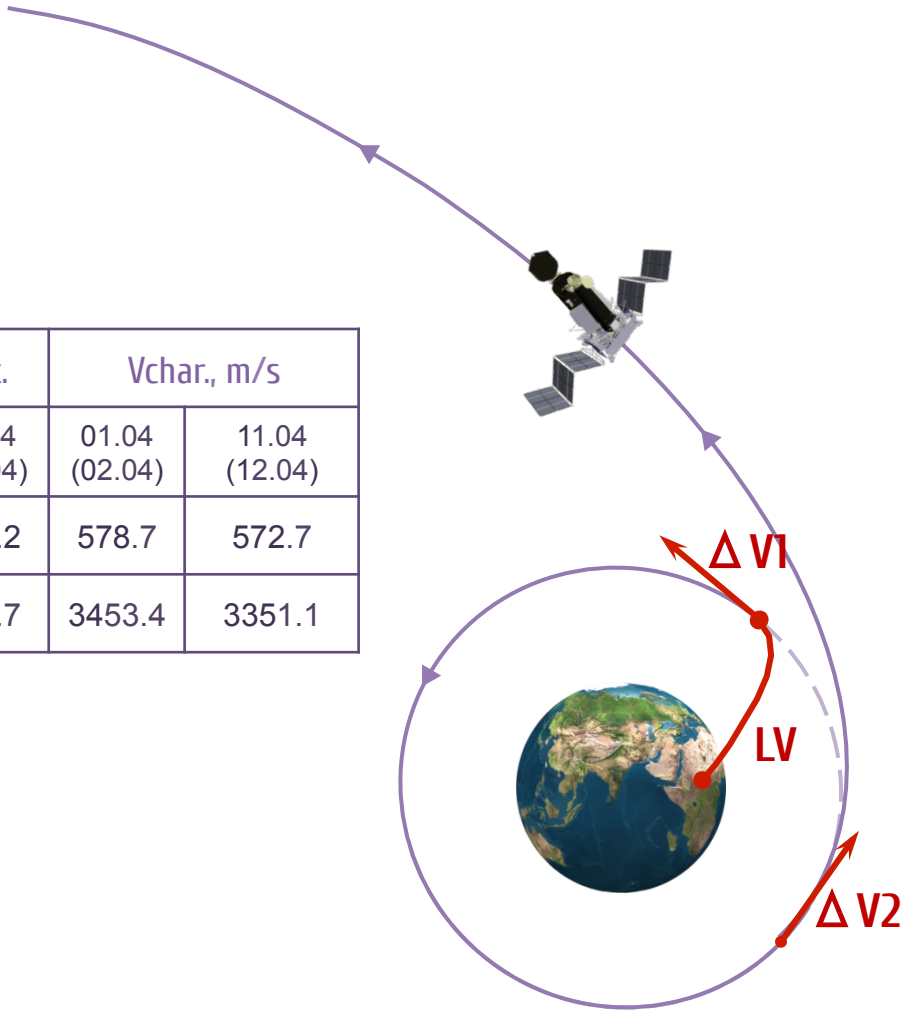
Перелет КА «Спектр-РГ» в точку L2, траектория, ограничения

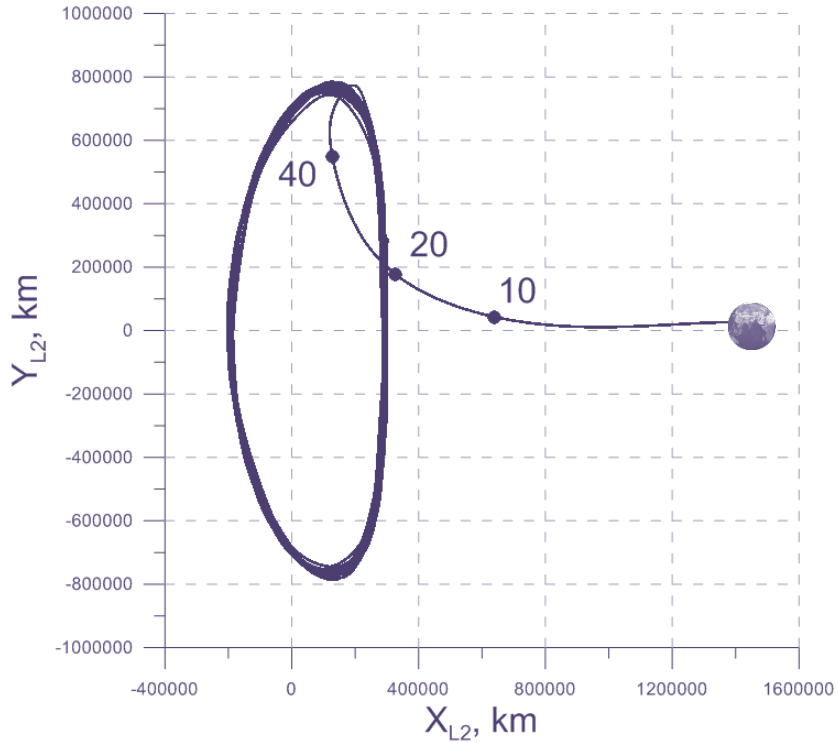
Launch scheme

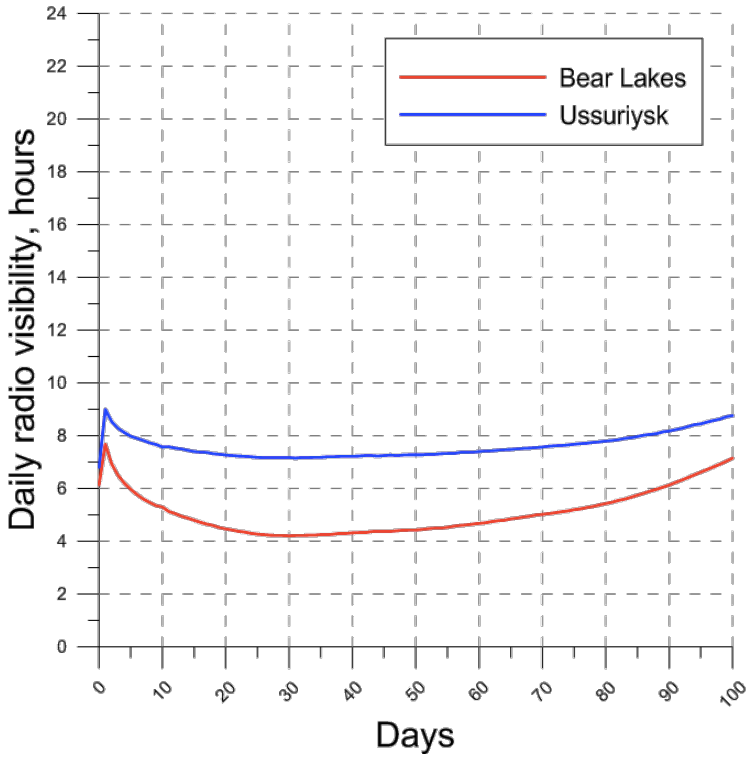
	Time, sec.		Duration, sec.		Vchar., m/s	
	01.04 (02.04)	11.04 (12.04)	01.04 (02.04)	11.04 (12.04)	01.04 (02.04)	11.04 (12.04)
Δ V1	944.0		154.7	153.2	578.7	572.7
Δ V2	5800.2	5828.1	536.1	527.7	3453.4	3351.1



Flight into L2

Total duration ~100 days, total corrections ≤ 100 m/s





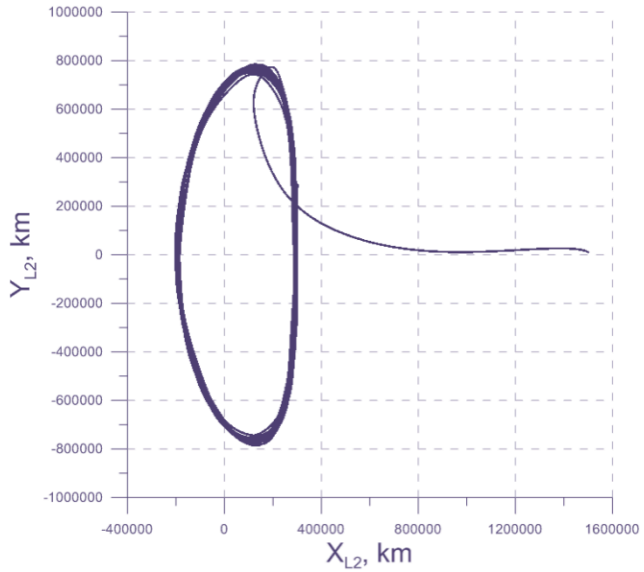
Correction strategy

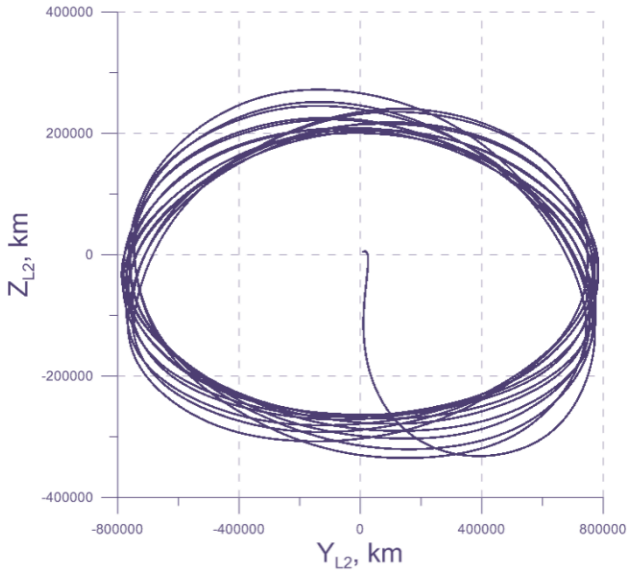
#	Nominal	Reserve	$V_{хар}$, m/s
1	t_0 + 10d	t_0 + 15d	<60
2	t_0 + 20d	t_0 + 25d	<30
3	t_0 + 40d	t_0 + 45d	<10

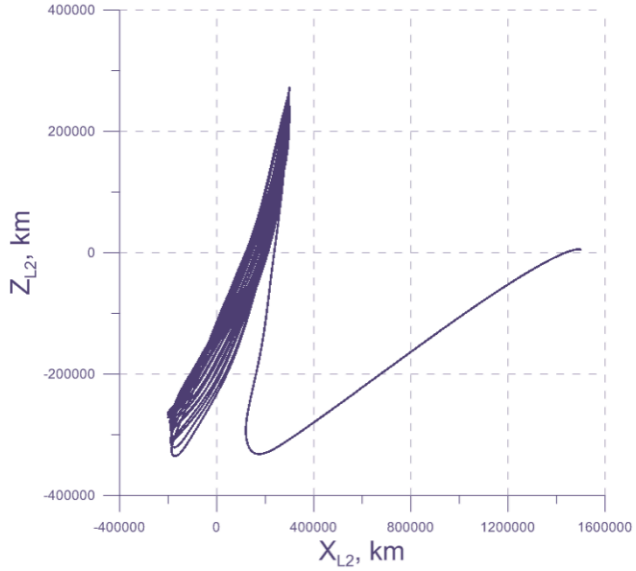
Ground stations visibility (first 100 days)

	Bear Lakes	Ussuriysk
min	4h	7h
max	7,5h	9h
average	5,5h	7,5h

L2 orbit parameters







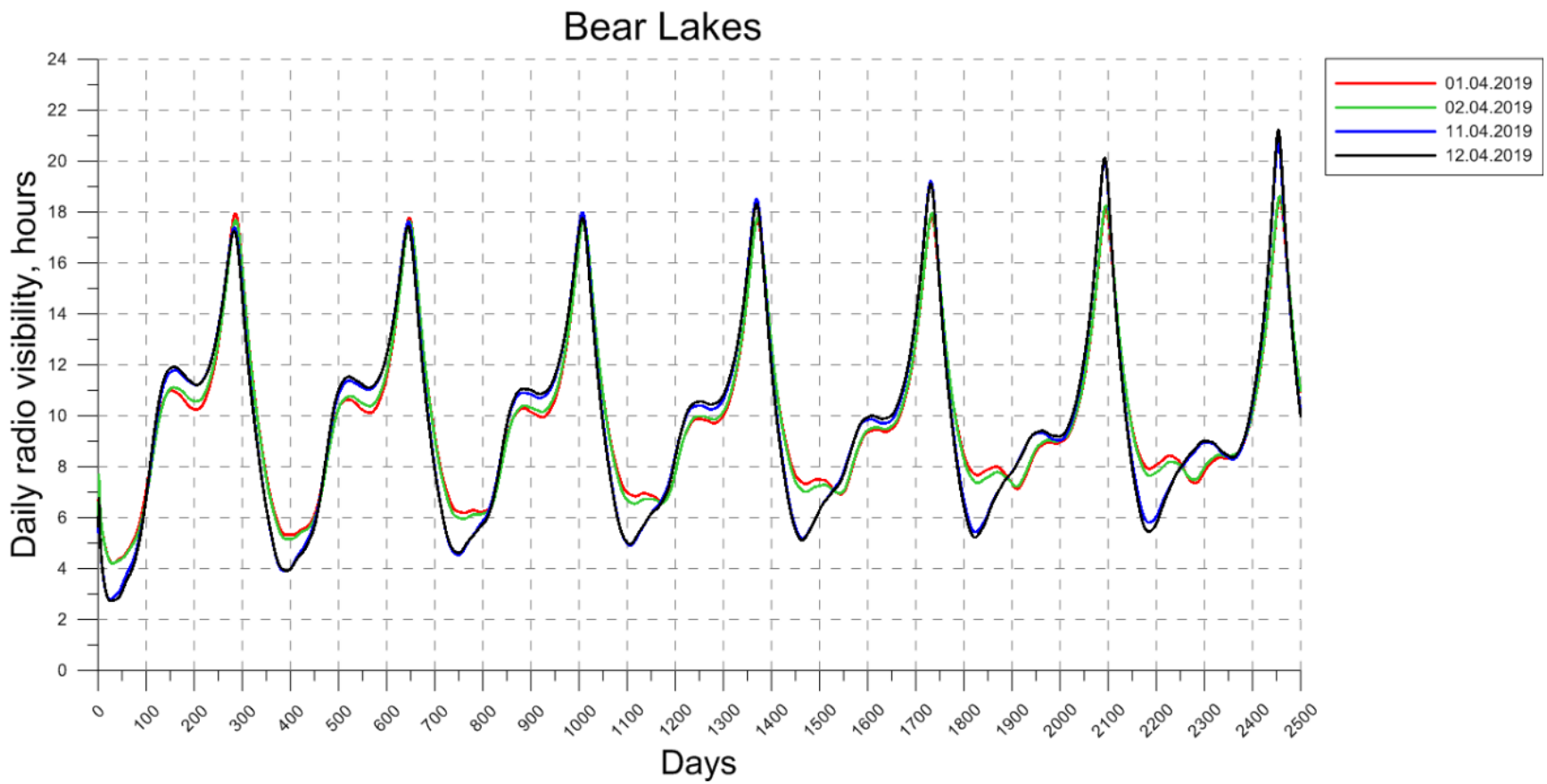
- Sun - SC – Earth angle ≤ 33 deg.;
- orbit support correction frequency 30-90 days (nominal – 50 days);
- $V_{char\ corr.}$ ≤ 15 m/sec./year.

Orientation constrains

Parameter	Value
Min. angle between “SC-Sun” vector and “+X” axis, deg.	70
Max. angle between “SC-Sun” vector and “+X” axis, deg.	165
Max. output angle of the “SC-Sun” vector from XOZ plane, deg.	13
Max. angle between “+X” axis and perpendicular to the ecliptic plane, deg.	30
Min. angle Sun – Ground Station – SC, deg.	10
Min. angle Moon – Ground Station – SC, deg.	5
Max. angle between “SC-Sun” vector and “+Z” axis, deg.	13
Max. angular velocity of reorientation, deg./sec	0,15
Angular acceleration, deg./sec^2	0,0015

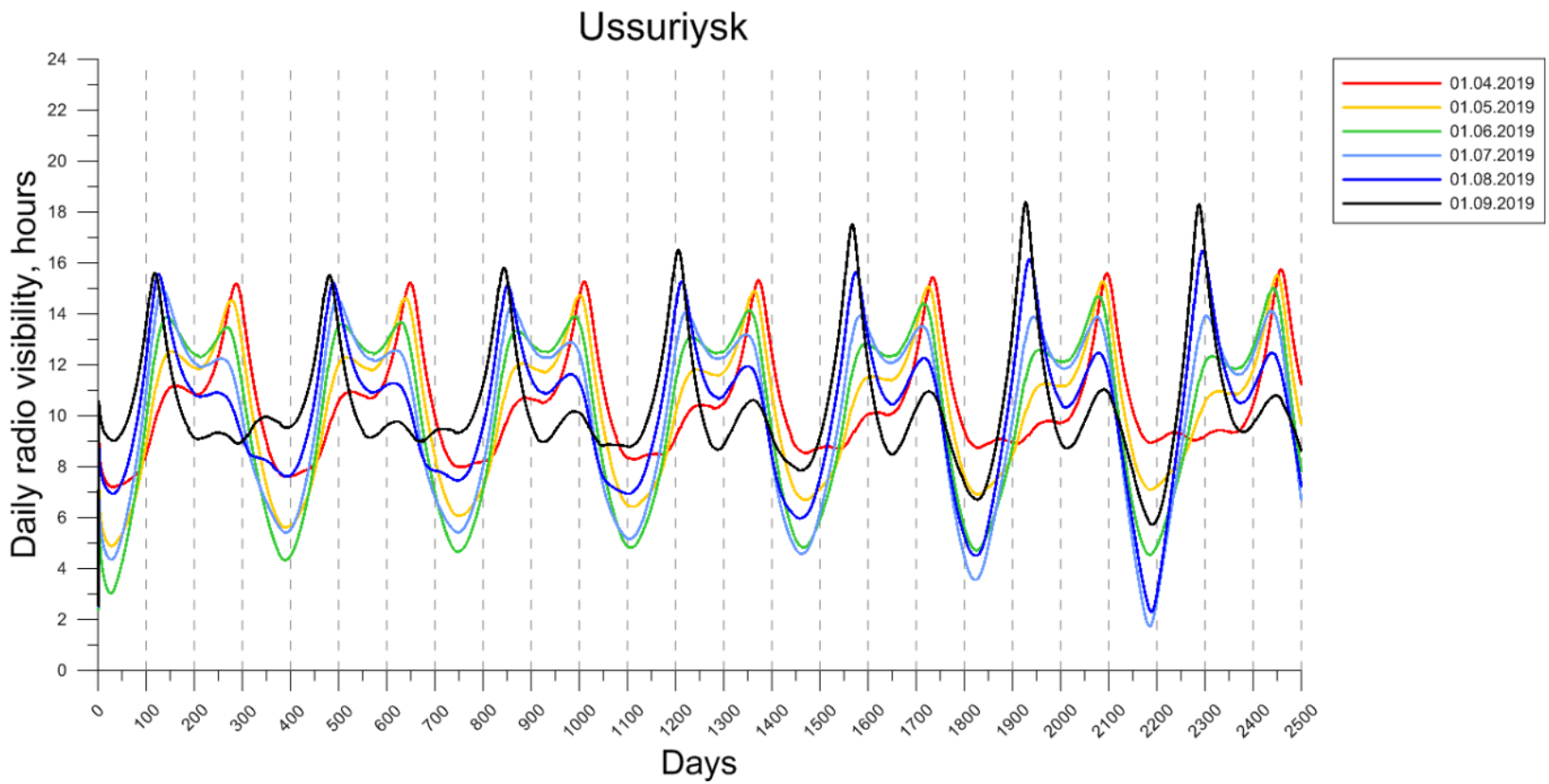
Visibility for large antennas during the lifetime

Bear Lakes



Visibility for large antennas during the lifetime

Ussuriysk



Зоны радиовидимости