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Title

An Ocean-Altimetry Measurement Using Reflected GPS Signals Observed
from a Low-Altitude Aircraft

Authors

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Abstract

We present an ocean-altimetry measurement made by measuring the difference in arrival times between direct and reflected GPS signals. The 20.456 MHz sampled data from a TurboRogue GPS front-end were recorded with a SONY SIR-1000 while flying at an altitude of 1.5 km over the Pacific Ocean near Santa Barbara, CA. A software delay/doppler receiver was developed to process the data and extract ocean-height measurements. A preliminary bistatic altimetry error budget is presented along with the expected performance of space-based GPS altimeters.