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New strategy for reprocessing a global GPS network at the ULR TIGA analysis centre

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University of La Rochelle (ULR) Analysis Centre is part of the IGS-Pilot Project TIGA (Tide Gauge Benchmark Monitoring). It aims to estimate long term, seasonal, and interannual vertical deformation of the GLOSS network tide gauges from collocated continuous GPS stations. These ground motions are then used to correct relative sea level rise as measured by the tide gauges. Recent progress in the GPS modelling used in the scientific software GAMIT motivates ULR for a global reprocessing of all the TIGA GPS data. In this prospect, we carried out some sensitivity tests involving models for phase centre variations (absolutes or relatives), mapping functions (VMF1 or GMF), different combination softwares (GLOBK or CATREF), and two approaches to combine the global network (regional sub-networks or global sub-networks). We present here the results of these tests on the reference frame definition.