

## Interferometric Synthetic Aperture Radar for Remote Sensing of the Ocean

Richard E. Carande  
Jet Propulsion Laboratory  
Mail Stop 300-2.41  
California Institute of Technology  
4800 Oak Grove Drive  
Pasadena, CA 91109 USA

Synthetic aperture radar (SAR) has been used extensively by the ocean remote sensing community to probe the surface of the ocean on a moderate scale at quite high resolution. Observations which have been made include those on wave spectra, internal waves, current effects, wind effects to name a few. Interferometric SAR can in many cases, improve these measurements, but of possibly more importance and interest, can provide data which may be used to make new measurements of interest. In this paper, a brief development of interferometric SAR theory is presented followed by a parametric sensitivity analysis. A description of a system which gathers such interferometric data is then presented. Finally, examples of some of the unique measurements which can be made using the interferometric data are presented.