

PALSAR InSAR Observation of Crustal Deformation due to the 2007 Chuetsu-Oki Earthquake (M6.8)

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Based on GEONET GPS data, Sagiya *et al.* [2000] found a broad area from Niigata to the north to Kobe to the south, where east-west compression is more pronounced than other areas in Japan, and proposed the Niigata-Kobe-Tectonic Zone (NKTZ). Although its origin and implications are currently in debate, the NKTZ seems to be geographically well-correlated with historical large earthquakes over the past centuries [Sagiya 2007]. Indeed, a strong earthquake of magnitude (M) 6.8 took place on July 16, 2007 off the coast of Chuetsu district, Niigata, Japan, which is literally inside the NKTZ. Although the NKTZ underwent the 2004 Chuetsu earthquake (M 6.8) as well, the 2007 Chuetsu-Oki earthquake provides us with a unique opportunity to explore physical relationship(s) of the earthquake and NKTZ, using InSAR data. Here we show PALSAR InSAR observation results associated with the 2007 Chuetsu-Oki earthquake, and discuss their implications and potential problems.