



## **Surveying with the A10-20 Absolute Gravimeter for Geodesy and Geodynamics – first results**

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The A10 is the first outdoor absolute gravimeter that allows for the determination of gravity with high precision. Absolute gravity survey with the A10 becomes highly competitive in terms of both efficiency and precision with traditional relative gravity survey.

The portable A10-20 absolute gravimeter has been installed at the Borowa Gora Geodetic-Geophysical Observatory in September 2008. Since then a number of test measurements was conducted. Under laboratory conditions the series of gravity determination was obtained at two independent pillars at Borowa Gora as well as in Metsahovi and the BIPM gravimetric laboratories. Also a number outdoor gravity measurements with the use of mobile gravimetric laboratory was performed at the stations of gravity control in Poland and in Finland. The results obtained indicate high quality of gravity determination with the A10 under laboratory conditions and unprecedented quality under field conditions. They confirm the applicability of the A10 absolute gravimeter to the modernization of gravity control and high precision gravity survey required in modern gravity networks, but also its usefulness in microgravimetry as well as geodynamics.

Some practical problems concerning the use of the A10 and its operational procedure including laser and frequency standard are discussed.