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The role of the GGOS network in the definition of high precision geodynamic parameters

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The Space Geodesy Centre of the Italian Space Agency is one of the the few core stations of the GGOS (Global Geodetic Oberving System) ground network. A "core station"hosts all the three main space geodetic techniques, namely Satellite Laser Ranging (SLR), Very Long Baseline Interferometry (VLBI) and Global Navigation Satellite Systems (GNSS), precisely co-located in a common area.
The GGOS mission is the maintenance and the improvement of the International Terrestrial Reference Frame (ITRF) and its connection with the International Celestial Reference Frame (ICRF): each observing technique has its strengths and weaknesses with respect to the so-called three pillars of geodesy, namely geokinematics, earth gravity field and earth rotation.
Satellite Laser Ranging is particularly efficient in measuring the low-order coefficients of the geopotential and the instantaneous position of the Earth Center of Mass, which is the origin of the Terrestrial Reference Frame.

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