

Digital elevation model of spit using dinsar of radarsat-1 fine mode data

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Abstract This work presents a new approach for 3-D object simulation using Differential synthetic aperture interferometry (DInSAR). In doing so, new approach of using fuzzy B-spline algorithm is implemented with phase unwrapping technique. Consequently, fuzzy B-spline is used to eliminate the phase decorrelation impact from the interferograms. The study shows the performance of DInSAR method using fuzzy B-spline is better than DInSAR technique which is validated by a lower range of error (0:02 § 0:21 m) with 90% confidence intervals. In conclusion, integration of fuzzy B-spline with phase unwrapping produce accurate 3-D coastal geomorphology reconstruction.

Keywords 3D object; B-spline; D-inSAR; Decorrelations; Digital elevation model; Phase unwrapping; RADARSAT 1