

Optimum incidence angle for PALSAR Interferometry

Masanobu Shimada^{1*}, noguchi hideyuki¹

¹Japan Aerospace Exploration Agency

This paper investigates the incidence angle dependence of the SAR interferometric sensitivity. L-band SAR signal partially penetrates through the canopy of the forest which covers the land surface and reaches to the surface under the forest, and then reflected from the surface and trunks of the trees as the double bounce mechanism back to the satellite again. Repeat pass SAR interferometry owes to the scatterer, which locate near the land surface and did not change so much. One of the interests is the incidence angle at the best coherence. This investigation conducted the incidence angle dependence of the signal penetration and polarization dependence of the double bounce using the Pi-SAR polarimetry and conducted the incidence angle dependence of the interferometric coherence at Hawaii Island. As a result, we confirmed a good agreement of the incidence angle dependence of the double bounce and the interferometric coherence.

Keywords: PALSAR