



## **Temporal reduction of repeat-station measurements by using on-site variometer records**

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The temporal reduction of repeat-station (RS) data is usually carried out by the use of the variometer records of observatories. In stations located far from reference observatories, the accuracy of the reduction can be eventually increased by the installation of an on-site variometer. The site of the variometer station must be carefully selected in order to ensure low level of magnetic and mechanical noise, as well as temperature stability. The variometer record is referenced to the repeat station by carrying out the absolute measurements. In order to collect enough data from quiet geomagnetic condition, the variometer recording must be operated for at least one or two months. Thus, the station operates as a temporal observatory whose records can also improve the accuracy of global models of the geomagnetic field inferred from satellite data.

During the last two repeat-station campaigns of Hungary carried out in 2012 and 2014, a three-component DIDD magnetometer was installed in the Baradla cave, near to our Aggtelek repeat station. In the poster, we present the variometer site, the installation of the DIDD variometer and the results of the recordings. The improvement of the reduction accuracy is also shown by comparing the reduced RS magnetic components obtained with and without the use of the DIDD variometer records.