

The “Simeiz-Katsively” co-location site of space geodesy techniques: current state and future activity.

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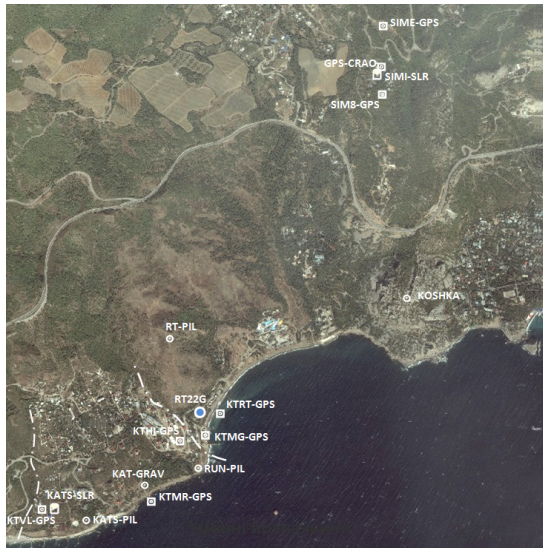
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Two Satellite Laser Range (SLR) stations, two Global Navigation Satellite System (GNSS) stations and Very Long Base Interferometry (VLBI) station are placed at the Simeiz-Katsively co-location site. The activity of these space geodetic techniques in 2010-2012 is presented. Special attention is paid on results of new local tie surveys at this co-location site. We also discuss new challenges for the "Simeiz and Katsively" space geodesy stations.

The co-location site.

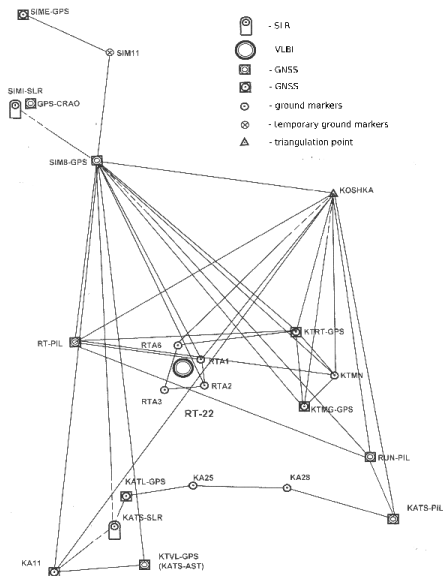


- ⊙ — RT-22,
- ⊞ — SLR stations,
- ⊠ — GNSS stations,
- ⊙ — ground-based markers

Operational compliance issues of the Katzively and the Simeiz SLR stations.

Year	Location	Number of passes			Number of NP		
		LEO	Lageos	HEO	LEO	Lageos	HEO
2010	Katzively	1287	203	146	18183	1563	1079
2010	Simeiz	1105	332	8	14354	2688	44
2011	Katzively	1413	240	210	20156	1961	1455
2011	Simeiz	1108	296	10	14898	2309	75
2012	Katzively	1865	260	339	41194	3336	3946
2012	Simeiz	1007	244	80	11828	1740	488

Set-up of the local survey at the co-location site



The co-location site.



Excenters with respect to position of RT-22G at the epoch 2004.6 (local survey of 1994).

Station number	Station name Station name	ΔX , m	$\sigma \Delta X$, mm	ΔY , m	$\sigma \Delta Y$, mm	ΔZ , m	$\sigma \Delta Z$, mm
12337S008	RT22G	0,0000	1,0	0,0000	2,0	0,0000	0,9
12337S006	KATS-SLR	713,4922	2,3	- 426,8797	1,5	- 335,0690	2,2
12337S003	SIMI-SLR	- 1328,631	0,2	197,4942	2,6	1461,0637	2,4
12337M001	SIME-GPS	- 1484,5990	5,2	155,2269	4,3	1648,7410	6,5
	KTRT-GPS	- 70,1277	-	54,7318	-	- 6,6172	-
	RT-PIL	- 10,7951	-	- 128,3651	-	191,5581	-
	KATS-PIL	650,2011	4,8	-259,1464	17,0	- 407,7329	1,0
	KTMR-GPS	389,2674	1,5	- 41,1734	8,9	- 334,2626	1,9

Note. 1) SIMI-SLR is point of mobile SLR station on which GPS receiver are centered;

2) Root mean square error of points does not include errors of GPS ground markers.