



Analysis of the signal content in the coordinate time series of the DORIS stations

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In the context of ITRF2014, the Combination Center of the International DORIS Service (IDS) delivered to the IERS weekly SINEX files containing DORIS stations positions from January 1993 to December 2014. The IDS series is the combination of multi-satellite weekly SINEX solutions from the six IDS Analysis Centers. Since ITRF2014, all the series were extended to December 2015 and the associated cumulative DORIS position and velocity solutions were computed by stacking all the weekly solutions.

The first objective of this study is to analyze the signal content of the station position residuals (difference between the coordinate time series and mean velocities) of the 71 DORIS sites from the seven (6 ACs + 1 CC) solutions. In addition to annual and semi-annual signals for which amplitudes will be compared to displacements due to atmosphere, hydrology and non-tidal ocean loading, draconitic periods of the DORIS satellites will be of interest. The second purpose is to evaluate from the combined series the positioning performances of the consolidated C DORIS Starec antenna model with respect to the original Starec model.