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THE GLOBAL TANDEM-X DEM: PRODUCTION STATUS AND FIRST VALIDATION RESULTS

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Keywords: TanDEM-X, DEM, InSAR, Global, Calibration, Mosaic, Block Adjustment, Validation

Abstract. The TanDEM-X mission will derive a global digital elevation model (DEM) with satellite SAR interferometry. Two radar satellites (TerraSAR-X and TanDEM-X) will map the Earth in a resolution and accuracy with an absolute height error of 10m and a relative height error of 2m for 90% of the data. In order to fulfill the height requirements in general the global coverages are acquired and processed. Besides the final TanDEM-X DEM, an intermediate DEM with reduced accuracy is produced after the first coverage is completed. The last step in the whole workflow for generating the TanDEM-X DEM is the calibration of remaining systematic height errors and the merge of single acquisitions to 1° x 1° DEM tiles. In this paper the current status of generating the intermediate DEM and first validation results based on laser tracks, laser scanning DEMs, SRTM data and ICESat points are shown for different test sites.

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