



Intercomparing EOPs from ITRF2008, DTRF2008, and JTRF2008

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ITRF2005 from IGN and DTRF2005 from DGFI were the first terrestrial reference frames (TRFs) to be realized using time series of both space-geodetic station positions and Earth orientation parameters. Using time series of station positions leads to a robust frame determination by, in principle, allowing non-linear and discontinuous station motions to be corrected prior to frame determination. Using Earth orientation parameters helps tie the technique-specific frames together and yields a combined EOP series that is automatically consistent with the combined reference frame. By comparing the resulting ITRF2005 combined EOP series to other available combined EOP series and to global geophysical fluid models, it was shown that the ITRF2005 EOP series is at least as accurate, and probably more accurate, than the other available series.

A Kalman filter-based approach to determining combined TRFs has been recently developed at JPL. The resulting software package, KALREF (KALman filter for REFerence frame determination), has been used to determine JTRF2008, an ITRF2008-like terrestrial reference frame from measurements of both time-dependent station positions and Earth orientation parameters. JTRF2008 has been shown previously to compare favorably with ITRF2008. Here, the EOP series from JTRF2008 is compared to those from ITRF2008 and DTRF2008 as well as to other combined EOP series and to models of atmospheric, oceanic, and hydrologic excitation. The results of these comparisons will be presented.