A global database of strong-motion displacement GNSS recordings and an example application to PGD scaling

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Displacement waveforms derived from Global Navigation Satellite System (GNSS) data have become more commonly used by seismologists in the past 15 yrs. Unlike strong-motion accelerometer recordings that are affected by baseline offsets during very strong shaking, GNSS data record displacement with fidelity down to 0 Hz. Unfortunately, fully processed GNSS waveform data are still scarce because of limited public availability and the highly technical nature of GNSS processing. In an effort to further the use and adoption of high-rate (HR) GNSS for earthquake seismology, ground-motion studies, and structural monitoring applications, we describe and make available a database of fully curated HR-GNSS displacement waveforms for significant earthquakes. We include data from HR-GNSS networks at near-source to regional distances (1?1000 km) for 29

earthquakes between M w 6.0 and 9.0 worldwide. As a demonstration of the utility of this