Analysis of InSAR Image of Miura Peninsula Earthquake Faults Main Part

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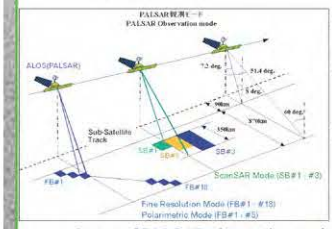
Abstract

The long-term consecutive differential interferometric synthetic aperture radar (SAR) technique have used to measure the volume change during land deformation. This technique was used to investigate active faults in the Miura Peninsula, Kanagawa Prefecture, by assessing the data from two Japanese L-band spaceborne SARs (Japanese Earth Resources Satellite 1 SAR and Advanced Land Observation Satellite Phased Array type L-band Synthetic Aperture Radar) during the periods in 2007–2009. Miura Peninsula faults is active faults that develop in the surrounding waters and mid-southern part of the Miura Peninsula. Possibility of earthquake faults Miura Peninsula main part is as follows. Scale of earthquake or more about M6.7, Within 30 years, earthquake occurrence probability is 0%~ 3%, 6-7 century latest activity time. This study have observation to changes in the landscape by using a satellite photos. And to predict the occurrence of earthquake faults Miura main part. I study a range of active faults and the Miura Peninsula faults main section area future.

Experimental Setup

Phased Array type L-band Synthetic Aperture Rader (PALSAR)
Fig.1 artistic images.(Taken from http://www.eroc.jaxa.jp) (http:///www.jaros.or.jp)



- Off-nadir angleth ; 8-60 degree
- Frequency ; 1270 MHz (L-band)
- Polarization ; HH or VV
- Swath width ; 40-70 km

Image of PALSAR observation mode.

Fig. 3. Photograph of Umiu observatory inMiura Peninsula (Ref. Kanagawa Prefectural government HP)

By examining the Miura Peninsula faults main part, we are expecting to see a change of scenery.

Results

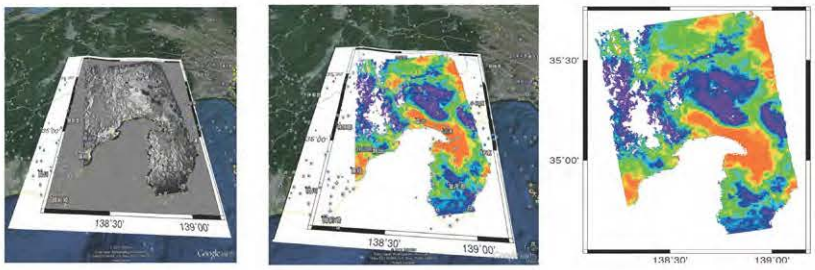


Fig. 4. PALSAR data (in 2007)

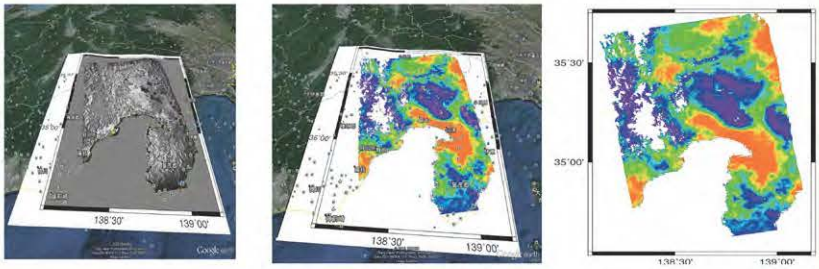


Fig.5. PALSAR data (in2008)

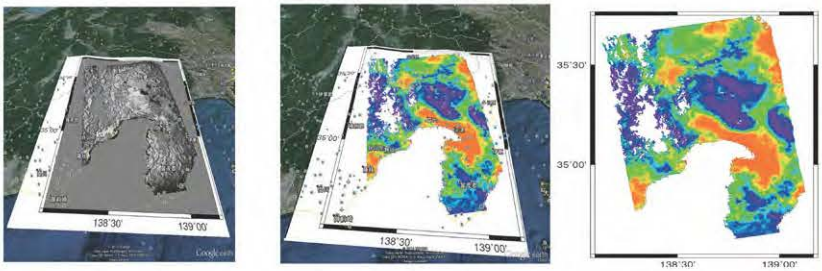


Fig.6. PALSAR data (in2009)

By comparing the satellite image data and the current image of the original, it can be seen that the scene has changed significantly

Conclusion

In this study, we have analyzed the image data transmitted from the satellite by using your PC. Further research have to obtain the satellite data in quick succession in the long term, the observation is continued.