

First Experiences with TerraSAR-X Images

M. Eineder, H. Breit, B. Schättler, N. Adam, T. Fritz

TerraSAR-X is the first civilian German SAR-satellite to be launched in early 2007 in order to serve both, scientific and commercial purposes. Its high image resolution down to 1 meter is an order of magnitude better than that of current space borne systems and will enable new fields of research and application worldwide.

In a follow on mission Germany will launch a second satellite to form the interferometric SAR constellation TanDEM-X in 2009.

The authors are involved in the TerraSAR-X commissioning phase immediately after the satellite launch. During this phase a number of images with different thematic content will be acquired and analyzed thoroughly with respect to resolution, radiometry and geometric accuracy. Furthermore, first interferometric experiments are planned to gain an early view on the benefits of high resolution X band SAR interferometry with respect to surface motion detection and topography reconstruction.

The presentation and the paper present first TerraSAR-X images and quantitative image quality measures of different test sites. First interferograms shall demonstrate SAR interferometry in the one meter scale.