表1 卫星任务需求描述

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 航天器集合 | 升降轨圈数 | 指定圈类型 | 连续基准圈 | 相邻升轨和降轨间隔时间 | 相邻升降轨间隔时间 | 测控  时间区间 |
| Sat1 | 升2降2 | — | 升轨为  中间圈 | — | — | — |
| Sat2 | 升2降2 | — | — | — | ≤12小时 | 降轨第1圈12:30~17:00 |
| Sat3 | 升2降2 | — | 升轨  中间圈 | — | ≤11小时 | — |
| Sat4 | 升2降2 | — | 升轨和降轨均为  入境圈或中间圈 | — | — | 降轨第1圈09:00~16:00 |
| Sat5 | 升2降2 | — | — | 升轨≤4小时降轨≤4小时 | ≤12小时 | — |
| Sat6 | 升2降2 | — | 升轨和降轨均为  入境圈或中间圈 | — | ≤12小时 | — |
| Sat7 | 升1降2 | — | — | — | ≤11小时 | 降轨第2圈10:00之后 |
| Sat8 | 升2降1 | — | — | — | — | 升轨16:00~21:00降轨06:00~11:30 |
| Sat9 | 升1降1 | 升轨和降轨均为中间圈 | — | — | — | — |
| Sat10 | 降1 | 降轨  中间圈 | — | — | — | 04:10~10:00 |
| Sat11 | 升1降1 | — | — | — | — | — |
| Sat12 | 升1降1 | 升轨和降轨均为入境圈或中间圈 | — | — | — | — |
| Sat13 | 升1降1 | 升轨和降轨均为入境圈或中间圈 | — | — | ≤14小时 | — |
| Sat14 | 降1 | — | — | — | — | — |
| Sat15 | 升2降2 | — | — | — | ≤12小时 | 升轨第1圈16:00~24:00 |

表2地基测运控设备描述

|  |  |
| --- | --- |
| 部署的地理区域 | 测运控设备名称 |
| 东部区域 | E-01, E-02 |
| 西部区域 | W-01, W-02 |
| 南部区域 | S-01, S-02 |
| 北部区域 | N-01, N-02 |

本实施例中，计算结果如下：

表5 原子型任务集和可用弧段集

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 所属  航天器 | 原子型  任务编号 | 可用弧段 | | | | |
| 编号 | 圈次 | 所用设备 | 开始时间 | 结束时间 |
| Sat9 | 1 | 6 | 17625 | S-02 | 2018-11-26 18:38:27 | 2018-11-26 18:54:43 |
| 4 | 17624 | W-01 | 2018-11-26 17:11:27 | 2018-11-26 17:24:25 |
| 8 | 17625 | W-01 | 2018-11-26 18:43:20 | 2018-11-26 18:59:35 |
| 3 | 17624 | E-02 | 2018-11-26 17:10:03 | 2018-11-26 17:25:38 |
| 5 | 17625 | S-01 | 2018-11-26 18:37:25 | 2018-11-26 18:53:05 |
| 2 | 17624 | E-01 | 2018-11-26 17:09:27 | 2018-11-26 17:25:10 |
| 1 | 17624 | N-01 | 2018-11-26 17:08:14 | 2018-11-26 17:23:02 |
| 7 | 17625 | N-01 | 2018-11-26 18:41:51 | 2018-11-26 18:57:08 |
| 2 | 5 | 17617 | S-02 | 2018-11-26 06:35:11 | 2018-11-26 06:50:32 |
| 9 | 17618 | S-02 | 2018-11-26 08:10:04 | 2018-11-26 08:23:03 |
| 3 | 17617 | W-01 | 2018-11-26 06:30:25 | 2018-11-26 06:45:17 |
| 7 | 17618 | W-01 | 2018-11-26 08:04:13 | 2018-11-26 08:19:31 |
| 1 | 17617 | E-02 | 2018-11-26 06:27:39 | 2018-11-26 06:42:26 |
| 6 | 17617 | S-01 | 2018-11-26 06:35:21 | 2018-11-26 06:51:23 |
| 8 | 17618 | W-02 | 2018-11-26 08:05:50 | 2018-11-26 08:20:36 |
| 2 | 17617 | E-01 | 2018-11-26 06:28:15 | 2018-11-26 06:42:56 |
| 4 | 17617 | N-01 | 2018-11-26 06:31:14 | 2018-11-26 06:47:19 |
| Sat10 | 3 | 7 | 17601 | S-02 | 2018-11-26 06:59:01 | 2018-11-26 07:15:09 |
| 5 | 17601 | W-01 | 2018-11-26 06:54:12 | 2018-11-26 07:10:12 |
| 9 | 17602 | W-01 | 2018-11-26 08:29:06 | 2018-11-26 08:42:52 |
| 1 | 17600 | E-02 | 2018-11-26 05:17:15 | 2018-11-26 05:33:30 |
| 4 | 17601 | E-02 | 2018-11-26 06:52:24 | 2018-11-26 07:05:33 |
| 8 | 17601 | S-01 | 2018-11-26 06:59:54 | 2018-11-26 07:15:04 |
| 3 | 17600 | S-01 | 2018-11-26 05:26:49 | 2018-11-26 05:40:07 |
| 10 | 17602 | W-02 | 2018-11-26 08:29:42 | 2018-11-26 08:45:40 |
| 2 | 17600 | E-01 | 2018-11-26 05:17:49 | 2018-11-26 05:34:03 |
| 6 | 17601 | N-01 | 2018-11-26 06:55:28 | 2018-11-26 07:11:26 |
| Sat1 | 4 | 5 | 17881 | S-02 | 2018-11-26 20:47:29 | 2018-11-26 21:03:41 |
| 7 | 17881 | W-01 | 2018-11-26 20:52:11 | 2018-11-26 21:08:32 |
| 3 | 17880 | E-02 | 2018-11-26 19:20:13 | 2018-11-26 19:36:04 |
| 4 | 17881 | S-01 | 2018-11-26 20:46:13 | 2018-11-26 21:02:17 |
| 2 | 17880 | E-01 | 2018-11-26 19:19:38 | 2018-11-26 19:35:37 |
| 8 | 17882 | W-02 | 2018-11-26 22:25:21 | 2018-11-26 22:41:42 |
| 1 | 17880 | N-01 | 2018-11-26 19:19:01 | 2018-11-26 19:33:07 |
| 6 | 17881 | N-01 | 2018-11-26 20:50:32 | 2018-11-26 21:06:15 |
| 5 | 5 | 17881 | S-02 | 2018-11-26 20:47:29 | 2018-11-26 21:03:41 |
| 7 | 17881 | W-01 | 2018-11-26 20:52:11 | 2018-11-26 21:08:32 |
| 3 | 17880 | E-02 | 2018-11-26 19:20:13 | 2018-11-26 19:36:04 |
| 4 | 17881 | S-01 | 2018-11-26 20:46:13 | 2018-11-26 21:02:17 |
| 2 | 17880 | E-01 | 2018-11-26 19:19:38 | 2018-11-26 19:35:37 |
| 8 | 17882 | W-02 | 2018-11-26 22:25:21 | 2018-11-26 22:41:42 |
| 1 | 17880 | N-01 | 2018-11-26 19:19:01 | 2018-11-26 19:33:07 |
| 6 | 17881 | N-01 | 2018-11-26 20:50:32 | 2018-11-26 21:06:15 |
| 6 | 7 | 17873 | S-02 | 2018-11-26 08:55:14 | 2018-11-26 09:10:39 |
| 5 | 17873 | W-01 | 2018-11-26 08:50:35 | 2018-11-26 09:05:27 |
| 9 | 17874 | W-01 | 2018-11-26 10:22:58 | 2018-11-26 10:38:12 |
| 1 | 17872 | E-02 | 2018-11-26 07:14:56 | 2018-11-26 07:30:47 |
| 3 | 17873 | E-02 | 2018-11-26 08:47:56 | 2018-11-26 09:02:32 |
| 8 | 17873 | S-01 | 2018-11-26 08:55:24 | 2018-11-26 09:11:27 |
| 11 | 17875 | W-02 | 2018-11-26 11:56:51 | 2018-11-26 12:12:07 |
| 2 | 17872 | E-01 | 2018-11-26 07:15:31 | 2018-11-26 07:31:19 |
| 10 | 17874 | W-02 | 2018-11-26 10:24:34 | 2018-11-26 10:39:15 |
| 4 | 17873 | E-01 | 2018-11-26 08:48:33 | 2018-11-26 09:03:00 |
| 6 | 17873 | N-01 | 2018-11-26 08:51:20 | 2018-11-26 09:07:29 |
| 7 | 7 | 17873 | S-02 | 2018-11-26 08:55:14 | 2018-11-26 09:10:39 |
| 5 | 17873 | W-01 | 2018-11-26 08:50:35 | 2018-11-26 09:05:27 |
| 9 | 17874 | W-01 | 2018-11-26 10:22:58 | 2018-11-26 10:38:12 |
| 1 | 17872 | E-02 | 2018-11-26 07:14:56 | 2018-11-26 07:30:47 |
| 3 | 17873 | E-02 | 2018-11-26 08:47:56 | 2018-11-26 09:02:32 |
| 8 | 17873 | S-01 | 2018-11-26 08:55:24 | 2018-11-26 09:11:27 |
| 11 | 17875 | W-02 | 2018-11-26 11:56:51 | 2018-11-26 12:12:07 |
| 2 | 17872 | E-01 | 2018-11-26 07:15:31 | 2018-11-26 07:31:19 |
| 10 | 17874 | W-02 | 2018-11-26 10:24:34 | 2018-11-26 10:39:15 |
| 4 | 17873 | E-01 | 2018-11-26 08:48:33 | 2018-11-26 09:03:00 |
| 6 | 17873 | N-01 | 2018-11-26 08:51:20 | 2018-11-26 09:07:29 |
| Sat12 | 8 | 7 | 17608 | S-02 | 2018-11-26 18:22:53 | 2018-11-26 18:39:04 |
| 9 | 17608 | W-01 | 2018-11-26 18:27:38 | 2018-11-26 18:44:01 |
| 5 | 17607 | E-02 | 2018-11-26 16:54:02 | 2018-11-26 17:10:03 |
| 2 | 17606 | E-02 | 2018-11-26 15:20:36 | 2018-11-26 15:35:37 |
| 6 | 17608 | S-01 | 2018-11-26 18:21:32 | 2018-11-26 18:37:42 |
| 1 | 17606 | E-01 | 2018-11-26 15:20:24 | 2018-11-26 15:34:58 |
| 4 | 17607 | E-01 | 2018-11-26 16:53:28 | 2018-11-26 17:09:35 |
| 10 | 17609 | W-02 | 2018-11-26 20:02:22 | 2018-11-26 20:18:45 |
| 3 | 17607 | N-01 | 2018-11-26 16:52:57 | 2018-11-26 17:07:02 |
| 8 | 17608 | N-01 | 2018-11-26 18:25:53 | 2018-11-26 18:41:45 |
| 9 | 11 | 17601 | S-02 | 2018-11-26 07:53:10 | 2018-11-26 08:07:26 |
| 8 | 17600 | S-02 | 2018-11-26 06:19:03 | 2018-11-26 06:33:42 |
| 9 | 17601 | W-01 | 2018-11-26 07:47:42 | 2018-11-26 08:03:27 |
| 5 | 17600 | W-01 | 2018-11-26 06:14:14 | 2018-11-26 06:28:20 |
| 3 | 17600 | E-02 | 2018-11-26 06:10:59 | 2018-11-26 06:26:21 |
| 1 | 17599 | E-02 | 2018-11-26 04:36:51 | 2018-11-26 04:52:17 |
| 7 | 17600 | S-01 | 2018-11-26 06:18:52 | 2018-11-26 06:34:59 |
| 2 | 17599 | E-01 | 2018-11-26 04:37:28 | 2018-11-26 04:52:47 |
| 10 | 17601 | W-02 | 2018-11-26 07:49:47 | 2018-11-26 08:03:45 |
| 4 | 17600 | E-01 | 2018-11-26 06:11:34 | 2018-11-26 06:26:52 |
| 6 | 17600 | N-01 | 2018-11-26 06:14:49 | 2018-11-26 06:30:47 |
| Sat14 | 10 | 9 | 17611 | S-02 | 2018-11-26 06:52:19 | 2018-11-26 07:08:17 |
| 11 | 17612 | W-01 | 2018-11-26 08:21:58 | 2018-11-26 08:36:30 |
| 6 | 17611 | W-01 | 2018-11-26 06:47:33 | 2018-11-26 07:03:11 |
| 1 | 17610 | E-02 | 2018-11-26 05:10:34 | 2018-11-26 05:26:42 |
| 4 | 17611 | E-02 | 2018-11-26 06:45:21 | 2018-11-26 06:59:17 |
| 3 | 17610 | N-02 | 2018-11-26 05:04:06 | 2018-11-26 05:29:13 |
| 7 | 17611 | N-02 | 2018-11-26 06:38:12 | 2018-11-26 07:03:02 |
| 10 | 17611 | S-01 | 2018-11-26 06:52:54 | 2018-11-26 07:08:35 |
| 12 | 17612 | W-02 | 2018-11-26 08:23:00 | 2018-11-26 08:38:35 |
| 2 | 17610 | E-01 | 2018-11-26 05:11:08 | 2018-11-26 05:27:14 |
| 5 | 17611 | E-01 | 2018-11-26 06:46:00 | 2018-11-26 06:59:44 |
| 13 | 17613 | W-02 | 2018-11-26 09:57:26 | 2018-11-26 10:11:53 |
| 8 | 17611 | N-01 | 2018-11-26 06:48:38 | 2018-11-26 07:04:45 |
| Sat13 | 11 | 1 | 16881 | E-02 | 2018-11-26 19:18:20 | 2018-11-26 19:32:41 |
| 2 | 16882 | E-02 | 2018-11-26 20:52:29 | 2018-11-26 21:10:28 |
| 4 | 16883 | E-02 | 2018-11-26 22:31:28 | 2018-11-26 22:46:04 |
| 3 | 16883 | N-01 | 2018-11-26 22:26:54 | 2018-11-26 22:44:51 |
| 12 | 1 | 16875 | E-02 | 2018-11-26 09:51:25 | 2018-11-26 10:09:09 |
| 3 | 16876 | E-02 | 2018-11-26 11:28:50 | 2018-11-26 11:44:09 |
| 2 | 16875 | N-01 | 2018-11-26 09:57:09 | 2018-11-26 10:11:03 |
| 4 | 16876 | N-01 | 2018-11-26 11:32:19 | 2018-11-26 11:49:52 |
| Sat7 | 13 | 10 | 24824 | S-02 | 2018-11-26 22:45:42 | 2018-11-26 23:00:03 |
| 7 | 24823 | S-02 | 2018-11-26 21:06:18 | 2018-11-26 21:24:14 |
| 9 | 24823 | W-01 | 2018-11-26 21:11:04 | 2018-11-26 21:29:25 |
| 5 | 24822 | E-02 | 2018-11-26 19:33:45 | 2018-11-26 19:52:01 |
| 2 | 24821 | E-02 | 2018-11-26 17:57:22 | 2018-11-26 18:13:57 |
| 6 | 24823 | S-01 | 2018-11-26 21:04:41 | 2018-11-26 21:22:56 |
| 1 | 24821 | E-01 | 2018-11-26 17:57:13 | 2018-11-26 18:13:16 |
| 3 | 24822 | E-01 | 2018-11-26 19:33:12 | 2018-11-26 19:51:31 |
| 11 | 24824 | W-02 | 2018-11-26 22:49:22 | 2018-11-26 23:07:43 |
| 4 | 24822 | N-01 | 2018-11-26 19:33:13 | 2018-11-26 19:48:45 |
| 8 | 24823 | N-01 | 2018-11-26 21:09:04 | 2018-11-26 21:27:11 |
| 14 | 11 | 24816 | S-02 | 2018-11-26 10:11:57 | 2018-11-26 10:30:12 |
| 13 | 24817 | W-01 | 2018-11-26 11:45:37 | 2018-11-26 12:00:21 |
| 9 | 24816 | W-01 | 2018-11-26 10:06:51 | 2018-11-26 10:25:19 |
| 7 | 24816 | E-02 | 2018-11-26 10:05:04 | 2018-11-26 10:19:41 |
| 3 | 24815 | E-02 | 2018-11-26 08:26:23 | 2018-11-26 08:44:50 |
| 1 | 24814 | E-02 | 2018-11-26 06:49:43 | 2018-11-26 07:05:15 |
| 6 | 24815 | S-01 | 2018-11-26 08:35:25 | 2018-11-26 08:52:44 |
| 12 | 24816 | S-01 | 2018-11-26 10:13:15 | 2018-11-26 10:29:30 |
| 4 | 24815 | E-01 | 2018-11-26 08:26:57 | 2018-11-26 08:45:24 |
| 8 | 24816 | E-01 | 2018-11-26 10:05:50 | 2018-11-26 10:20:02 |
| 14 | 24817 | W-02 | 2018-11-26 11:45:54 | 2018-11-26 12:04:22 |
| 15 | 24818 | W-02 | 2018-11-26 13:24:54 | 2018-11-26 13:39:03 |
| 2 | 24814 | E-01 | 2018-11-26 06:50:28 | 2018-11-26 07:05:40 |
| 5 | 24815 | N-01 | 2018-11-26 08:31:15 | 2018-11-26 08:48:01 |
| 10 | 24816 | N-01 | 2018-11-26 10:08:23 | 2018-11-26 10:26:04 |
| 15 | 5 | 24816 | S-02 | 2018-11-26 10:11:57 | 2018-11-26 10:30:12 |
| 3 | 24816 | W-01 | 2018-11-26 10:06:51 | 2018-11-26 10:25:19 |
| 7 | 24817 | W-01 | 2018-11-26 11:45:37 | 2018-11-26 12:00:21 |
| 1 | 24816 | E-02 | 2018-11-26 10:05:04 | 2018-11-26 10:19:41 |
| 6 | 24816 | S-01 | 2018-11-26 10:13:15 | 2018-11-26 10:29:30 |
| 8 | 24817 | W-02 | 2018-11-26 11:45:54 | 2018-11-26 12:04:22 |
| 2 | 24816 | E-01 | 2018-11-26 10:05:50 | 2018-11-26 10:20:02 |
| 9 | 24818 | W-02 | 2018-11-26 13:24:54 | 2018-11-26 13:39:03 |
| 4 | 24816 | N-01 | 2018-11-26 10:08:23 | 2018-11-26 10:26:04 |
| Sat2 | 16 | 7 | 19048 | S-02 | 2018-11-26 03:06:50 | 2018-11-26 03:22:11 |
| 4 | 19047 | S-02 | 2018-11-26 01:33:49 | 2018-11-26 01:48:42 |
| 6 | 19047 | W-01 | 2018-11-26 01:37:48 | 2018-11-26 01:54:09 |
| 9 | 19048 | W-01 | 2018-11-26 03:12:06 | 2018-11-26 03:27:00 |
| 2 | 19046 | E-02 | 2018-11-26 00:04:16 | 2018-11-26 00:21:09 |
| 3 | 19047 | S-01 | 2018-11-26 01:31:29 | 2018-11-26 01:48:07 |
| 1 | 19046 | E-01 | 2018-11-26 00:03:48 | 2018-11-26 00:20:39 |
| 8 | 19048 | W-02 | 2018-11-26 03:11:58 | 2018-11-26 03:28:09 |
| 10 | 19049 | W-02 | 2018-11-26 04:46:01 | 2018-11-26 05:01:08 |
| 5 | 19047 | N-01 | 2018-11-26 01:35:27 | 2018-11-26 01:52:18 |
| 17 | 7 | 19048 | S-02 | 2018-11-26 03:06:50 | 2018-11-26 03:22:11 |
| 4 | 19047 | S-02 | 2018-11-26 01:33:49 | 2018-11-26 01:48:42 |
| 6 | 19047 | W-01 | 2018-11-26 01:37:48 | 2018-11-26 01:54:09 |
| 9 | 19048 | W-01 | 2018-11-26 03:12:06 | 2018-11-26 03:27:00 |
| 2 | 19046 | E-02 | 2018-11-26 00:04:16 | 2018-11-26 00:21:09 |
| 3 | 19047 | S-01 | 2018-11-26 01:31:29 | 2018-11-26 01:48:07 |
| 1 | 19046 | E-01 | 2018-11-26 00:03:48 | 2018-11-26 00:20:39 |
| 8 | 19048 | W-02 | 2018-11-26 03:11:58 | 2018-11-26 03:28:09 |
| 10 | 19049 | W-02 | 2018-11-26 04:46:01 | 2018-11-26 05:01:08 |
| 5 | 19047 | N-01 | 2018-11-26 01:35:27 | 2018-11-26 01:52:18 |
| 18 | 6 | 19055 | S-02 | 2018-11-26 14:42:54 | 2018-11-26 14:59:44 |
| 4 | 19055 | W-01 | 2018-11-26 14:38:08 | 2018-11-26 14:54:48 |
| 8 | 19056 | W-01 | 2018-11-26 16:12:23 | 2018-11-26 16:26:43 |
| 1 | 19054 | E-02 | 2018-11-26 13:01:54 | 2018-11-26 13:18:49 |
| 3 | 19054 | S-01 | 2018-11-26 13:11:20 | 2018-11-26 13:25:26 |
| 7 | 19055 | S-01 | 2018-11-26 14:43:50 | 2018-11-26 14:59:36 |
| 9 | 19056 | W-02 | 2018-11-26 16:12:56 | 2018-11-26 16:29:34 |
| 2 | 19054 | E-01 | 2018-11-26 13:02:27 | 2018-11-26 13:19:21 |
| 5 | 19055 | N-01 | 2018-11-26 14:39:24 | 2018-11-26 14:56:00 |
| 19 | 6 | 19055 | S-02 | 2018-11-26 14:42:54 | 2018-11-26 14:59:44 |
| 4 | 19055 | W-01 | 2018-11-26 14:38:08 | 2018-11-26 14:54:48 |
| 8 | 19056 | W-01 | 2018-11-26 16:12:23 | 2018-11-26 16:26:43 |
| 1 | 19054 | E-02 | 2018-11-26 13:01:54 | 2018-11-26 13:18:49 |
| 7 | 19055 | S-01 | 2018-11-26 14:43:50 | 2018-11-26 14:59:36 |
| 3 | 19054 | S-01 | 2018-11-26 13:11:20 | 2018-11-26 13:25:26 |
| 10 | 19057 | W-02 | 2018-11-26 17:47:13 | 2018-11-26 18:01:28 |
| 2 | 19054 | E-01 | 2018-11-26 13:02:27 | 2018-11-26 13:19:21 |
| 9 | 19056 | W-02 | 2018-11-26 16:12:56 | 2018-11-26 16:29:34 |
| 5 | 19055 | N-01 | 2018-11-26 14:39:24 | 2018-11-26 14:56:00 |
| Sat3 | 20 | 7 | 36560 | S-02 | 2018-11-26 04:00:42 | 2018-11-26 04:17:08 |
| 4 | 36559 | S-02 | 2018-11-26 02:27:04 | 2018-11-26 02:44:32 |
| 9 | 36560 | W-01 | 2018-11-26 04:06:01 | 2018-11-26 04:22:01 |
| 6 | 36559 | W-01 | 2018-11-26 02:31:17 | 2018-11-26 02:49:47 |
| 2 | 36558 | E-02 | 2018-11-26 00:58:10 | 2018-11-26 01:16:54 |
| 3 | 36559 | S-01 | 2018-11-26 02:25:03 | 2018-11-26 02:43:43 |
| 1 | 36558 | E-01 | 2018-11-26 00:57:39 | 2018-11-26 01:16:25 |
| 8 | 36560 | W-02 | 2018-11-26 04:05:13 | 2018-11-26 04:23:34 |
| 5 | 36559 | N-01 | 2018-11-26 02:29:07 | 2018-11-26 02:47:50 |
| 21 | 7 | 36560 | S-02 | 2018-11-26 04:00:42 | 2018-11-26 04:17:08 |
| 4 | 36559 | S-02 | 2018-11-26 02:27:04 | 2018-11-26 02:44:32 |
| 6 | 36559 | W-01 | 2018-11-26 02:31:17 | 2018-11-26 02:49:47 |
| 9 | 36560 | W-01 | 2018-11-26 04:06:01 | 2018-11-26 04:22:01 |
| 2 | 36558 | E-02 | 2018-11-26 00:58:10 | 2018-11-26 01:16:54 |
| 3 | 36559 | S-01 | 2018-11-26 02:25:03 | 2018-11-26 02:43:43 |
| 1 | 36558 | E-01 | 2018-11-26 00:57:39 | 2018-11-26 01:16:25 |
| 8 | 36560 | W-02 | 2018-11-26 04:05:13 | 2018-11-26 04:23:34 |
| 10 | 36561 | W-02 | 2018-11-26 05:39:41 | 2018-11-26 05:55:57 |
| 5 | 36559 | N-01 | 2018-11-26 02:29:07 | 2018-11-26 02:47:50 |
| 22 | 7 | 36567 | S-02 | 2018-11-26 15:34:46 | 2018-11-26 15:53:25 |
| 5 | 36567 | W-01 | 2018-11-26 15:29:58 | 2018-11-26 15:48:36 |
| 1 | 36566 | E-02 | 2018-11-26 13:54:00 | 2018-11-26 14:12:44 |
| 4 | 36566 | S-01 | 2018-11-26 14:03:02 | 2018-11-26 14:19:45 |
| 8 | 36567 | S-01 | 2018-11-26 15:35:56 | 2018-11-26 15:52:59 |
| 2 | 36566 | E-01 | 2018-11-26 13:54:33 | 2018-11-26 14:13:17 |
| 9 | 36568 | W-02 | 2018-11-26 17:04:32 | 2018-11-26 17:23:09 |
| 6 | 36567 | N-01 | 2018-11-26 15:31:22 | 2018-11-26 15:49:34 |
| 3 | 36566 | N-01 | 2018-11-26 13:59:08 | 2018-11-26 14:15:06 |
| 23 | 7 | 36567 | S-02 | 2018-11-26 15:34:46 | 2018-11-26 15:53:25 |
| 5 | 36567 | W-01 | 2018-11-26 15:29:58 | 2018-11-26 15:48:36 |
| 1 | 36566 | E-02 | 2018-11-26 13:54:00 | 2018-11-26 14:12:44 |
| 4 | 36566 | S-01 | 2018-11-26 14:03:02 | 2018-11-26 14:19:45 |
| 8 | 36567 | S-01 | 2018-11-26 15:35:56 | 2018-11-26 15:52:59 |
| 2 | 36566 | E-01 | 2018-11-26 13:54:33 | 2018-11-26 14:13:17 |
| 9 | 36568 | W-02 | 2018-11-26 17:04:32 | 2018-11-26 17:23:09 |
| 6 | 36567 | N-01 | 2018-11-26 15:31:22 | 2018-11-26 15:49:34 |
| 3 | 36566 | N-01 | 2018-11-26 13:59:08 | 2018-11-26 14:15:06 |
| Sat4 | 24 | 2 | 28133 | E-02 | 2018-11-26 18:59:50 | 2018-11-26 19:15:51 |
| 1 | 28133 | E-01 | 2018-11-26 18:59:44 | 2018-11-26 19:15:07 |
| 25 | 4 | 28135 | S-02 | 2018-11-26 22:01:35 | 2018-11-26 22:19:04 |
| 6 | 28135 | W-01 | 2018-11-26 22:06:05 | 2018-11-26 22:24:10 |
| 2 | 28134 | E-02 | 2018-11-26 20:32:24 | 2018-11-26 20:50:29 |
| 3 | 28135 | S-01 | 2018-11-26 21:59:52 | 2018-11-26 22:18:01 |
| 1 | 28134 | E-01 | 2018-11-26 20:31:52 | 2018-11-26 20:50:00 |
| 7 | 28136 | W-02 | 2018-11-26 23:40:42 | 2018-11-26 23:58:44 |
| 5 | 28135 | N-01 | 2018-11-26 22:04:04 | 2018-11-26 22:22:06 |
| 26 | 1 | 28126 | E-02 | 2018-11-26 08:16:44 | 2018-11-26 08:33:35 |
| 2 | 28126 | E-01 | 2018-11-26 08:17:23 | 2018-11-26 08:34:04 |
| 27 | 5 | 28127 | S-02 | 2018-11-26 09:59:06 | 2018-11-26 10:14:38 |
| 8 | 28128 | S-02 | 2018-11-26 11:32:11 | 2018-11-26 11:49:19 |
| 6 | 28128 | W-01 | 2018-11-26 11:26:59 | 2018-11-26 11:45:00 |
| 1 | 28127 | E-02 | 2018-11-26 09:50:25 | 2018-11-26 10:08:08 |
| 4 | 28127 | S-01 | 2018-11-26 09:58:29 | 2018-11-26 10:16:26 |
| 2 | 28127 | E-01 | 2018-11-26 09:51:00 | 2018-11-26 10:08:39 |
| 3 | 28127 | N-01 | 2018-11-26 09:54:30 | 2018-11-26 10:12:06 |
| 7 | 28128 | N-01 | 2018-11-26 11:29:02 | 2018-11-26 11:44:56 |
| Sat15 | 28 | 2 | 46074 | S-02 | 2018-11-26 17:04:31 | 2018-11-26 17:18:13 |
| 7 | 46075 | S-02 | 2018-11-26 18:38:10 | 2018-11-26 18:54:27 |
| 4 | 46074 | W-01 | 2018-11-26 17:08:11 | 2018-11-26 17:24:06 |
| 9 | 46075 | W-01 | 2018-11-26 18:43:27 | 2018-11-26 18:59:19 |
| 6 | 46074 | E-02 | 2018-11-26 17:09:29 | 2018-11-26 17:23:49 |
| 1 | 46074 | S-01 | 2018-11-26 17:01:42 | 2018-11-26 17:17:56 |
| 8 | 46075 | S-01 | 2018-11-26 18:38:19 | 2018-11-26 18:51:44 |
| 11 | 46076 | W-02 | 2018-11-26 20:19:20 | 2018-11-26 20:35:15 |
| 10 | 46075 | W-02 | 2018-11-26 18:44:13 | 2018-11-26 18:59:58 |
| 5 | 46074 | E-01 | 2018-11-26 17:08:48 | 2018-11-26 17:23:21 |
| 3 | 46074 | N-01 | 2018-11-26 17:05:34 | 2018-11-26 17:22:19 |
| 29 | 4 | 46074 | S-02 | 2018-11-26 17:04:31 | 2018-11-26 17:18:13 |
| 9 | 46075 | S-02 | 2018-11-26 18:38:10 | 2018-11-26 18:54:27 |
| 11 | 46075 | W-01 | 2018-11-26 18:43:27 | 2018-11-26 18:59:19 |
| 6 | 46074 | W-01 | 2018-11-26 17:08:11 | 2018-11-26 17:24:06 |
| 2 | 46073 | E-02 | 2018-11-26 15:32:32 | 2018-11-26 15:49:22 |
| 8 | 46074 | E-02 | 2018-11-26 17:09:29 | 2018-11-26 17:23:49 |
| 10 | 46075 | S-01 | 2018-11-26 18:38:19 | 2018-11-26 18:51:44 |
| 3 | 46074 | S-01 | 2018-11-26 17:01:42 | 2018-11-26 17:17:56 |
| 12 | 46075 | W-02 | 2018-11-26 18:44:13 | 2018-11-26 18:59:58 |
| 1 | 46073 | E-01 | 2018-11-26 15:32:06 | 2018-11-26 15:48:50 |
| 13 | 46076 | W-02 | 2018-11-26 20:19:20 | 2018-11-26 20:35:15 |
| 7 | 46074 | E-01 | 2018-11-26 17:08:48 | 2018-11-26 17:23:21 |
| 5 | 46074 | N-01 | 2018-11-26 17:05:34 | 2018-11-26 17:22:19 |
| 30 | 8 | 46067 | S-02 | 2018-11-26 06:24:11 | 2018-11-26 06:41:07 |
| 6 | 46067 | W-01 | 2018-11-26 06:19:21 | 2018-11-26 06:36:02 |
| 10 | 46068 | W-01 | 2018-11-26 07:55:14 | 2018-11-26 08:10:04 |
| 1 | 46066 | E-02 | 2018-11-26 04:41:12 | 2018-11-26 04:58:09 |
| 4 | 46067 | E-02 | 2018-11-26 06:17:18 | 2018-11-26 06:31:37 |
| 3 | 46066 | S-01 | 2018-11-26 04:50:57 | 2018-11-26 05:04:47 |
| 9 | 46067 | S-01 | 2018-11-26 06:24:58 | 2018-11-26 06:41:10 |
| 11 | 46068 | W-02 | 2018-11-26 07:56:01 | 2018-11-26 08:12:42 |
| 5 | 46067 | E-01 | 2018-11-26 06:17:58 | 2018-11-26 06:32:03 |
| 12 | 46069 | W-02 | 2018-11-26 09:31:59 | 2018-11-26 09:46:38 |
| 2 | 46066 | E-01 | 2018-11-26 04:41:46 | 2018-11-26 04:58:42 |
| 7 | 46067 | N-01 | 2018-11-26 06:20:34 | 2018-11-26 06:37:22 |
| 31 | 8 | 46067 | S-02 | 2018-11-26 06:24:11 | 2018-11-26 06:41:07 |
| 6 | 46067 | W-01 | 2018-11-26 06:19:21 | 2018-11-26 06:36:02 |
| 10 | 46068 | W-01 | 2018-11-26 07:55:14 | 2018-11-26 08:10:04 |
| 1 | 46066 | E-02 | 2018-11-26 04:41:12 | 2018-11-26 04:58:09 |
| 4 | 46067 | E-02 | 2018-11-26 06:17:18 | 2018-11-26 06:31:37 |
| 3 | 46066 | S-01 | 2018-11-26 04:50:57 | 2018-11-26 05:04:47 |
| 9 | 46067 | S-01 | 2018-11-26 06:24:58 | 2018-11-26 06:41:10 |
| 11 | 46068 | W-02 | 2018-11-26 07:56:01 | 2018-11-26 08:12:42 |
| 5 | 46067 | E-01 | 2018-11-26 06:17:58 | 2018-11-26 06:32:03 |
| 12 | 46069 | W-02 | 2018-11-26 09:31:59 | 2018-11-26 09:46:38 |
| 2 | 46066 | E-01 | 2018-11-26 04:41:46 | 2018-11-26 04:58:42 |
| 7 | 46067 | N-01 | 2018-11-26 06:20:34 | 2018-11-26 06:37:22 |
| Sat6 | 32 | 5 | 27602 | S-02 | 2018-11-26 06:57:29 | 2018-11-26 07:14:54 |
| 12 | 27603 | W-01 | 2018-11-26 08:43:04 | 2018-11-26 08:57:29 |
| 8 | 27602 | W-01 | 2018-11-26 07:02:26 | 2018-11-26 07:19:56 |
| 4 | 27601 | E-02 | 2018-11-26 05:27:16 | 2018-11-26 05:44:51 |
| 10 | 27602 | E-02 | 2018-11-26 07:08:04 | 2018-11-26 07:22:39 |
| 1 | 27601 | S-01 | 2018-11-26 05:19:24 | 2018-11-26 05:35:36 |
| 6 | 27602 | S-01 | 2018-11-26 06:58:14 | 2018-11-26 07:13:36 |
| 11 | 27603 | W-02 | 2018-11-26 08:39:02 | 2018-11-26 08:56:34 |
| 3 | 27601 | E-01 | 2018-11-26 05:26:41 | 2018-11-26 05:44:16 |
| 9 | 27602 | E-01 | 2018-11-26 07:07:46 | 2018-11-26 07:21:50 |
| 2 | 27601 | N-01 | 2018-11-26 05:24:11 | 2018-11-26 05:39:33 |
| 7 | 27602 | N-01 | 2018-11-26 07:01:40 | 2018-11-26 07:18:37 |
| 33 | 5 | 27602 | S-02 | 2018-11-26 06:57:29 | 2018-11-26 07:14:54 |
| 8 | 27602 | W-01 | 2018-11-26 07:02:26 | 2018-11-26 07:19:56 |
| 12 | 27603 | W-01 | 2018-11-26 08:43:04 | 2018-11-26 08:57:29 |
| 4 | 27601 | E-02 | 2018-11-26 05:27:16 | 2018-11-26 05:44:51 |
| 10 | 27602 | E-02 | 2018-11-26 07:08:04 | 2018-11-26 07:22:39 |
| 6 | 27602 | S-01 | 2018-11-26 06:58:14 | 2018-11-26 07:13:36 |
| 1 | 27601 | S-01 | 2018-11-26 05:19:24 | 2018-11-26 05:35:36 |
| 3 | 27601 | E-01 | 2018-11-26 05:26:41 | 2018-11-26 05:44:16 |
| 13 | 27604 | W-02 | 2018-11-26 10:19:59 | 2018-11-26 10:33:52 |
| 11 | 27603 | W-02 | 2018-11-26 08:39:02 | 2018-11-26 08:56:34 |
| 9 | 27602 | E-01 | 2018-11-26 07:07:46 | 2018-11-26 07:21:50 |
| 2 | 27601 | N-01 | 2018-11-26 05:24:11 | 2018-11-26 05:39:33 |
| 7 | 27602 | N-01 | 2018-11-26 07:01:40 | 2018-11-26 07:18:37 |
| 34 | 11 | 27609 | S-02 | 2018-11-26 18:54:24 | 2018-11-26 19:09:01 |
| 8 | 27608 | S-02 | 2018-11-26 17:14:57 | 2018-11-26 17:32:02 |
| 6 | 27608 | W-01 | 2018-11-26 17:09:38 | 2018-11-26 17:27:21 |
| 1 | 27606 | E-02 | 2018-11-26 13:53:20 | 2018-11-26 14:09:26 |
| 3 | 27607 | E-02 | 2018-11-26 15:31:33 | 2018-11-26 15:49:06 |
| 9 | 27608 | S-01 | 2018-11-26 17:16:09 | 2018-11-26 17:33:55 |
| 10 | 27609 | W-02 | 2018-11-26 18:47:00 | 2018-11-26 19:04:42 |
| 4 | 27607 | E-01 | 2018-11-26 15:32:00 | 2018-11-26 15:49:39 |
| 2 | 27606 | E-01 | 2018-11-26 13:54:02 | 2018-11-26 14:09:32 |
| 7 | 27608 | N-01 | 2018-11-26 17:11:57 | 2018-11-26 17:29:32 |
| 5 | 27607 | N-01 | 2018-11-26 15:34:39 | 2018-11-26 15:48:59 |
| 35 | 9 | 27609 | S-02 | 2018-11-26 18:54:24 | 2018-11-26 19:09:01 |
| 6 | 27608 | S-02 | 2018-11-26 17:14:57 | 2018-11-26 17:32:02 |
| 4 | 27608 | W-01 | 2018-11-26 17:09:38 | 2018-11-26 17:27:21 |
| 1 | 27607 | E-02 | 2018-11-26 15:31:33 | 2018-11-26 15:49:06 |
| 7 | 27608 | S-01 | 2018-11-26 17:16:09 | 2018-11-26 17:33:55 |
| 2 | 27607 | E-01 | 2018-11-26 15:32:00 | 2018-11-26 15:49:39 |
| 8 | 27609 | W-02 | 2018-11-26 18:47:00 | 2018-11-26 19:04:42 |
| 3 | 27607 | N-01 | 2018-11-26 15:34:39 | 2018-11-26 15:48:59 |
| 5 | 27608 | N-01 | 2018-11-26 17:11:57 | 2018-11-26 17:29:32 |
| Sat5 | 36 | 7 | 17734 | S-02 | 2018-11-26 21:01:49 | 2018-11-26 21:16:00 |
| 4 | 17733 | S-02 | 2018-11-26 19:29:20 | 2018-11-26 19:42:45 |
| 6 | 17733 | W-01 | 2018-11-26 19:33:16 | 2018-11-26 19:48:13 |
| 9 | 17734 | W-01 | 2018-11-26 21:07:05 | 2018-11-26 21:20:47 |
| 2 | 17732 | E-02 | 2018-11-26 18:00:05 | 2018-11-26 18:15:39 |
| 3 | 17733 | S-01 | 2018-11-26 19:26:56 | 2018-11-26 19:42:15 |
| 1 | 17732 | E-01 | 2018-11-26 17:59:37 | 2018-11-26 18:15:09 |
| 8 | 17734 | W-02 | 2018-11-26 21:07:04 | 2018-11-26 21:21:49 |
| 10 | 17735 | W-02 | 2018-11-26 22:40:35 | 2018-11-26 22:54:32 |
| 5 | 17733 | N-01 | 2018-11-26 19:30:53 | 2018-11-26 19:46:25 |
| 37 | 7 | 17734 | S-02 | 2018-11-26 21:01:49 | 2018-11-26 21:16:00 |
| 4 | 17733 | S-02 | 2018-11-26 19:29:20 | 2018-11-26 19:42:45 |
| 6 | 17733 | W-01 | 2018-11-26 19:33:16 | 2018-11-26 19:48:13 |
| 9 | 17734 | W-01 | 2018-11-26 21:07:05 | 2018-11-26 21:20:47 |
| 2 | 17732 | E-02 | 2018-11-26 18:00:05 | 2018-11-26 18:15:39 |
| 3 | 17733 | S-01 | 2018-11-26 19:26:56 | 2018-11-26 19:42:15 |
| 1 | 17732 | E-01 | 2018-11-26 17:59:37 | 2018-11-26 18:15:09 |
| 8 | 17734 | W-02 | 2018-11-26 21:07:04 | 2018-11-26 21:21:49 |
| 10 | 17735 | W-02 | 2018-11-26 22:40:35 | 2018-11-26 22:54:32 |
| 5 | 17733 | N-01 | 2018-11-26 19:30:53 | 2018-11-26 19:46:25 |
| 38 | 9 | 17726 | S-02 | 2018-11-26 09:04:52 | 2018-11-26 09:19:59 |
| 7 | 17726 | W-01 | 2018-11-26 08:59:56 | 2018-11-26 09:15:26 |
| 1 | 17724 | E-02 | 2018-11-26 05:51:54 | 2018-11-26 06:05:11 |
| 3 | 17725 | E-02 | 2018-11-26 07:24:16 | 2018-11-26 07:39:35 |
| 6 | 17725 | S-01 | 2018-11-26 07:32:34 | 2018-11-26 07:47:22 |
| 10 | 17727 | W-02 | 2018-11-26 10:34:20 | 2018-11-26 10:49:50 |
| 2 | 17724 | E-01 | 2018-11-26 05:52:36 | 2018-11-26 06:05:36 |
| 4 | 17725 | E-01 | 2018-11-26 07:24:49 | 2018-11-26 07:40:07 |
| 8 | 17726 | N-01 | 2018-11-26 09:01:42 | 2018-11-26 09:15:50 |
| 5 | 17725 | N-01 | 2018-11-26 07:28:40 | 2018-11-26 07:42:54 |
| 39 | 9 | 17726 | S-02 | 2018-11-26 09:04:52 | 2018-11-26 09:19:59 |
| 7 | 17726 | W-01 | 2018-11-26 08:59:56 | 2018-11-26 09:15:26 |
| 1 | 17724 | E-02 | 2018-11-26 05:51:54 | 2018-11-26 06:05:11 |
| 3 | 17725 | E-02 | 2018-11-26 07:24:16 | 2018-11-26 07:39:35 |
| 6 | 17725 | S-01 | 2018-11-26 07:32:34 | 2018-11-26 07:47:22 |
| 10 | 17727 | W-02 | 2018-11-26 10:34:20 | 2018-11-26 10:49:50 |
| 2 | 17724 | E-01 | 2018-11-26 05:52:36 | 2018-11-26 06:05:36 |
| 4 | 17725 | E-01 | 2018-11-26 07:24:49 | 2018-11-26 07:40:07 |
| 8 | 17726 | N-01 | 2018-11-26 09:01:42 | 2018-11-26 09:15:50 |
| 5 | 17725 | N-01 | 2018-11-26 07:28:40 | 2018-11-26 07:42:54 |
| Sat8 | 40 | 6 | 29825 | S-02 | 2018-11-26 18:32:35 | 2018-11-26 18:49:17 |
| 9 | 29825 | W-01 | 2018-11-26 18:37:15 | 2018-11-26 18:54:22 |
| 8 | 29825 | N-02 | 2018-11-26 18:26:44 | 2018-11-26 18:51:12 |
| 1 | 29824 | N-02 | 2018-11-26 16:49:58 | 2018-11-26 17:16:43 |
| 4 | 29824 | E-02 | 2018-11-26 17:02:09 | 2018-11-26 17:19:06 |
| 5 | 29825 | S-01 | 2018-11-26 18:31:00 | 2018-11-26 18:48:02 |
| 3 | 29824 | E-01 | 2018-11-26 17:01:36 | 2018-11-26 17:18:37 |
| 10 | 29826 | W-02 | 2018-11-26 20:13:24 | 2018-11-26 20:30:29 |
| 7 | 29825 | N-01 | 2018-11-26 18:35:20 | 2018-11-26 18:52:10 |
| 2 | 29824 | N-01 | 2018-11-26 17:01:34 | 2018-11-26 17:15:50 |
| 41 | 6 | 29825 | S-02 | 2018-11-26 18:32:35 | 2018-11-26 18:49:17 |
| 9 | 29825 | W-01 | 2018-11-26 18:37:15 | 2018-11-26 18:54:22 |
| 8 | 29825 | N-02 | 2018-11-26 18:26:44 | 2018-11-26 18:51:12 |
| 1 | 29824 | N-02 | 2018-11-26 16:49:58 | 2018-11-26 17:16:43 |
| 4 | 29824 | E-02 | 2018-11-26 17:02:09 | 2018-11-26 17:19:06 |
| 5 | 29825 | S-01 | 2018-11-26 18:31:00 | 2018-11-26 18:48:02 |
| 3 | 29824 | E-01 | 2018-11-26 17:01:36 | 2018-11-26 17:18:37 |
| 10 | 29826 | W-02 | 2018-11-26 20:13:24 | 2018-11-26 20:30:29 |
| 7 | 29825 | N-01 | 2018-11-26 18:35:20 | 2018-11-26 18:52:10 |
| 2 | 29824 | N-01 | 2018-11-26 17:01:34 | 2018-11-26 17:15:50 |
| 42 | 6 | 29817 | S-02 | 2018-11-26 06:18:45 | 2018-11-26 06:32:41 |
| 9 | 29818 | S-02 | 2018-11-26 07:52:56 | 2018-11-26 08:09:19 |
| 7 | 29818 | W-01 | 2018-11-26 07:47:47 | 2018-11-26 08:04:49 |
| 3 | 29817 | N-02 | 2018-11-26 06:02:40 | 2018-11-26 06:29:46 |
| 1 | 29817 | E-02 | 2018-11-26 06:09:35 | 2018-11-26 06:26:26 |
| 5 | 29817 | S-01 | 2018-11-26 06:17:59 | 2018-11-26 06:34:41 |
| 2 | 29817 | E-01 | 2018-11-26 06:10:10 | 2018-11-26 06:26:59 |
| 10 | 29819 | W-02 | 2018-11-26 09:24:39 | 2018-11-26 09:41:40 |
| 4 | 29817 | N-01 | 2018-11-26 06:13:56 | 2018-11-26 06:30:13 |
| 8 | 29818 | N-01 | 2018-11-26 07:49:37 | 2018-11-26 08:05:02 |
| Sat11 | 43 | 9 | 45912 | S-02 | 2018-11-26 05:10:19 | 2018-11-26 05:28:21 |
| 11 | 45912 | W-01 | 2018-11-26 05:15:17 | 2018-11-26 05:33:09 |
| 7 | 45911 | W-01 | 2018-11-26 03:43:18 | 2018-11-26 03:58:43 |
| 2 | 45910 | E-02 | 2018-11-26 02:08:39 | 2018-11-26 02:26:06 |
| 6 | 45911 | E-02 | 2018-11-26 03:42:35 | 2018-11-26 03:59:30 |
| 8 | 45912 | S-01 | 2018-11-26 05:09:32 | 2018-11-26 05:26:31 |
| 3 | 45911 | S-01 | 2018-11-26 03:37:00 | 2018-11-26 03:52:25 |
| 1 | 45910 | E-01 | 2018-11-26 02:08:20 | 2018-11-26 02:25:32 |
| 12 | 45912 | W-02 | 2018-11-26 05:17:50 | 2018-11-26 05:32:44 |
| 5 | 45911 | E-01 | 2018-11-26 03:41:58 | 2018-11-26 03:59:03 |
| 13 | 45913 | W-02 | 2018-11-26 06:49:28 | 2018-11-26 07:07:23 |
| 4 | 45911 | N-01 | 2018-11-26 03:40:15 | 2018-11-26 03:57:15 |
| 10 | 45912 | N-01 | 2018-11-26 05:14:01 | 2018-11-26 05:30:32 |
| 44 | 11 | 45920 | S-02 | 2018-11-26 18:22:50 | 2018-11-26 18:38:40 |
| 8 | 45919 | S-02 | 2018-11-26 16:49:11 | 2018-11-26 17:05:33 |
| 9 | 45920 | W-01 | 2018-11-26 18:17:21 | 2018-11-26 18:34:46 |
| 5 | 45919 | W-01 | 2018-11-26 16:44:26 | 2018-11-26 17:00:12 |
| 1 | 45918 | E-02 | 2018-11-26 15:07:34 | 2018-11-26 15:24:40 |
| 3 | 45919 | E-02 | 2018-11-26 16:41:11 | 2018-11-26 16:58:10 |
| 7 | 45919 | S-01 | 2018-11-26 16:49:00 | 2018-11-26 17:06:48 |
| 4 | 45919 | E-01 | 2018-11-26 16:41:46 | 2018-11-26 16:58:40 |
| 12 | 45921 | W-02 | 2018-11-26 19:52:18 | 2018-11-26 20:09:43 |
| 2 | 45918 | E-01 | 2018-11-26 15:08:10 | 2018-11-26 15:25:11 |
| 10 | 45920 | W-02 | 2018-11-26 18:19:29 | 2018-11-26 18:35:04 |
| 6 | 45919 | N-01 | 2018-11-26 16:44:58 | 2018-11-26 17:02:38 |

本实施例中，在表3中用“”的形式来表示一个原子型任务的一个可用弧段的冲突弧段，其中，是冲突弧段所属的原子型任务编号，是冲突弧段的在所属原子型任务对应可用弧段集中的编号。例如，表3中航天器Sat9的编号为1的原子型任务的编号为6的可用弧段的其中一个冲突弧段为编号为8的原子型任务的编号为7的可用弧段，表示为“8-7”。

表3 原子型任务的可用弧段的冲突弧段集

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 所属  航天器 | 原子型  任务编号 | 备选可用弧段 | | | 冲突弧段集 |
| 编号 | 圈次 | 所用设备 |
| Sat9 | 1 | 6 | 17625 | S-02 | 8-7, 28-7, 29-9, 34-11, 35-9, 40-6, 41-6, 44-11 |
| 4 | 17624 | W-01 | 28-4, 29-6, 34-6, 35-4 |
| 8 | 17625 | W-01 | 8-9, 28-9, 29-11, 40-9, 41-9 |
| 3 | 17624 | E-02 | 28-6, 29-8, 40-4, 41-4 |
| 5 | 17625 | S-01 | 8-6, 28-8, 29-10, 40-5, 41-5 |
| 2 | 17624 | E-01 | 8-4, 28-5, 29-7, 40-3, 41-3 |
| 1 | 17624 | N-01 | 28-3, 29-5, 34-7, 35-5, 40-2, 41-2 |
| 7 | 17625 | N-01 | 40-7, 41-7 |
| 2 | 5 | 17617 | S-02 | 30-8, 31-8 |
| 9 | 17618 | S-02 | --- |
| 3 | 17617 | W-01 | 30-6, 31-6 |
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