

Detecting changes in ice movement over the Antarctic Ice Sheet by SAR interferometry

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Abstract

We use tie-points from several ground surveys to calibrate ERS Antarctic interferograms from Phase B (1992), Phase D (1994) and the Tandem Mission. The surveys were conducted between 1978 and 1996 around Rutford Ice Stream and Ellsworth Land, and comprise a mixture of classical techniques, measuring distances and angles, and satellite GPS measurements. Survey observations are used as tie-points to optimise the interferometric baseline and calibrate the interferograms. Discrepancies between calibrated interferograms and survey points highlight areas where changes have, and continue, to take place.

Keywords: Antarctica, interferometry, survey, base line

Keywords: ESA European Space Agency - Agence spatiale europeenne, observation de la terre, earth observation, satellite remote sensing, teledetection, geophysique, altimetrie, radar, chimique atmospherique, geophysics, altimetry, radar, atmospheric chemistry