



The Test-field of the Pieniny Klippen Belt Revisited for Horizontal Movements Verification

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The Polish part of the klippen belt forms a mountains group called the Pieniny Mountains. The Test-field of the Pieniny klippen belt (PKB) is situated in Southern Poland close to the Polish/Slovak border. Geodynamical studies of the area were performed continuously from early sixties until 1995. Diversified vertical motion (on the level of some mm/year) and horizontal displacements (reaching 10 mm/year) were proved. New project sponsored by the State Polish Research Committee was launched in the autumn 2000 to check if construction of the dam on Dunajec-river and creation of the artificial lake contributed the recent crustal activity of the area. In the period of 2001-2004 horizontal movements between the control points monitored by laser-distance and satellite GPS measurements have demonstrated shortening at the northern contact of the PKB and differentiated extension trend at the southern contact. The character of the motion corresponds with changes in the seismic wave velocities: increasing in the region of the northern contact and decreasing in the southern contact comparing with those of 1988. The paper reports the results of the studies devoted to the horizontal movements.