
[EJ] Evening Poster | S (Solid Earth Sciences) | S-TT Technology & Techniques

[S-TT48]Synthetic Aperture Radar

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ALOS-2 and Sentinel-1, which have highly enhanced capacity compared to previous SAR satellites, were launched in 2014, and their utilization has been widely expanding as the data has accumulated. Now we are facing a new and abundant era of the satellite SAR, along with a worldwide trend to an open and free data policy of satellite data, and with next-generation advanced SAR satellite plans by several countries. In addition, SAR technologies with other platforms, such as ground-based SAR with high temporal resolution and UAV (Unmanned Aerial Vehicle) SAR with flexible operability, have also been developed and used for various targets. These facts indicate that the SAR utilization data has become widespread in both basic researches (e.g., earth science) and diverse applications (e.g., disaster prevention and forest monitoring). In this session, we would like to share a broad knowledge and information regarding SAR. A wide range of research topics from basic researches to advanced applications will be welcomed.

[STT48-P03]A Catalog of ALOS-2 SAR Interferograms Associated with Global Large Earthquakes in 2014-2016

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I produced SAR interferograms using ALOS-2 data to detect coseismic deformations associated with large (magnitude ≥ 6) and shallow onshore earthquakes from August 2014 to December 2016 all over the world. Substantially coherent interferograms were produced for all 30 targeted seismic events, even in tropical areas, where C-band Sentinel-1 interferometry is unpromising due to a severe decorrelation problem. High coherence of the ALOS-2 InSAR also greatly helps to identification of surface ruptures. In this study, surface ruptures were successfully identified at least in seven events. Moreover, left-looking observations of ALOS-2 enable to retrieve three dimensional deformation with high precision, including the north-south component, although the left-looking observations are basically conducted only in Japan area. In the case of the 2016 central Tottori earthquake, Japan, clear four-quadrant three dimensional deformation pattern was retrieved, implying that almost pure sinistral slip occurred.