GPS Data Analysis of the 2013 Mw 7.5 Southeastern Alaska Earthquake

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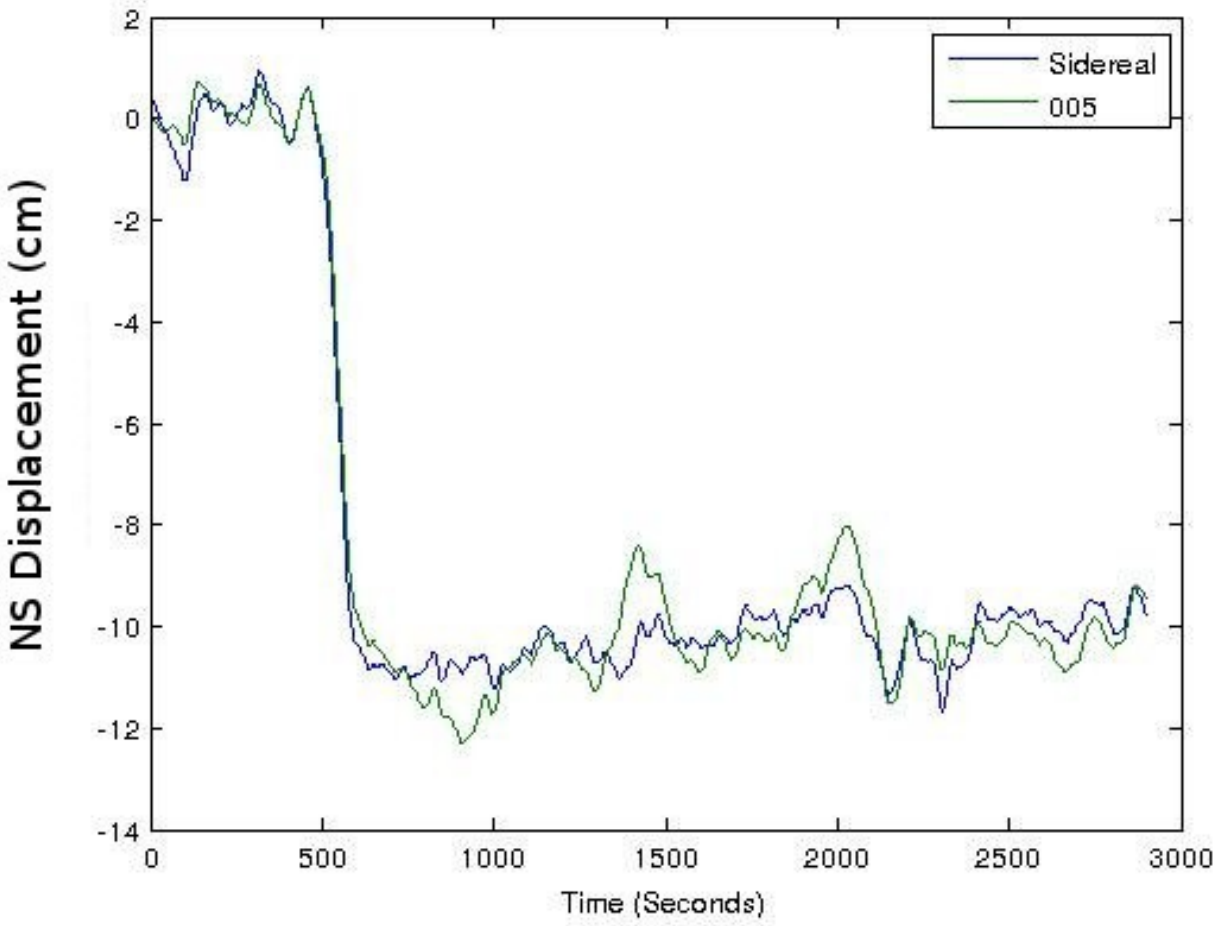

In this study, I analyzed the GPS data recorded during the 2013 Mw 7.5 Southeastern Alaska Earthquake. This earthquake occurred at 8:58:19 UTC, January 05 2013, 113 km WSW of Craig, in the southeastern Alaska. It occurred on the Queen Charlotte fault system. The strike-slip fault marks the boundary between the Pacific crustal plate and the North American Plate. 1Hz GPS data from 18 PBO stations that are within 1000 km distance from the epicenter are used. The data was processed using GIPSY/OASIS-II software package. I used the Precise Point Positioning with Single Receiver Phase Ambiguity resolution. The figure shows the North-South component of the kinematic solution from station AB48. The co-seismic horizontal displacement can be easily identified. In order to build a filter to remove the sidereal effect, the data from past four days before earthquake are used. Four days of data have high correlation for a sidereal day and clearly showed the sidereal effect. The figure shows the comparison of the time series before and after sidereal filter.