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The IDS Contribution to the ITRF2020: Preliminary results

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To provide its contribution to the next realization of the International Terrestrial Reference Frame (ITRF2020), the International DORIS Service (IDS) plans to complete the re-analysis of the DORIS data from 1993.0 to 2021.0 by early 2021. In preparation for the development of its contribution, the IDS completed several pilot studies for a better modelling of the solar radiation pressure, to mitigate the effect of the South Atlantic Anomaly on the DORIS receivers, to improve the stability of the DORIS scale. The complete re-analysis is divided in several parts depending on the time evolution of the DORIS constellation and on modelling issues.

IDS Analysis Center contributions for first time period, which corresponds to the observations from the DORIS satellites with the first generation of the DORIS receivers: 1993.0-2002.3 (start of Envisat – first DORIS 2G receiver), are expected by the end of the first quarter of 2020.

After presentation of the status of the main guidelines of the DORIS contribution to the ITRF2020, we will analyze the first time period of the DORIS contribution to ITRF2020 in terms of (1) geocenter and scale solutions; (2) station positions and week-to-week repeatability; (3) EOPs. In addition, we will compare this new DORIS solution with the IDS contribution to ITRF2014. Then, we will present updated results on the latest IDS pilot studies.