



The analysis of surface displacements and time prediction of landslides using extensometers at Coltii landslide, Buzau Carpathians, Romania

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The landslide from the Coltii village is located in the Sibiciu basin, Buzau Carpathians, Romania on Kliwa facies represented by an alternation of sandstones and clays. The landslide occurred in 2004 after long lasting precipitations and was reactivated in the summer of 2005. At that time, the entrance in the Coltii village church was severely affected by the landslide scarp.

In July 2008, one extensometer with analog and digital measurement systems was set-up across the landslide scarp. The extensometer installed there has an alarm system and gives the possibility of evacuating the population when some threshold values are registered. The first signs of movement were registered by the extensometer in October and November 2008, the displacement values being from 3.2 mm/16 hours (October, 04-05) to 1.6 mm/24 hours (November, 22). An analysis of displacements occurrence revealed a strong relation with the presence of precipitation in the area. The threshold values of displacements related to triggering factors are in the process of being analyzed. The dynamic of the landslide is studied in order to analyze the possibility of time forecast for a potential reactivation.

Key words: landslides, extensometers, time prediction, Buzau Carpathians, Romania