

# **Using of Sentinel-1 data for radar interferometry**

## **Abstract**

The diploma thesis deals with extraction of a digital surface model (DSM) using synthetic aperture radar interferometry (InSAR) and Sentinel-1 data in selected locations of the Czech Republic. The InSAR technique, the Sentinel-1 data, their parameters and possibilities of their usage are described in the theoretical part of the thesis. The specification of the model areas and used data follows. The practical part is focused on creating a methodology of deriving a digital surface model and its extracting in the three tested locations. These locations differ from each other in their geomorphological features and land cover. At the end of this part the comparison of the extracted model with the reference model DMP 1G using statistical methods is carried out. At the end of this thesis the results are evaluated and discussed.

**Key words:** InSAR, Sentinel-1, SAR, DSM