

The ILRS Support to the Copernicus Sentinel-3 & -6 Missions

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The Copernicus Precise Orbit Determination (CPOD) Service, part of the ground segment of the Copernicus programme, is in charge of computing the precise orbits of Sentinel-1, -2, -3 and -6 missions. The Sentinel-3 and -6 missions, being both satellite altimetry missions, incorporate Laser Retro Reflector (LRR) to support the Precise Orbit Determination (POD) of these missions.

The ILRS has an important role within the POD calibration of these two missions by tracking them with laser and providing high-quality observations to the scientific community. The observations are used to assess the quality of the microwave-based determined orbits (i.e., computed with GNSS and/or DORIS), to investigate biases in the GNSS and DORIS sensors, or to determine orbits as well.

The CPOD Service is in charge of generating the CPF files of Sentinel-3 mission (EUMETSAT generates those files for Sentinel-6) and make use of the Satellite Laser Ranging (SLR) observations to quality control purposes, on both routine operations and in post-processing activities.

It will be presented the support provided by the ILRS to these missions through the routine tracking, and the use of the SLR data within the CPOD Service. Among other things, it will be showed the number of passes per ILRS station, the accuracy of the S-3 CPF predictions, the biases found per station, and the SLR residuals of the Sentinel's orbits.