



Supplement of

Diurnal variability of stratospheric column NO₂ measured using direct solar and lunar spectra over Table Mountain, California (34.38° N)

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Below are the observed total vertical column NO₂ presented in Figure 4:

NO2TC = total vertical column NO2 at TMF (34.38N; molecules per cm-squared)

date	time	NO2TC
2018-10-23	00:06:58PST	6.72E+15
	00:20:34PST	6.75E+15
	00:33:32PST	6.69E+15
	00:47:20PST	6.53E+15
	01:01:02PST	6.47E+15
	01:15:05PST	6.57E+15
	01:31:46PST	6.18E+15
	01:52:04PST	6.13E+15
	02:07:14PST	6.16E+15
	02:19:22PST	6.21E+15
	02:32:47PST	6.16E+15
	02:45:00PST	6.08E+15
	02:57:45PST	5.90E+15
	03:10:23PST	5.78E+15
	07:22:31PST	2.53E+15
	07:26:20PST	2.61E+15
	07:30:04PST	2.59E+15
	07:33:37PST	2.65E+15
	07:37:03PST	2.77E+15
	07:40:13PST	2.70E+15
	07:43:22PST	2.72E+15
	07:46:29PST	2.64E+15
	07:49:35PST	2.67E+15
	07:52:39PST	2.69E+15
	07:55:40PST	2.61E+15
	07:58:31PST	2.64E+15
	08:01:22PST	2.64E+15
	08:04:18PST	2.56E+15
	08:07:09PST	2.56E+15
	08:09:56PST	2.67E+15
	08:12:49PST	2.69E+15
	08:15:41PST	2.69E+15
	08:18:33PST	2.63E+15
	08:21:24PST	2.59E+15
	08:24:15PST	2.69E+15
	08:27:04PST	2.68E+15
	08:29:43PST	2.68E+15
	08:32:30PST	2.77E+15
	08:35:17PST	2.75E+15
	08:37:52PST	2.79E+15
	08:40:35PST	2.76E+15
	08:43:21PST	2.77E+15
	08:46:04PST	2.82E+15
	08:48:46PST	2.80E+15
	08:51:29PST	2.80E+15
	08:54:15PST	2.75E+15
	08:56:58PST	2.82E+15
	08:59:43PST	2.74E+15
	09:02:29PST	2.77E+15
	09:05:02PST	2.70E+15
	09:07:49PST	2.83E+15
	09:10:35PST	2.71E+15

09:13:13PST	2.79E+15
09:15:55PST	2.81E+15
09:18:42PST	2.88E+15
09:21:32PST	2.92E+15
09:24:20PST	2.96E+15
09:27:10PST	3.03E+15
09:30:01PST	3.07E+15
09:32:51PST	3.08E+15
09:35:30PST	3.14E+15
09:38:20PST	3.11E+15
09:41:10PST	3.13E+15
09:43:58PST	3.16E+15
09:46:44PST	3.09E+15
09:49:31PST	3.13E+15
09:52:16PST	3.06E+15
09:54:56PST	3.10E+15
09:57:38PST	3.07E+15
10:00:19PST	3.12E+15
10:03:00PST	3.02E+15
10:05:39PST	3.07E+15
10:08:20PST	3.12E+15
10:11:02PST	3.02E+15
10:13:44PST	2.97E+15
10:16:30PST	3.11E+15
10:19:16PST	3.01E+15
10:22:04PST	3.06E+15
10:24:51PST	3.02E+15
10:27:41PST	2.92E+15
10:30:32PST	2.97E+15
10:33:24PST	3.00E+15
10:36:18PST	2.97E+15
10:38:48PST	3.07E+15
10:41:39PST	3.13E+15
10:44:33PST	3.07E+15
10:47:26PST	3.09E+15
10:50:20PST	3.12E+15
10:53:13PST	3.16E+15
10:55:58PST	3.34E+15
10:58:52PST	3.15E+15
11:01:47PST	3.13E+15
11:04:44PST	3.09E+15
11:07:40PST	3.19E+15
11:10:36PST	3.13E+15
11:13:29PST	3.00E+15
11:16:20PST	3.09E+15
11:19:17PST	3.10E+15
11:22:14PST	3.19E+15
11:25:04PST	3.06E+15
11:28:00PST	3.13E+15
11:30:58PST	3.05E+15
11:33:55PST	3.03E+15
11:36:50PST	3.18E+15
11:39:47PST	3.16E+15
11:42:45PST	3.12E+15
11:45:41PST	3.17E+15
11:48:34PST	3.14E+15
11:51:32PST	3.09E+15

11:54:28PST	3.05E+15
11:57:22PST	3.11E+15
12:00:15PST	3.10E+15
12:03:07PST	3.29E+15
12:06:01PST	3.27E+15
12:08:52PST	3.39E+15
12:11:39PST	3.19E+15
12:14:29PST	3.22E+15
14:26:25PST	3.69E+15
14:28:53PST	3.60E+15
14:31:59PST	3.47E+15
14:35:07PST	3.61E+15
14:37:59PST	3.55E+15
14:40:56PST	3.62E+15
14:43:53PST	3.60E+15
14:46:53PST	3.62E+15
14:49:53PST	3.69E+15
14:52:53PST	3.69E+15
14:55:58PST	3.66E+15
14:59:07PST	3.68E+15
15:02:21PST	3.68E+15
15:05:44PST	3.73E+15
15:09:07PST	3.66E+15
15:12:23PST	3.70E+15
15:15:37PST	3.68E+15
15:18:59PST	3.65E+15
15:22:19PST	3.67E+15
15:25:48PST	3.64E+15
15:29:20PST	3.64E+15
15:32:47PST	3.55E+15
15:36:28PST	3.54E+15
15:40:17PST	3.54E+15
15:44:14PST	3.54E+15
15:48:11PST	3.52E+15
18:28:55PST	7.09E+15
18:40:59PST	6.86E+15
18:51:49PST	7.19E+15
19:02:35PST	7.36E+15
19:13:49PST	6.70E+15
19:25:22PST	6.66E+15
19:39:01PST	6.57E+15
19:52:44PST	6.28E+15
20:06:55PST	6.33E+15
20:20:52PST	6.50E+15
20:35:06PST	6.11E+15
20:49:07PST	6.26E+15
21:02:47PST	6.43E+15
21:16:32PST	6.35E+15
21:27:28PST	6.52E+15
21:42:29PST	6.38E+15
21:57:09PST	6.12E+15
22:08:20PST	6.10E+15
22:19:34PST	6.24E+15
22:32:25PST	5.95E+15
22:49:50PST	5.93E+15
23:08:20PST	6.13E+15
23:27:50PST	6.74E+15

2018-10-24	23:48:09PST	5.94E+15
	00:03:20PST	6.10E+15
	00:14:21PST	5.90E+15
	00:26:21PST	5.62E+15
	00:46:35PST	5.29E+15
	01:02:07PST	5.68E+15
	01:20:26PST	5.51E+15
	01:40:44PST	5.32E+15
	01:56:32PST	5.25E+15
	02:09:41PST	5.21E+15
	02:24:51PST	5.13E+15
	02:43:03PST	5.18E+15
	02:57:13PST	5.10E+15
	03:10:21PST	5.17E+15
	03:23:43PST	5.04E+15
	03:37:03PST	5.12E+15
	03:50:21PST	5.02E+15
	04:03:14PST	5.02E+15
	04:16:04PST	4.96E+15
	04:28:34PST	5.00E+15
	07:22:39PST	2.38E+15
	07:25:57PST	2.37E+15
	07:29:07PST	2.40E+15
	07:32:07PST	2.42E+15
	07:35:06PST	2.35E+15
	07:38:02PST	2.40E+15
	07:40:53PST	2.41E+15
	07:43:40PST	2.46E+15
	07:46:23PST	2.39E+15
	07:49:04PST	2.43E+15
	07:51:41PST	2.42E+15
	07:54:22PST	2.41E+15
	07:57:01PST	2.38E+15
	07:59:38PST	2.40E+15
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	08:04:48PST	2.45E+15
	08:07:21PST	2.45E+15
	08:09:54PST	2.39E+15
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	08:29:33PST	2.43E+15
	08:31:58PST	2.44E+15
	08:34:26PST	2.56E+15
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	08:41:41PST	2.57E+15
	08:44:04PST	2.48E+15
	08:46:30PST	2.51E+15
	08:48:53PST	2.53E+15
	08:51:17PST	2.48E+15
	08:53:39PST	2.37E+15
	08:56:02PST	2.45E+15

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09:05:20PST	2.56E+15
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09:19:54PST	2.55E+15
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09:27:14PST	2.53E+15
09:29:42PST	2.54E+15
09:32:08PST	2.51E+15
09:34:36PST	2.55E+15
09:37:03PST	2.49E+15
09:39:28PST	2.56E+15
09:41:52PST	2.50E+15
09:44:16PST	2.44E+15
09:46:40PST	2.57E+15
09:49:04PST	2.52E+15
09:51:27PST	2.72E+15
09:53:44PST	2.49E+15
09:56:03PST	2.46E+15
09:58:17PST	2.59E+15
10:00:35PST	2.38E+15
10:02:53PST	2.49E+15
13:39:25PST	3.01E+15
13:41:39PST	3.04E+15
13:43:53PST	3.03E+15
13:46:08PST	3.14E+15
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13:50:32PST	2.93E+15
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13:55:00PST	3.11E+15
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13:59:30PST	2.88E+15
14:01:44PST	3.21E+15
14:03:59PST	3.08E+15
14:06:14PST	2.93E+15
14:08:29PST	2.79E+15
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14:15:19PST	2.91E+15
14:17:38PST	2.92E+15
14:19:45PST	2.93E+15
14:22:05PST	2.94E+15
14:24:28PST	2.99E+15
14:26:48PST	3.00E+15
14:28:59PST	3.03E+15
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14:33:46PST	3.05E+15
14:36:10PST	2.99E+15
14:38:30PST	3.05E+15
14:40:56PST	2.92E+15
14:43:23PST	3.31E+15

14:45:51PST	3.13E+15
14:48:19PST	2.98E+15
14:50:52PST	2.95E+15
14:53:25PST	3.02E+15
14:55:58PST	3.03E+15
14:58:32PST	3.11E+15
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15:17:12PST	3.21E+15
15:19:49PST	3.30E+15
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15:25:17PST	3.03E+15
15:28:08PST	3.06E+15
15:31:01PST	3.09E+15
15:33:50PST	3.12E+15
15:36:51PST	3.15E+15
15:39:56PST	3.08E+15
15:43:05PST	3.09E+15
15:46:17PST	3.07E+15
19:04:08PST	7.20E+15
19:14:24PST	6.72E+15
19:25:09PST	6.73E+15
19:37:32PST	6.58E+15
19:50:11PST	6.41E+15
20:02:52PST	6.50E+15
20:13:12PST	6.52E+15
20:24:01PST	6.49E+15
20:34:58PST	6.85E+15
20:46:04PST	6.63E+15
20:57:36PST	6.48E+15
21:07:50PST	6.47E+15
21:16:57PST	6.46E+15
21:24:43PST	6.19E+15
21:32:58PST	6.63E+15
21:42:13PST	6.31E+15
21:52:44PST	6.56E+15
22:03:29PST	6.51E+15
22:13:44PST	6.33E+15
22:21:37PST	6.54E+15
22:29:43PST	6.11E+15
22:39:14PST	6.34E+15
22:49:13PST	6.32E+15
22:59:07PST	5.96E+15
23:08:59PST	6.14E+15
23:18:58PST	6.12E+15
23:29:07PST	6.37E+15
23:39:09PST	6.12E+15
23:49:13PST	5.85E+15
23:59:02PST	5.79E+15
00:08:51PST	5.74E+15
00:18:44PST	5.49E+15
00:28:36PST	5.61E+15
00:39:05PST	5.36E+15

2018-10-25

00:49:08PST	5.54E+15
00:59:10PST	5.99E+15
01:09:28PST	5.54E+15
01:20:46PST	5.50E+15
01:31:07PST	5.57E+15
01:38:47PST	5.57E+15
01:48:06PST	5.33E+15
01:58:52PST	5.45E+15
02:09:46PST	5.41E+15
02:20:43PST	5.49E+15
02:29:20PST	5.46E+15
02:40:10PST	5.49E+15
02:50:52PST	5.38E+15
03:01:31PST	5.30E+15
03:12:23PST	5.23E+15
03:23:17PST	5.19E+15
03:34:25PST	4.98E+15
03:45:53PST	4.97E+15
03:57:10PST	5.08E+15
04:07:05PST	4.95E+15
04:12:28PST	4.88E+15
04:20:47PST	4.89E+15
04:29:25PST	4.84E+15
04:38:20PST	4.94E+15
04:46:44PST	4.86E+15
04:56:03PST	4.83E+15
05:05:39PST	4.77E+15
05:16:52PST	4.73E+15
05:27:04PST	4.70E+15
07:23:34PST	2.06E+15
07:26:53PST	2.06E+15
07:30:09PST	2.05E+15
07:33:14PST	2.07E+15
07:36:05PST	2.10E+15
07:39:04PST	2.14E+15
07:41:56PST	2.07E+15
07:44:43PST	2.11E+15
07:47:29PST	2.19E+15
07:50:14PST	2.15E+15
07:52:57PST	2.18E+15
07:55:40PST	2.20E+15
07:58:21PST	2.19E+15
08:01:00PST	2.07E+15
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08:24:11PST	2.10E+15
08:26:44PST	2.15E+15
08:29:16PST	2.13E+15
08:31:50PST	2.22E+15
08:34:25PST	2.10E+15
08:36:59PST	2.22E+15

08:39:23PST	2.19E+15
08:41:53PST	2.22E+15
08:44:22PST	2.28E+15
08:46:49PST	2.28E+15
08:49:18PST	2.22E+15
08:51:49PST	2.20E+15
08:54:19PST	2.20E+15
08:56:48PST	2.29E+15
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09:19:32PST	2.20E+15
09:22:22PST	2.24E+15
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09:44:43PST	2.34E+15
09:47:11PST	2.35E+15
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10:01:30PST	2.49E+15
10:03:53PST	2.22E+15
10:06:15PST	2.38E+15
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10:11:02PST	2.42E+15
10:13:29PST	2.35E+15
10:15:55PST	2.32E+15
10:18:23PST	2.35E+15
10:20:52PST	2.45E+15
10:23:15PST	2.24E+15
10:25:44PST	2.48E+15
10:28:17PST	2.51E+15
10:30:47PST	2.53E+15
10:33:20PST	2.53E+15
10:35:52PST	2.47E+15
10:38:25PST	2.49E+15
10:40:57PST	2.52E+15
10:50:52PST	2.59E+15
10:53:12PST	2.60E+15
10:55:41PST	2.68E+15
10:58:12PST	2.66E+15
11:00:41PST	2.62E+15
11:03:14PST	2.70E+15
11:05:44PST	2.82E+15
11:08:15PST	2.87E+15
11:10:46PST	2.83E+15
11:13:18PST	2.79E+15
11:15:50PST	2.85E+15
11:18:19PST	2.93E+15

11:20:52PST	2.80E+15
11:23:25PST	2.98E+15
11:25:59PST	3.00E+15
11:28:32PST	2.77E+15
11:31:04PST	2.82E+15
11:33:37PST	2.80E+15
11:36:09PST	2.81E+15
11:38:43PST	2.92E+15
11:41:19PST	2.82E+15
11:43:53PST	2.95E+15
11:46:28PST	2.88E+15
11:49:04PST	3.04E+15
11:51:40PST	2.84E+15
11:54:14PST	3.00E+15
11:56:50PST	3.03E+15
11:59:25PST	3.03E+15
12:02:02PST	3.09E+15
12:04:38PST	3.07E+15
12:07:14PST	3.07E+15
12:09:51PST	3.02E+15
12:12:28PST	3.11E+15
12:15:02PST	3.03E+15
12:17:38PST	3.07E+15
12:20:15PST	2.98E+15
12:22:39PST	2.94E+15
12:25:12PST	2.91E+15
12:27:45PST	2.97E+15
12:30:16PST	3.10E+15
12:32:48PST	2.93E+15
12:35:20PST	3.07E+15
12:37:50PST	3.00E+15
12:40:17PST	3.10E+15
12:42:31PST	3.28E+15
12:45:01PST	3.05E+15
12:47:30PST	2.95E+15
12:50:02PST	2.96E+15
12:52:31PST	2.94E+15
12:55:04PST	3.03E+15
12:57:35PST	3.11E+15
13:00:04PST	3.05E+15
13:02:33PST	3.15E+15
13:05:01PST	3.12E+15
13:07:26PST	3.16E+15
13:09:46PST	3.01E+15
13:12:05PST	3.06E+15
13:14:26PST	2.94E+15
13:16:47PST	2.95E+15
13:19:07PST	3.09E+15
13:21:27PST	3.19E+15
13:23:42PST	3.18E+15
13:26:02PST	3.22E+15
13:28:21PST	3.27E+15
13:30:37PST	3.03E+15
13:32:49PST	2.97E+15
13:34:59PST	2.92E+15
13:37:18PST	2.93E+15
13:39:37PST	2.96E+15

13:41:56PST	3.19E+15
13:44:10PST	3.07E+15
13:46:22PST	3.21E+15
13:48:40PST	3.31E+15
13:50:59PST	2.84E+15
13:53:28PST	3.06E+15
13:56:15PST	2.93E+15
13:58:39PST	3.04E+15
14:01:03PST	3.25E+15
14:03:23PST	3.18E+15
14:05:35PST	3.16E+15
14:07:52PST	3.16E+15
14:10:12PST	3.09E+15
14:12:32PST	3.11E+15
14:14:48PST	2.94E+15
14:17:10PST	3.07E+15
14:19:32PST	3.07E+15
14:21:58PST	3.22E+15
14:24:22PST	3.15E+15
14:28:18PST	2.98E+15
14:36:11PST	2.78E+15
14:41:21PST	3.25E+15
14:44:51PST	3.18E+15
14:47:32PST	3.25E+15
14:50:08PST	3.19E+15
14:52:48PST	3.20E+15
14:55:26PST	3.08E+15
14:58:07PST	3.14E+15
15:00:50PST	3.24E+15
15:32:30PST	3.26E+15
15:36:13PST	3.24E+15
15:39:35PST	3.22E+15
19:37:39PST	6.61E+15
19:51:53PST	6.56E+15
20:04:41PST	6.64E+15
20:16:39PST	6.89E+15
20:28:35PST	6.78E+15
20:40:31PST	6.88E+15
20:51:43PST	7.05E+15
21:02:43PST	6.54E+15
21:13:55PST	6.87E+15
21:25:08PST	6.80E+15
21:36:09PST	6.73E+15
21:46:48PST	6.89E+15
21:57:41PST	6.69E+15
22:08:16PST	6.69E+15
22:16:40PST	6.74E+15
22:26:53PST	6.89E+15
22:37:29PST	6.54E+15
22:48:14PST	6.60E+15
22:58:50PST	6.51E+15
23:09:32PST	6.57E+15
23:19:54PST	6.52E+15
23:30:10PST	6.26E+15
23:40:40PST	6.48E+15
23:51:24PST	6.21E+15
2018-10-26 00:01:58PST	6.36E+15

00:12:45PST	6.26E+15
00:23:17PST	5.71E+15
00:34:00PST	6.04E+15
00:47:02PST	5.66E+15
01:01:53PST	5.50E+15
01:15:34PST	5.49E+15
01:28:26PST	5.45E+15
01:42:10PST	5.64E+15
01:57:10PST	5.58E+15
02:12:24PST	5.89E+15
02:26:35PST	5.98E+15
02:40:22PST	5.90E+15
02:54:28PST	5.92E+15
03:07:57PST	5.78E+15
03:22:17PST	5.68E+15
03:36:58PST	5.73E+15
03:50:14PST	5.37E+15
04:02:55PST	5.13E+15
04:16:36PST	5.19E+15
04:29:56PST	5.59E+15
04:41:37PST	5.57E+15
04:53:03PST	5.43E+15
05:04:21PST	5.43E+15
05:16:49PST	5.37E+15
05:30:01PST	5.37E+15
05:42:19PST	5.48E+15
05:54:15PST	5.77E+15
07:24:58PST	2.28E+15
07:28:12PST	2.27E+15
07:31:22PST	2.19E+15
07:34:13PST	2.29E+15
07:36:59PST	2.16E+15
07:39:55PST	2.30E+15
07:42:45PST	2.28E+15
07:45:29PST	2.23E+15
07:47:55PST	2.31E+15
07:50:35PST	2.30E+15
07:53:16PST	2.31E+15
07:55:55PST	2.29E+15
07:58:35PST	2.20E+15
08:01:08PST	2.28E+15
08:03:42PST	2.33E+15
08:06:15PST	2.34E+15
08:08:50PST	2.31E+15
08:11:20PST	2.38E+15
08:13:49PST	2.41E+15
08:16:20PST	2.42E+15
08:18:49PST	2.37E+15
08:21:18PST	2.31E+15
08:23:44PST	2.37E+15
08:26:11PST	2.36E+15
08:28:35PST	2.37E+15
08:30:58PST	2.55E+15
08:33:19PST	2.49E+15
08:35:43PST	2.42E+15
08:38:07PST	2.39E+15
08:40:32PST	2.42E+15

08:42:56PST	2.44E+15
08:45:22PST	2.34E+15
08:47:44PST	2.40E+15
08:50:06PST	2.45E+15
08:52:26PST	2.50E+15
08:54:47PST	2.50E+15
08:57:09PST	2.47E+15
08:59:29PST	2.47E+15
09:01:50PST	2.44E+15
09:04:13PST	2.51E+15
09:06:41PST	2.42E+15
09:09:05PST	2.48E+15
09:11:25PST	2.50E+15
09:13:49PST	2.52E+15
09:16:13PST	2.59E+15
09:18:37PST	2.56E+15
09:21:10PST	2.51E+15
09:23:37PST	2.62E+15
09:26:02PST	2.68E+15
09:28:26PST	2.66E+15
09:30:50PST	2.89E+15
09:33:14PST	2.83E+15
09:35:38PST	2.83E+15
09:38:02PST	2.68E+15
09:40:26PST	2.74E+15
09:42:49PST	2.84E+15
09:45:01PST	2.92E+15
09:47:24PST	2.71E+15
09:49:44PST	3.05E+15
09:52:04PST	2.79E+15
09:54:23PST	2.89E+15
09:56:42PST	2.88E+15
09:59:01PST	2.96E+15
10:01:20PST	2.94E+15
10:03:37PST	2.88E+15
10:05:47PST	3.03E+15
10:07:53PST	3.04E+15
10:10:14PST	2.94E+15
10:12:37PST	3.09E+15
10:14:57PST	3.02E+15
10:17:16PST	3.13E+15
10:19:39PST	3.22E+15
10:22:04PST	3.19E+15
10:24:31PST	3.03E+15
10:26:51PST	3.20E+15
10:29:17PST	3.02E+15
10:31:44PST	3.12E+15
10:33:49PST	3.34E+15
10:36:05PST	3.21E+15
10:38:33PST	3.14E+15
10:40:59PST	3.13E+15
10:43:18PST	3.24E+15
10:45:46PST	3.10E+15
10:48:13PST	3.29E+15
10:50:40PST	3.24E+15
10:53:08PST	3.18E+15
10:55:25PST	3.17E+15

10:57:52PST	3.15E+15
11:00:20PST	3.16E+15
11:02:39PST	3.22E+15
11:04:48PST	3.21E+15
11:07:08PST	3.19E+15
11:09:36PST	3.26E+15
11:12:02PST	3.23E+15
11:14:29PST	3.27E+15
11:16:58PST	3.26E+15
11:19:22PST	3.34E+15
11:21:49PST	3.27E+15
11:24:14PST	3.32E+15
11:26:39PST	3.39E+15
11:29:08PST	3.25E+15
11:31:39PST	3.29E+15
11:39:01PST	3.32E+15
11:41:28PST	3.36E+15
11:43:58PST	3.26E+15
11:46:27PST	3.49E+15
11:48:56PST	3.23E+15
11:53:52PST	3.53E+15
11:56:16PST	3.54E+15
11:58:44PST	3.47E+15
12:01:10PST	3.47E+15
12:03:37PST	3.33E+15
12:06:05PST	3.38E+15
12:08:20PST	3.44E+15
12:10:46PST	3.39E+15
12:13:13PST	3.40E+15
12:15:41PST	3.10E+15
12:18:06PST	2.84E+15
12:20:32PST	2.89E+15
12:22:54PST	3.12E+15
12:25:17PST	3.14E+15
12:27:40PST	3.19E+15
12:30:01PST	3.38E+15
12:32:24PST	3.49E+15
12:34:43PST	3.64E+15
12:37:01PST	3.46E+15
12:39:20PST	3.37E+15
12:41:37PST	3.45E+15
12:43:53PST	3.55E+15
12:46:09PST	3.53E+15
12:48:29PST	3.63E+15
12:50:52PST	3.48E+15
12:53:13PST	3.54E+15
12:55:12PST	3.52E+15
12:57:32PST	3.49E+15
12:59:51PST	3.59E+15
13:02:06PST	3.27E+15
13:04:25PST	3.22E+15
13:06:42PST	3.32E+15
13:09:00PST	3.33E+15
13:11:03PST	3.30E+15
13:13:14PST	3.60E+15
13:15:23PST	3.40E+15
13:17:34PST	3.52E+15

	13:19:44PST	3.50E+15
	13:21:55PST	3.44E+15
	13:24:05PST	3.53E+15
	13:26:19PST	3.49E+15
	13:28:31PST	3.48E+15
	13:30:33PST	3.50E+15
	13:32:48PST	3.50E+15
	13:35:02PST	3.61E+15
	13:37:17PST	3.53E+15
	13:39:28PST	3.35E+15
	13:41:38PST	3.39E+15
	13:43:49PST	3.38E+15
	13:46:01PST	3.42E+15
	13:48:15PST	3.50E+15
	13:50:26PST	3.65E+15
	13:52:34PST	3.53E+15
	13:54:45PST	3.49E+15
	13:56:58PST	3.50E+15
	14:09:14PST	3.32E+15
	14:11:26PST	3.37E+15
	14:13:47PST	3.34E+15
	14:15:58PST	3.51E+15
	14:18:14PST	3.48E+15
	14:20:33PST	3.53E+15
	14:22:52PST	3.57E+15
	14:25:12PST	3.59E+15
	14:27:10PST	3.63E+15
	14:29:25PST	3.58E+15
	14:54:41PST	3.62E+15
	14:58:48PST	3.45E+15
	15:01:43PST	3.36E+15
	15:04:25PST	3.38E+15
	21:33:55PST	6.13E+15
	21:47:02PST	6.18E+15
	22:01:23PST	6.06E+15
	22:15:54PST	6.28E+15
	22:29:57PST	6.11E+15
	22:43:26PST	6.32E+15
	22:56:25PST	6.14E+15
	23:09:27PST	6.19E+15
	23:22:57PST	5.90E+15
	23:36:06PST	6.08E+15
	23:49:01PST	5.99E+15
2018-10-27	00:03:05PST	6.05E+15
	00:14:47PST	5.99E+15
	00:28:11PST	5.83E+15
	00:42:08PST	5.91E+15
	00:55:53PST	6.02E+15
	01:08:29PST	6.04E+15
	01:21:29PST	5.62E+15
	01:34:16PST	6.19E+15
	01:47:13PST	6.04E+15
	02:00:51PST	5.84E+15
	02:14:33PST	6.27E+15
	02:28:01PST	6.15E+15
	02:41:48PST	5.76E+15
	02:55:46PST	6.21E+15

03:09:46PST	5.70E+15
03:24:07PST	5.83E+15
03:37:26PST	5.63E+15
03:51:40PST	5.73E+15
04:06:00PST	5.63E+15
04:20:29PST	5.67E+15
04:34:23PST	5.70E+15
04:48:59PST	5.36E+15
05:03:46PST	5.33E+15
05:17:03PST	5.38E+15
05:31:27PST	5.27E+15
05:46:08PST	5.53E+15
07:27:14PST	2.26E+15
07:30:23PST	2.22E+15
07:33:27PST	2.10E+15
07:36:24PST	2.18E+15
07:39:18PST	2.31E+15
07:42:08PST	2.31E+15
07:44:52PST	2.27E+15
07:47:33PST	2.36E+15
07:50:12PST	2.37E+15
07:52:52PST	2.38E+15
07:55:29PST	2.35E+15
07:58:04PST	2.41E+15
08:00:40PST	2.41E+15
08:03:14PST	2.38E+15
08:05:48PST	2.41E+15
08:08:20PST	2.46E+15
08:10:50PST	2.49E+15
08:13:21PST	2.38E+15
08:15:50PST	2.42E+15
08:18:20PST	2.43E+15
08:20:51PST	2.44E+15
08:23:20PST	2.31E+15
08:25:53PST	2.25E+15
08:28:22PST	2.29E+15
08:30:51PST	2.32E+15
08:33:16PST	2.41E+15
08:35:38PST	2.36E+15
08:38:16PST	2.51E+15
08:41:11PST	2.47E+15
08:43:35PST	2.46E+15
08:45:56PST	2.50E+15
08:48:16PST	2.37E+15
08:50:29PST	2.49E+15
08:52:50PST	2.53E+15
08:55:11PST	2.57E+15
08:57:31PST	2.60E+15
08:59:51PST	2.62E+15
09:02:02PST	2.48E+15
09:04:18PST	2.54E+15
09:06:41PST	2.59E+15
09:09:05PST	2.60E+15
09:11:29PST	2.61E+15
09:20:57PST	2.58E+15
09:23:25PST	2.62E+15
09:25:52PST	2.53E+15

	09:28:17PST	2.63E+15
	09:30:43PST	2.69E+15
	09:33:10PST	2.74E+15
	09:35:32PST	2.62E+15
	09:37:56PST	2.66E+15
	09:40:19PST	2.73E+15
	09:42:42PST	2.78E+15
	09:45:05PST	2.66E+15
	09:47:28PST	2.83E+15
	09:49:48PST	2.77E+15
	10:10:31PST	2.88E+15
	10:12:52PST	2.91E+15
	10:15:15PST	2.74E+15
	10:17:39PST	2.88E+15
	10:19:43PST	2.79E+15
	10:22:07PST	2.86E+15
	10:29:21PST	2.76E+15
	10:31:31PST	2.73E+15
	10:33:50PST	2.65E+15
	10:36:13PST	2.87E+15
	10:38:39PST	2.93E+15
	11:02:49PST	3.01E+15
	11:05:12PST	2.98E+15
	11:07:40PST	2.97E+15
	11:10:07PST	3.03E+15
	11:12:33PST	3.03E+15
	11:15:01PST	2.96E+15
	11:45:41PST	3.03E+15
	11:48:07PST	3.06E+15
	11:50:35PST	3.01E+15
	11:53:02PST	3.04E+15
	11:55:30PST	3.08E+15
	12:10:03PST	3.22E+15
	12:12:29PST	3.25E+15
	12:14:56PST	3.25E+15
	12:31:49PST	3.46E+15
	12:33:56PST	3.52E+15
	12:36:17PST	3.62E+15
	12:38:38PST	3.61E+15
	12:47:48PST	3.54E+15
	12:50:11PST	3.53E+15
	12:52:31PST	3.54E+15
	13:06:24PST	3.68E+15
	13:08:43PST	3.78E+15
	13:10:58PST	3.67E+15
	13:12:47PST	3.91E+15
	13:15:04PST	3.80E+15
	13:43:54PST	3.99E+15
	13:46:08PST	4.03E+15
	13:48:23PST	4.08E+15
	14:22:07PST	4.34E+15
	14:24:28PST	4.33E+15
	14:26:48PST	4.34E+15
	14:29:10PST	4.47E+15
	15:00:11PST	4.57E+15
2018-10-28	07:41:15PST	2.39E+15
	07:44:11PST	2.42E+15

07:46:58PST	2.41E+15
07:49:40PST	2.43E+15
07:52:20PST	2.52E+15
07:54:59PST	2.58E+15
07:57:38PST	2.57E+15
08:00:15PST	2.64E+15
08:02:51PST	2.85E+15
08:05:25PST	2.84E+15
08:07:57PST	2.70E+15
08:10:27PST	2.71E+15
08:12:58PST	2.73E+15
08:23:25PST	2.83E+15
08:26:06PST	2.77E+15
08:28:50PST	2.84E+15
08:31:47PST	2.80E+15
08:35:07PST	2.85E+15
08:38:11PST	2.93E+15
08:41:16PST	2.93E+15
08:44:02PST	2.90E+15
08:46:35PST	2.88E+15
08:49:12PST	2.90E+15
08:51:54PST	2.90E+15
08:54:25PST	2.86E+15
08:56:52PST	2.78E+15
08:59:52PST	2.89E+15
09:03:09PST	2.91E+15
09:13:05PST	2.84E+15
09:15:59PST	2.90E+15
09:19:40PST	2.94E+15
09:23:06PST	2.83E+15
09:26:38PST	2.92E+15
09:29:46PST	2.87E+15
09:32:30PST	2.89E+15
09:35:06PST	2.96E+15
09:37:44PST	2.93E+15
09:40:31PST	2.90E+15
09:43:18PST	2.91E+15
09:46:04PST	2.91E+15
09:48:45PST	2.91E+15
10:02:25PST	3.09E+15
10:05:08PST	3.08E+15
10:08:30PST	3.05E+15
10:11:33PST	2.89E+15
10:14:29PST	2.96E+15
10:17:16PST	2.87E+15
10:20:08PST	2.96E+15
10:23:02PST	3.09E+15
10:25:49PST	2.96E+15
10:28:34PST	3.11E+15
10:34:54PST	2.95E+15
10:37:58PST	3.10E+15
10:41:08PST	2.97E+15
10:44:20PST	3.05E+15
10:48:19PST	3.30E+15
10:54:10PST	3.10E+15
10:59:22PST	3.15E+15
11:08:19PST	3.36E+15

11:13:02PST	3.18E+15
11:18:09PST	3.22E+15
11:21:36PST	3.37E+15
11:25:25PST	3.26E+15
11:39:55PST	3.47E+15
11:42:40PST	3.62E+15
11:45:22PST	3.33E+15
11:47:49PST	3.62E+15
11:50:19PST	3.30E+15
11:52:45PST	3.39E+15
11:55:13PST	3.38E+15