Status of the GOP AC

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Solutions - current status

- **Solution for ITRF2020 update GOPwd69**

- **ALSO recent operational solution**

- **GOPwd69 differs from previous GOPwd68 in gravity field model**

  - ➢ **GOPwd68   EIGEN RL04**

  - ➢ **GOPwd69   GRGS RL05**

- **2021.0-2024.0 delivered**

- **All the available satellites except SWOT**

Other activities

- **PhD Student from IIT Kanpur (India) Vikash Kumar DORIS training stay at GOP.**
  - ➢ **Twice 3 months stay (November 2023 – January 2024) and (April-July 2024)**

- **LOD experiment – LOD estimation from DORIS data, with various orbit settings (cross track harmonics constraints)**

- **Project „ *Breaking the DORIS System Accuracy Limitations Caused by Clocks* "**

VUGTK(GOP)-TUM project

Proposed Sentinel project with TUM Munich (prof. Urs Hugentobler)

- **Confirmed by both agencies**
- Title: ***Breaking the DORIS System Accuracy Limitations Caused by Clocks***
- GACR/DFG (joint program of Czech and German national grant agencies)
- Aprox. autumn 2024- autumn 2027
- DORIS USO observation by GNSS (continue previous work)
- Stochastic USO model
- DORIS phase processing experiment
- Sentinel-3 tandem phase
- Simulation of DORIS system with all clocks linked to GNSS
- Genesis related simulations

LOD experiment

- **LOD estimation 2015.0-2024.0 from DORIS**

- **Multi-satellite and single satellite solutions**

- **All satellites equipped with DGXX receiver except SWOT**

- **RINEX data only**

- **Solutions with different cross-track harmonic constraints**

- **LOD correlates with cross track**

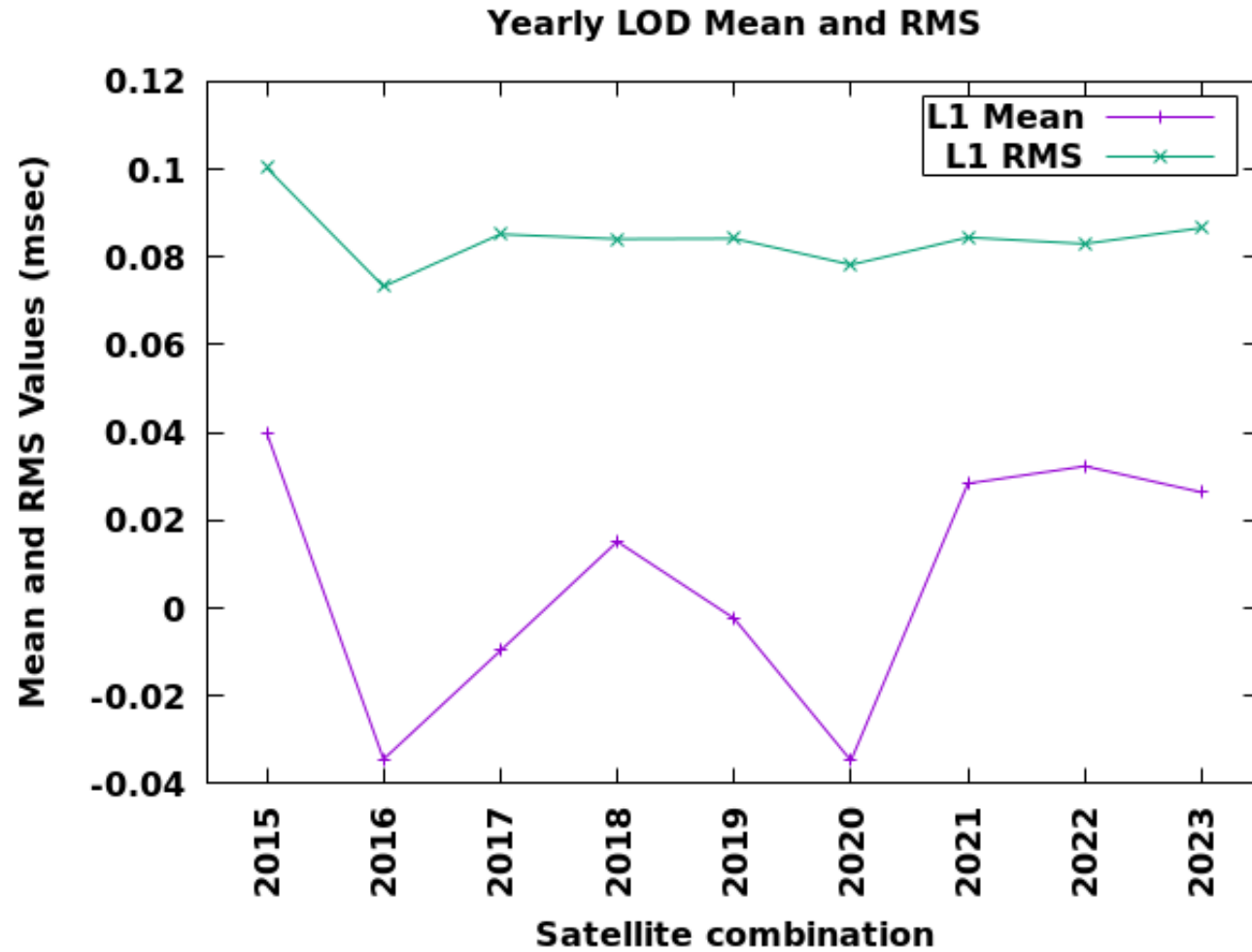- **Following previous work** *Štěpánek, P.; Hugentobler, U.; Buday, M.; Filler, V., 2018. Estimation of the Length of Day (LOD) from DORIS observations, ADVANCES IN SPACE RESEARCH*

LOD estimation

- **Comparison to IERS C04 model**
- **Total Mean 0.007 msec**
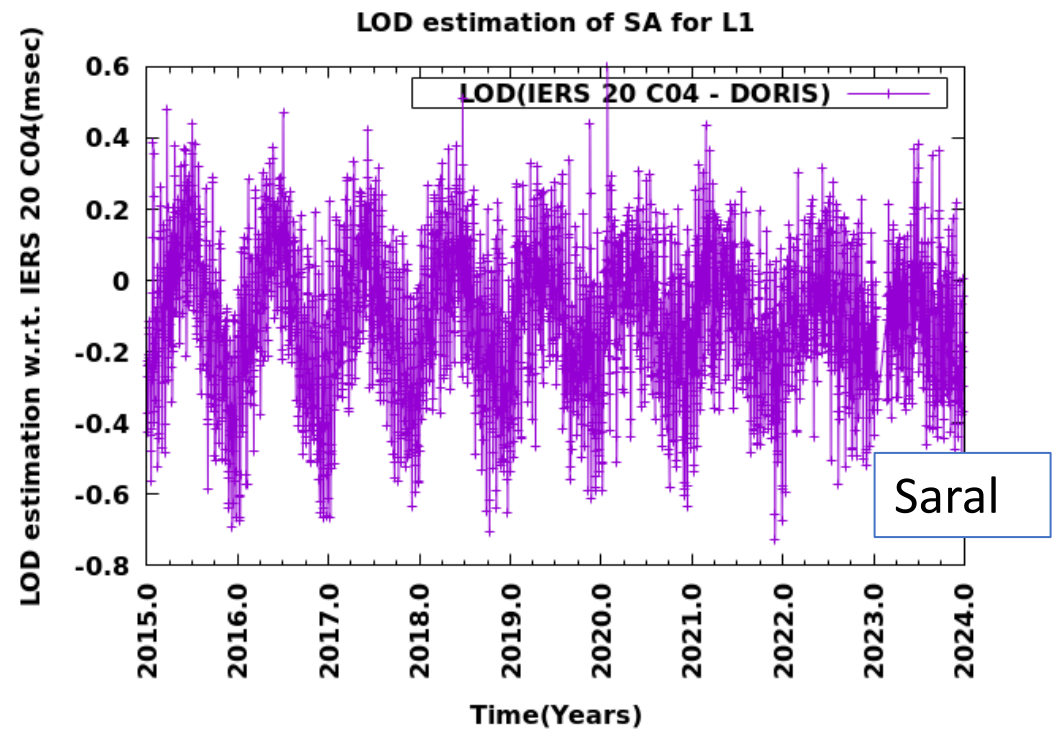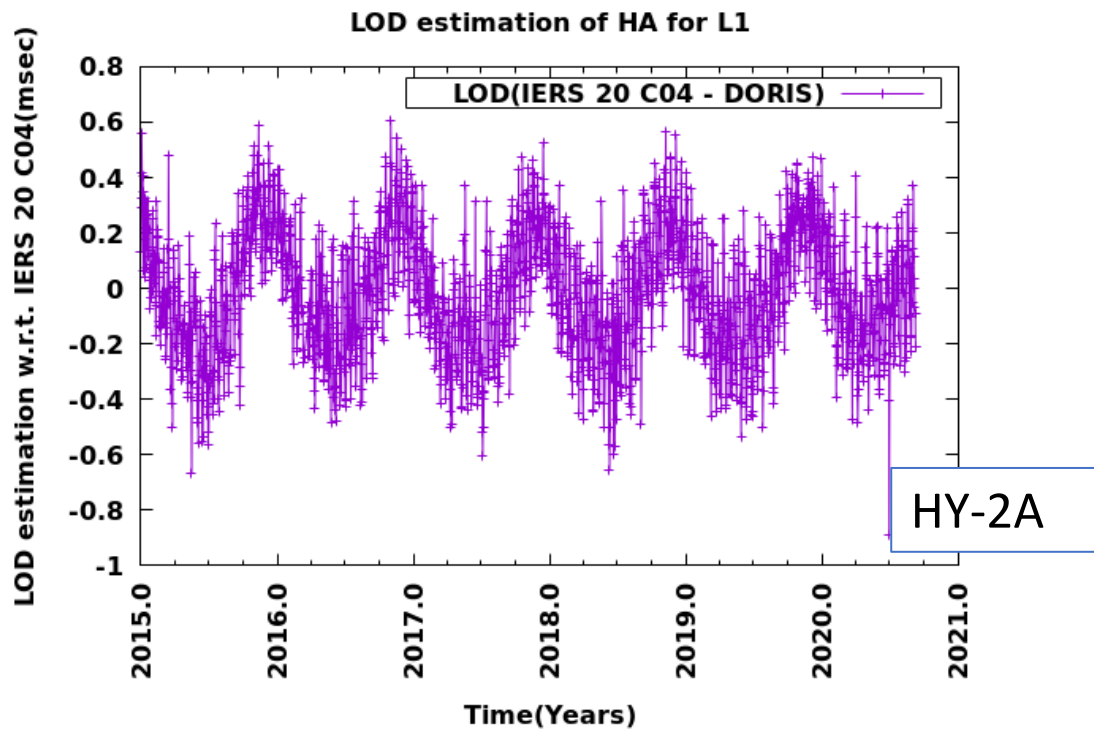- **Annual Mean from -0.04 to 0.04 msec**
- **RMS 0.089 msec**

LOD estimation of satellite combination for L1

Yearly LOD Mean and RMS
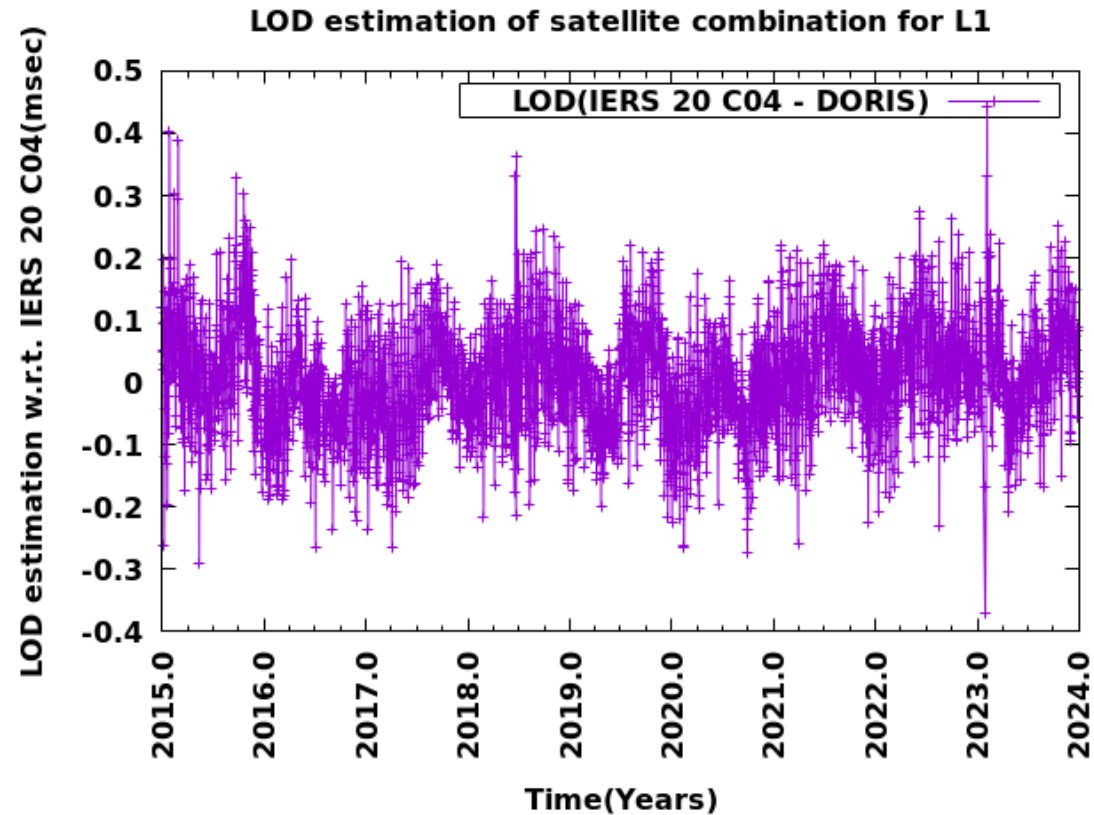
LOD estimation

- **Satellite specific bias and signal**
- **Strong annual signal for HY-2A and Saral**

Thanks for your attention !