:34 9:44 +0 m. 31°	26 360 - 5 06:50 - 16:35 9:45 +1 m. 31°	27 361 - 4 06:50 - 16:36 9:45 +0 m. 31°	28 362 - 3 06:51 - 16:36 9:45 +0 m. 31°	29 363 - 2 06:51 - 16:37 9:46 +1 m. 31°	30 364 - 1 06:51 - 16:38 9:46 +0 m. 31°
53	31 365 - 0 06:51 - 16:38 9:47 +1 m. 31°						

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

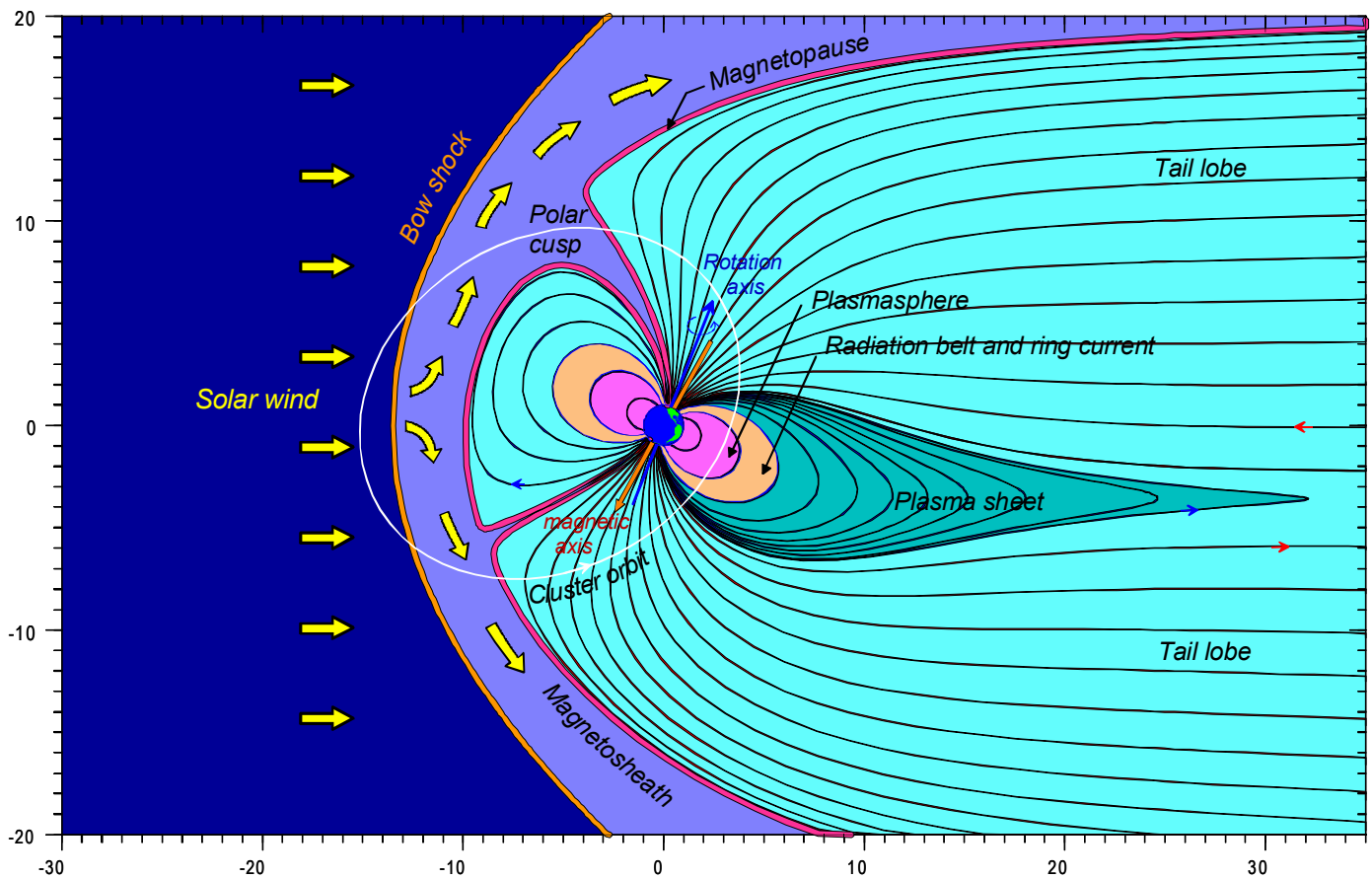


Illustration : Visualization of magnetic field lines of the Earth, showing the magnetosphere.

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>