

Analysis of Interferometric Radar Data in a Queensland, Australia Tropical Rain Forest

Scott Hensley, Ernesto Rodriguez, Elaine Chapin and Arnon Accad

Jet Propulsion Laboratory
4800 Oak Grove DR
Pasadena, CA 91109
MS 300-235

Abstract

During the 1996 deployment of NASA/JPL's AIRSAR/TOPSAR radar mapping instrument data was collected near Innisfail in Queensland, Australia. This region has both dense tropical rain forests as well as cleared areas used for agriculture. We deployed C-band and L-band tone generators in the tropical forest and measured the amount of attenuation and phase distortion. These results are compared with interferometric penetration and volume scattering measurements made using both C-band and L-band interferometric radar measurements. Our results shown a mean penetration depth difference of 3 m between the L and C-band measurements. Additionally, we present tree height estimates based upon inteferometric volume scattering within the canopy.