

Innovations in the DORIS data processing at IDS analysis centre GOP

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Geodetic Observatory Pecný (GOP) is one of the integrated analysis centres of the International DORIS Service (IDS). GOP participated in the DORIS data processing campaign for the ITRF 2014 development and a new data processing strategy for ITRF 2020 is in preparation. In comparison to the ITRF 2014 data reprocessing, we apply a number of improvements either coming from IDS or from our own investigations. The time-series of the scale derived from DORIS solution were not fully consistent and therefore DORIS did not participate on the ITRF 2014 scale definition. We found the causes of this problem and performed a strategy to fix it. In our older solutions, we did not apply a data elevation dependent weighting and there was not consistency between various IDS analysis centres in this factor of processing. According to our recent testing, the data weighting is profitable and improves the weekly station repeatability as well as the Earth rotation parameters estimation. Another important improvement is the evolution of the data processing tools to be able to process the data in RINEX format, including the time tagging from measured pseudoranges. Another important part of the processing is the improved strategy of the South Atlantic Anomaly effect compensation.