First Results from the GeoSAR Mapping Instrument

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Abstract

The GeoSAR radar is dual frequency X-band and P-band interferometric mapping radar flown on a Gulfstream II aircraft. The system simultaneously maps on both sides of the aircraft using both X and P-band radars with a swathwidth of 10 km per side and a range resolution of better than 1 meter. The longer P-band wavelength pentrates deeper in the canopy and when coupled with computer models can be used to map beneath the vegetation canopy. Combining the X-band and P-band data provides very accurate height and canopy measurements. We present an overview of the many novel hardware and
processing innovations required for collecting and processing GeoSAR data. Also presented will be some first results of data collected in California using the GeoSAR radar.