

Use of the microgravimetry method for medieval crypt detection

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The aim of this work is to inform wider scientific community about the successful use of the gravimetry in specific archeology research. In our research, especially focused on medieval underground crypts, we tried to apply microgravimetry, which represents specific branch in the gravimetry field. Microgravimetry as a nondestructive methodology offers a great opportunity to apply it in archeology. The main advantage of microgravimetry is its effectiveness in comparing to classical destructive prospecting methods. Particularly we examined following tasks: processing of the incomplete Bouguer anomalies calculations and qualitative and quantitative interpretations of acquired data. Finally we compared our results with other available geophysical data.

Measurements were handled during last few years in 7 churches in Slovakia. Namely they were following: St. Katarína Alexandrijská Church in Katarínka near the Dechtice village (measured in 1998), Roman Catholic Church in Krásno village (1999), Roman Catholic Church in Kostol'any under the Tríbeč hill (2001), St. Cross Church in Devín (2002, 2006), Roman Catholic Church in Moldava nad Bodvou (2006), St. Nicolas Cathedral in Trnava (2006) and in Roman Catholic Church in Pukanec (2009).

Several medieval crypts were successfully found by the microgravimetry methods. Their existence was also proofed in some cases by video inspection. Finally we can state, that microgravimetry offers a great usability in buried underground archeological structures prospecting.

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