Abstracts

Development of the ERS-1 Active Radar Calibration Unit

H.D. Jackson and A. Woode. "Development of the ERS-1 Active Radar Calibration Unit." 1992 Transactions on Microwave Theory and Techniques 40.6 (Jun. 1992 [T-MTT] (Special Issue on Microwaves in Space)): 1063-1069.

This paper describes the development of a microwave Active Radar Calibration Unit (ARC) used as a ground calibration reference standard for the European Remote Sensing Satellite ERS-1 imaging Synthetic Aperture Radar. Three such units are placed across the radar swath giving, point target returns with a known signal strength and are used to calibrate the radar image. The units have been designed for maximum stability with temperature (<0. 1 dB over the temperature range of -15°C to + 35°C); for absolute calibration the ARC is referenced to a flat plate using a novel technique of multiple transmission in its self calibration mode, achieving an absolute calibration error of <0.14 dB.

❑ Return to main document.