Jason-1 and TOPEX/POSEIDON Precision Orbit Determination: Initial Results

J. C. Ries , Key-Rok Choi, and R. J. Eanes
Center for Space Research, The University of Texas at Austin

TOPEX/POSEIDON, which is tracked by DORIS and SLR, continues to achieve an unprecedented orbit accuracy for an altimeter mission. The mission requirement for Jason-1, which has DORIS, SLR and GPS tracking, is that the accuracy of the orbit to be placed on the Geophysical Data Records must be at least equal to that obtained for T/P. With regard to the orbit accuracy, it should be possible to merge the altimeter products using the orbits for Jason-1 with the long history of data from T/P without introducing any artifacts, either in terms of mean sea level, or geographic distribution of the systematic errors. In this paper, we discuss the initial results regarding the accuracy and consistency of Jason-1 POD with respect to T/P, and comparisons between orbits from by different orbit determination groups using various combinations of DORIS, GPS and SLR data.