



## **Long-term stability of the ITRF origin and scale**

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Contrary to the conventional definition of its orientation, the physical properties of the ITRF origin and scale have their importance given their geophysical implications. From the ITRF2005 experience we learned that using time series of station positions as input data is an efficient and appropriate means to evaluate the temporal behavior not only of the stations, but also of the frame physical parameters as the origin and the scale. Analogously to a station having discontinuities that cannot be used as a frame-defining core station, if an intrinsic temporal discontinuity is found for the origin or the scale of a given solution, we should avoid using that parameter/ solution in the ITRF datum definition. Otherwise global or local distortions will be introduced that consequently disrupt the long-term stability of the combined ITRF origin and scale. Adding more than one year of data to those used for the ITRF2005 generation allows to monitor SLR scale and origin and VLBI scale stability over time. Results of these additional and continuous analysis will be presented and used to guide our conclusions on how to ensure the long-term stability of the ITRF origin and scale.