PALSAR SCANSAR-SCANSAR Interferometry

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Abstract

PALSAR provides STRIP and SCANSAR operation modes for imaging. It has been demonstrating the high performance of the land observation using the imaging function and the interferometric capability. Interferometric function of the strip-strip modes has been well evaluated and it confirmed that the PALSAR interferometry provides the high coherence for the land covered by the vegetation while the disadvantage of the strip-InSAR is the imaging swath of only 70km. Recently, the earthquake becomes larger and larger as seen from that the Peru earthquake of Aug 17 has Magnitude of 8.0, the Solomon earthquake as M.8.1, and the Sumatra-west earthquake as M. 8.2, and thus the wide imaging swath is absolutely required. SCANSAR-SCANSAR interferometry is the only opportunity to monitor these types of the earthquake and the related surface deformation. The difficulty of the PALSAR SCANSAR-SCANSAR interferometry are that the synchronization of the signal burst in master and slave are not programmed and the interferometric processing of the two image data are very complex. Using the PALSAR data observed over the images acquired over the Hokkaido, Japan, and the experimental data evaluation has been conducted. The PALSAR first SCANSAR SCANSAR interferometry is being generated. We are now developing the algorithm for this purpose. We will report the current status of the processing and the results.