

Comparison of results from VLBI, SLR, and GPS measurements at Key Stone Project observation sites

Yasuhiro Koyama [1], Ryuichi Ichikawa [2], Toshimichi Otsubo [2], Tetsuro Kondo [3], Jun Amagai [4], Masato Furuya [5], Kouichi Sebata [6], Hiroo Kunimori [2]

[1] Kashima, CRL, [2] CRL, [3] KSRC, CRL, [4] KSP, CRL, [5] CRL, MPT., [6] KSP Team ., CRL

<http://www.crl.go.jp/ka/radioastro/index.html>

Communications Research Laboratory has established four space geodetic observation sites in and around Tokyo, Japan under the Key Stone Project. At each observation site, VLBI, SLR and GPS observation facilities have been constructed. By using the vectors between each technique obtained by ground survey measurements, site coordinates determined from VLBI, SLR, and GPS were compared. The results showed good agreements within about 3cm, but there was a systematic common difference between VLBI and GPS for all of four sites. Comparisons between VLBI and GPS site velocities also showed a systematic difference and a possible inconsistency in the global terrestrial reference frame is suggested.

Communications Research Laboratory has established four space geodetic observation sites in and around Tokyo, Japan under the Key Stone Project. At each observation site, VLBI, SLR and GPS observation facilities have been constructed. By using the vectors between each technique obtained by ground survey measurements, site coordinates determined from VLBI, SLR, and GPS were compared. The results showed good agreements within about 3cm, but there was a systematic common difference between VLBI and GPS for all of four sites. Comparisons between VLBI and GPS site velocities also showed a systematic difference and a possible inconsistency in the global terrestrial reference frame is suggested.