LOCAL TIES TO DETERMINE THE CO-LOCATION VECTOR FROM THE SLR TELESCOPE AND GPS ANTENNA IN SAN JUAN, ARGENTINA

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Introduction: We presents the theoretical and practical fundamentals employed to conjointly co-locate the Chinese Satellite Laser Ranging ILRS 7406 telescope and the antenna of the permanent station GPS, both installed at the site of the Félix Aguilar Astronomical Observatory in San Juan, Argentina (OAFA) . The principal objective was to establish a local ties geodesic grid with support points distributed about both instruments and to determine their rectangular geodesic coordinates and the vector that unites their geometric centers[1].

This is the first time that a study of this nature has been performed in Argentina and its goals have been met. The precision achieved in the determination of the instrumental optical center and the measurement uncertainties are within the maximum tolerance errors of 3 millimeters stipulated by the IERS for works like this one[2]. The values of the standard deviations made in the geodetic network, shows that the design, measurement and adjustment of the network have been a very satisfying job.

References:

[1] Altamini Z. (2003) ITRF and Co-location Sites. ENSG / LAREG, France. IERS Tech. Notes Nº 33

[2] Thaller D. et al. (2011) Combination of GNSS and SLR observations using satellite co-locations