

## Mapping of Deformation of SW Japan using PALSAR images

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In order to detect interseismic deformation in SW Japan with a high spatial resolution, we have been conducting SAR interferometry and stacking analysis of PALSAR images. So far, we reported the results for eastern Shikoku and Kii peninsula. We are going to report results for other areas of Shikoku and Kyushu as well as technical issues we have found during these processes.

We used images of the ascending paths 417 - 420, which were acquired during the mid 2006 to 2010. In total there are more than 20 acquisitions for each path. Since artificial changes possibly due to ionospheric disturbances were sometimes observed, we stacked images other than these.

The variation in stacked interferogram of the path 419 is as large as that simulated from GPS velocities, but we recognize a different trend than the stacking interferogram for the path 417. Furthermore, fringes in the Chugoku districts is inconsistent with GPS. We find significant NW-SE trends in azimuth offsets for the pairs of images with or without day of large GPS-TEC variation. It is worth noting that the wavelength of variation in azimuth offset is much shorter than that of GPS-TEC. Therefore it may be difficult to correct interferograms with GPS-TEC.

On the other hand, it is difficult to detect interseismic deformation from the descending images of Shikoku, since number of observation is less than that of ascending and we find ionospheric disturbances even for descending images. Fortunately, we could obtain consistent result with the GPS velocity field in eastern Kyushu, where there are many observations enough to apply the above method.

On the basis of the above results, we can conclude that it is essential to ensure enough number of observations and proper correction of ionospheric disturbances. Azimuth offsets may be useful for the evaluation of ionospheric disturbances,

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