



## **Georeferencing of the II. and III. military Austrian state mapping on the territory of the Czech Republic**

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The aim of the article is a study of the military historical mapping, which proceeded in three integral periods on the territory of the Austro-Hungarian Monarchy. The result of this effort is a set of interactive programs in programming language Visual Basic 6 devoted to simple and user-friendly computations between measured points in terrain and its position in the historical topographic maps, including simultaneously providing computations of the map corners in geodetic coordinate systems S-JTSK and WGS84. The aim of the article is a cartographic study of the military historical mapping, which proceeded in three integral periods on the territory of the Austro-Hungarian Monarchy, incl. the Czech historical lands of the Czech Crown - Bohemia, Moravia and Silesia. The first mapping from the years 1763-1785 is called Joseph's. In view of the mapping scale 1 :28 800 it was the most detailed mapping all over Europe. The surveying was not based on quality geodetic fundamentals and therefore it was not possible to compile an integral map image of the Monarchy.

The second Francis' mapping proceeded during the years 1807 -1869, simultaneously with creation of the stable cadastre and was based on results of astronomic and geodetic measurements. The map image is therefore space located and it is possible to re-search its cartometric features.

During the years 1870-1883 proceeded the third military mapping, which generated the most famous map ("special map") at scale 1 :75 000, which was used on the ter-

territory of Czechoslovakia until 1956, when it was replaced by a contemporary military topographic map. The said maps represent a historical memory of the landscape and are exploited for purposes of protection and revitalization of the landscape, archeology, territorial planning, research of development of geographical names, for transport engineering, etc. The task of this type was not yet solved in the Czech surroundings.

The result is localization of map sections into the present geodetic coordinate systems, analysis of accuracy of elements of the map contents and comparison of the interpreted historical memories of the landscape with the present one.

The topographic maps of 1 : 25 000, 1 : 75 000 and 1 : 200 000 scales were produced in Austria-Hungary during the third military mapping. After 1918, they were taken over for the area of Czechoslovak republic. Topographic contents of the maps were reambulated and revised. From the map contents point of view the historical Austrian topographic maps are very important information sources about our landscape not only in 1870-1883 years, when the mapping passed, but also after formation of separate Czechoslovak Republic.

The presented article contributes to extension of historical Austrian military topographic maps usage in digital cartography and GIS. But the connection of maps with different origin and cartographical projections cannot be solvable without coordinate transformations among used coordinate systems. The modular oriented MATKART software, developed for many years by Bohuslav Veverka from Faculty of Civil Engineering of Czech Technical University in Prague and Monika Cechurova from West Bohemia University in Pils, ensures the calculations in sheet line systems of different origin.