



Activities of the gravimetric laboratory at Jozefosław Observatory

Marcin Barlik, Tomasz Olszak, Andrzej Pachuta, Dominik Próchniewicz, and Marcin Rajner
Department of Geodesy and Geodetic Astronomy, Warsaw University of Technology, Warsaw, Poland

Gravimetric laboratory located in the Józefosław Astro – Geodetic Observatory of the Warsaw University of Technology is appeared as an unique station in Poland, where the quasi – permanent absolute gravity determinations have been conducted as well as tidal observations. First AG observation has been started in nineties. Those investigations were performed using symmetric ballistic gravimeter ZZG constructed in Poland. Since 2005 AG FG-5 has been used for determinations of the absolute gravity with one month delay. At the tidal laboratory the tidal gravity observations have been also performed since 2002 using LC&R ET-36 gravimeter. The GNNS stations and additional devices are also installed at the observatory for environmental effects monitoring.

Authors present results of gravity determinations as well as effects of geophysical phenomena appeared in non-tidal frequency bands. This elaboration deals also with the results of four years cycle of AG and seven years of ET gravimetric data. It presents result of the environmental parameters modelling as the seasonal loading effects induced by air pressure and ocean, ground water and soil moisture changes and a rainfall as well to the gravity changes. It also contains results of the time-frequency analysis gravity with correlation in others geodynamical parameters.