ECE 793A/794 ECE GRADUATE SEMINAR
(Required for Electrophysics Area Graduate Students)

Everyone is invited to attend.

Bruce Chapman,
Jet Propulsion Lab,
Pasadena, CA

Title: The NASA/JPL Airborne Synthetic Aperture Radar (AIRSAR)

Date: Monday, October 16, 2006
Time: 4:00 p.m.
Place: Marston 132

Abstract:
The NASA/JPL Airborne Synthetic Aperture Radar (AIRSAR) has been flying onboard the NASA DC-8 aircraft since 1989. It was the technology testbed for both the Shuttle Imaging Radar C (SIR-C), which flew twice onboard the Space Shuttle Endeavor in 1994; and the Shuttle Radar Topography Mission (SRTM), which flew onboard the Shuttle Endeavour in 2000. It has been involved in 3 extensive campaigns to South East Asia, two campaigns to South America, one campaign to Europe, numerous experiments in North America, as well as missions to both the North and South Polar areas. AIRSAR data has been requested for application to oceanography, terrestrial ecology, land cover land use change, solid earth science, hydrology, and glaciology.
Since 1989, AIRSAR has actually consisted of 3 fully polarimetric radars: A C-band radar, and L-band radar, and a P-band Radar. enhancements since then include the addition of cross-track and along-track interferometric antennas, and the capability of acquiring polarmetric interferometry data. Over 5000 images have been processed, and are available for free by ftp.
The technology behind AIRSAR and its science applications will be discussed during this talk.
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Bio:
Bruce Chapman has been a principal investigator in the Global Rain Forest Mapping Project (GRFM) sponsored by the National Space Development Agency of Japan (NASDA), the NASA Land Cover Land Use Change (LCLUC) program, and the JAXA Advanced Land Observing Satellite (ALOS) Research Program. He is a member of the Alaska SAR Facility User Working Group (ASFUWG). He was a co-investigator for the JERS-1 Amazon Multi-season Mapping Study (JAMMS), and a co-investigator for the Tropical Rain Forest Information Center (TRFIC) - a prototype Earth Science Information Partnership (ESIP). He spent two years developing a polarimetric SAR signal processor for the Airborne Synthetic Aperture Radar (AIRSAR) Group, and is currently the AIRSAR science coordinator. He was a member of the calibration team responsible for the polarimetric calibration of SIR-C synthetic aperture radar data.