

## Abstract

This dissertation is about the possibility of hand GPS receivers to produce more accurate touristic maps when these maps are used in combination with GPS receivers. In the theoretical section, this work deals with the basic outline of global navigation satellite systems, explains the reasons which lead to the reduction of the accuracy of GPS receivers, deals also exclusively with the GPS receivers, their setup which might affect the recording of the tracks. A special chapter treats papers dealing with the accuracy and the recording of maps with hand GPS receivers.

Three tracks were surveyed many times for this dissertation. An area with a large system of routes was surveyed and in conclusion a few touristic tracks were surveyed with a special method. The tracks were visually compared with the recording of the tracks made with a geodetic GPS receiver, further, a software was developed which measured the size of the deviation between two graphs. The technique for the recording of maps with hand GPS receivers was decided by comparing two GPS receivers, also by different setups of instruments and by a method of using them during the surveying. This method increases the accuracy of the map site and its surroundings thus improving the quality of the map.