

## 2015 ILRS Technical Workshop

### 1.3 **GLONASS-M Satellite Geometry and Attitude Models for Precise GNSS Data Processing**

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GLONASS constellation is based on Glonass-M satellite and will continue to keep such status up to end of this decade. The geometry and attitude model of the satellites are critical information for the processing of data from GLONASS constellation in precise orbit and clock determination and precise point positioning (PPP) applications. The presentation gives inputs on the main parameters for Glonass-M satellite, which are used at the data processing and monitoring centers: spacecraft body frame, and labeling of the principal spacecraft axes; spacecraft body geometry and dimensions; position of the on-board antenna phase center relative to the satellite center of mass; laser retroreflector array coordinates. The introduced data are so called 'design parameters' to be used as a priori data and must be a subject of further refinement during GNSS and SLR data processing and ground calibration. The satellite attitude model obtained based on long-term data processing of the global network. This model properly suites to the actual satellite behavior to be applied for precise calculations. The introduced data shall be also updated when a satellite structure changed.