

Abstract

In the scope of my Ph.D. thesis, the epicentral Dobrá Voda area was selected for study of geodynamical hazards connected with active faults crossing the area. There was chosen some geomorphological, geological as well as geotechnical methods to discover recent tectonic regime. The obtained results showed close relationship between fault striking and drainage system orientation as well as erosion furrows orientation. Furthermore, wide-ranging slope deformations are located along faults with proved activity and the both phenomenons were studied and registered. Moreover, striking faults are reflexing by tufas, sag ponds and swallow holes occurrence on the surface. The subsurface active fault display is documented by sinter damages along the fault in the local Zbojnicka and Slopy Caves. This manifestation influenced these caves to study fault microdisplacements and the net was extended by two extensometric TM71 gauges situated on the surface localities too. The monitoring results showed significant tenths and hundredths of mm movement trends per year as well as strain regime changes during local significant earthquakes. On the other hand, sense of the fault displacements showed sinistral block rotation in the wide-ranging sinistral Mur-Mürz-Leitha fault zone, which can be changed into dextral block rotation after quake as a strain relaxation.

1 Úvod

V rámci doktorskej práce s názvom "Geodynamické riziká severnej časti Malých Karpát" som sa sústredil na štúdium javov a procesov reflektujúcich geodynamický režim Brezovskej časti Malých Karpát. Režim tohoto regiónu v súčasnosti ovplyvňuje aktivita zlomov Mur-Mürz-Leitha ako i východných a západných okrajových poklesových zlomov Malých Karpát. Najviac prác bolo koncentrovaných do oblasti Dobrovodskej epicentrálnej zóny, ktorá v súčasnosti predstavuje zemetrasne najaktívnejšiu časť územia Slovenska. Modelová lokalita je vymedzená súradnicami 48,197° - 48,221° severnej šírky a 17,168° - 17,216° východnej dĺžky.