



Geodynamical investigations in the Pieniny Mountain in 1994 - 2010

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Geodynamical investigations in the Pieniny Mountain (south of Poland) were carried out since the 1960s. They contained leveling, gravimetric measurements and distance observations in horizontal network. The results revealed vertical and horizontal movements of the crust and periodic changes in gravity. In 1994-1995 horizontal network was adapted to perform GPS observations and they were carried out with leveling, gravimetric and EDM observations. In 1990s, the Dunajec river dam and the water reservoirs in Czorsztyn and Sromowce Wyzne have been built. This has created a new aspect in investigations related to the effect of tectonic movements on the dam. Taking that into account, the study was revived, after six year break, in 2001. The investigations, which contain GPS, gravimetric and leveling observations, have been carried out every year. In this paper the result of horizontal displacement obtained from GPS measurement as well as vertical displacement and gravity changes in 1994-2010 period are presented and yields linear trend in north-east direction less than 1 mm/year.