

SCG063-P07

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Postseismic deformation due to the 2008 Iwate-Miyagi Nairiku earthquake: follow-up study

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At 2009 JPGU meeting, we have presented the post-seismic deformation signals associated with the 2008 Iwate-Miyagi Nairiku Earthquake (2008 June 14 JST, M6.8) detected by interferometric synthetic aperture radar (InSAR) analysis using ALOS/PALSAR data. Due to an orbital change of ALOS, however, only a few InSAR images with small perpendicular base-line were available at that time, which made our conclusion less accurate. Fortunately, ALOS changed its orbit again and much short base-line InSAR pairs became available. By adding those better InSAR images, we have confirmed our previous conclusion and point out more detailed characteristics of the post-seismic deformation.

As we have already presented, the post-seismic deformation signal is characterized by length changes in radar line-of-sight (LOS) to the east of Mt. Kurikoma (KRK), to the south of KRK, around Mt. Amadamori (AMM), and to the east of Mt. Kunimiyama (KNM). Further InSAR analysis illustrated time-dependent nature of the post-seismic deformation. Also, we found a clear correspondence of the coseismic surface deformation derived from pixel offset technique (Takada et al., 2009) to the post-seismic surface deformation, with which we can delineate coseismic fault shape. Through this study, we demonstrated that ALOS/PALSAR has strong ability to detect surface deformation lurking in such a vast mountainous area.

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Keywords: 2008 Iwate-Miyagi Nairiku Earthquake, Postseismic deformation, InSAR, Time evolution