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THE COPERNICUS SENTINEL-3 MISSION

The Sentinel-3 mission is part of Copernicus project, the European Programme for the establishment of European capacity for Earth observation. The mission is jointly operated by ESA and EUMETSAT to deliver operational ocean and land observation services. Sentinel-3A was launched on 16 February 2016 and it carries a GPS receiver, a Laser Retro Reflector (LRR), and a DORIS receiver for Precise Orbit Determination (POD) in support of the altimetry mission. Observations from all three techniques are equally important to fulfil the stringent orbit accuracy requirements of 2-3 cm in radial direction. Satellite Laser Ranging (SLR) is a key technique to calibrate the GPS and DORIS instrument and the overall POD processing chain. With the demanding accuracies of the mission, SLR is needed for the entire mission life-time to perform periodic checks of the biases that could exist between different tracking techniques. The Copernicus POD Service, a GMV-led consortium being in charge of generating precise orbital products for Sentinel-1, -2, and -3, is in charge of generating the CPF orbit files to the ILRS community and is a main user of the SLR measurements to compute the precise orbital products of Sentinel-3. The status of the Sentinel-3 mission and the quality of its orbit products is presented in particular focussing on the helpful contributions from ILRS. A detailed assessment of the quality and the amount of the SLR data is done for the commissioning phase as well as for the first months of the operational phase. Finally the future needs of SLR data will be presented.