



New precise orbits of altimetry satellites GEOSAT, ERS-1, ERS-2 and TOPEX/Poseidon

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Investigations of sea level variations can profit from using orbits of altimetry satellites derived in the same, well defined reference frame for all satellites and using common, most precise models and standards. Precise orbits of altimetry satellites (GEOSAT, ERS-1, ERS-2 and TOPEX/Poseidon) have been derived in the ITRF2000 reference frame using most recent EIGEN-GRACE geopotential, ocean tide and other models and covering in total a time span of twenty years (1985-2005). Additionally, the coordinates and velocities of SLR, DORIS, PRARE and Doppler stations have been estimated simultaneously using observations of four satellites. The contribution shows improvements in the quality of the satellite orbits compared to previous orbit determinations using the results of single crossover analysis. A comparison of our solution for positions and velocities of SLR and DORIS stations with respect to the ITRF2000 reference frame is also presented.