Combination and stacking of the IGS repro2 terrestrial frames

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Eight IGS Analysis Centers (ACs) have completed a second reanalysis campaign (repro2) of the GNSS data collected by the IGS global tracking network back to 1994, using the latest available models and methodology. The AC repro2 contributions comprise in particular daily terrestrial frame solutions including station coordinates and Earth orientation parameters. The AC daily terrestrial frame solutions are currently being combined by the IGS Reference Frame Working Group. The IGS daily combined solutions will form the IGS contribution to the next release of the International Terrestrial Reference Frame (ITRF2014).

We will first present the methodology used for the IGS repro2 terrestrial frame combinations, as well as results from inter-AC comparisons of global frame parameters (scale, origin), individual station position time series and Earth orientation parameters.

We will then present the stacking of the repro2 daily combined solutions into the long-term GNSS terrestrial frame that will enter the ITRF2014 computation. Our focus will be on the methodological advances made since the ITRF2008 computation (detection of jumps in station position time series; modelling of non-linear station motions).