The Pacific Rim 2000 Mission

E. OLeary, L. Carrico, E. Chapin, A. Chu, L. D. DiDomenico, W. Fiechter, S. Hensley, D. A. Imel,

Y. Kim, Y. Lou, T. Miller, D. Moller, W. Skotnicki, and W. Tung
Jet Propulsion Laboratory
JPL 300–243, 4800 Oak Grove Drive, Pasadena, CA 91109, USA

In late April 2000, the Jet Propulsion Laboratory/NASA airborne radar (AIRSAR) system began a fourteen-week mission to the Pacific Islands, Australia, New Zealand, Southeast Asia, and Japan. The mission is still underway at the time of this presentation and by the end of the mission, data will have been collected over sites in more than 8 countries, comprising over 200 flight hours. In addition to the AIRSAR system, the JPL NASA MODIS/ASTER simulator (MASTER), a thermal-infrared instrument, is also on-board for this mission. This presentation will discuss the AIRSAR portion of the mission only.

The Pacific Rim 2000 mission follows two earlier missions to the area in 1993 (to Australia) and 1996 (to New Zealand, Australia and southeast Asia). We describe hardware upgrades to the system for the Pacific Rim 2000 mission, including increased transmit power at P-band to mitigate the effects of ground-based Radio Frequency Interference (RFI). We also discuss new technology that has been incorporated into the AIRSAR processor to improve the accuracy of cross-track interferometric processing. More advanced flight planning software and an improved near-real time processor have been used to support accurate data acquisition.

During Pacific Rim 2000, AIRSAR data will be collected in the standard fully polarimetric P, L and C-band data (POLSAR) and L and C-band cross-track interferometry (TOPSAR). More recent AIRSAR data modes have also been collected for PacRim2000, including high-resolution L-band polarimetry, along-track interferometry (ATI), and simultaneous along-track and cross-track interferometry. Several of the data sets collected during Pacific Rim 2000 will be presented.

Finally, we discuss some of the intended applications for PacRim 2000 data, and preview upcoming AIRSAR missions.