

Public Abstract

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Title:**Polarimetric Radar Processing of AIRSAR Imagery from Los Angeles Basin Region**

Extracting useful information and intelligence from polarimetric interferometric synthetic aperture radar (PolInSAR) data involves a variety of highly sophisticated processing methods. To aid in the advancement of efficient PolInSAR processing techniques, an investigation of underlying scattering mechanisms such as coherent scatterers (CS) and polarimetric decomposition techniques is conducted in this study using JPL AIRSAR fully polarimetric data over a portion of the greater Los Angeles area. For this study, selection of the overall optimum polarization showed an increase of CS candidates compared to standard polarizations. In addition, polarimetric decomposition (α - H and F/D) analysis of CS and non-CS (NCS) pixels found a trend of increasing double-bounce scattering, Fd , with decreasing volume scattering, Fv , and polarimetric Entropy, H , for CS relative to NCS.