

FRINGE 96

Accuracy assessment of DEMs derived from ERS tandem interferometry and comparison with SPOT-stereo

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Abstract

Accurate digital terrain models are essential to a number of scientific and commercial applications, in particular natural resources, utilities and mobile communication systems.

SAR Interferometry presents an important new tool for the production of accurate digital terrain models comparable to optical based systems such as SPOT.

The method of creating a DEM is discussed in a companion paper "The UCL 3D Image Maker system for DEM generation from SAR interferometry" (IFSAR-3DIM) by Muller, Mandanayake, Upton in this workshop.

This paper presents an accuracy assessment of DEMs derived from ERS tandem interferometry, including a detailed description and results of the IFSAR-3DIM process over 2 study sites: Montagne Saint Victoire and Mt Etna as well as a quantitative comparison with SPOT-stereo using panchromatic SPOT data.

Keywords: