Application of standard and advanced open source GIS software functionality for analysis of coordinates obtained by GNSS measurements

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Currently there is wide variety of GNSS measurements used in the geodetic practice. The coordinates obtained by static, kinematic or precise point positioning GNSS measurements could be analyzed by using the standard functionality of any GIS software, but the open source ones give to the users an opportunity to make themselves advanced functionality.

There is an option the coordinates obtained by measurements to be stored in spatial geodatabase and information for the precision and time of measurement to be added. The data could be visualized in different coordinate systems and projections and analyzed by applying different types of spatial analysis. The process also could be automated in high degree.

An example with test data is prepared. It includes automated loading of files with coordinates obtained by GNSS measurements and additional information for the precision and the time of measurements. Standard and advanced open source GIS software functionality is used for automation of the analysis process. Also, graph theory is implemented for making time series of the data stored in the spatial geodatabase.