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# Electromagnetic ground-based measuring system used for the near real-time hazard level assessment of the earthquake-induced landslides

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In the last decade, the Alpine – Carpathian area was affected by a lot of natural hazard events such as floods and landslides, as a primary consequence of the important climatic changes. The Romanian segment of the Sub-Carpathian chain, these two types of natural events many times got a dramatic character, endangering till now large human communities and also the environment. In the Southern Sub-Carpathian area, the main causes for these phenomena are: the nature of material (flyschoid deposits containing rather soft materials with low mechanic properties), geodynamic context (the existence of Vrancea seismogenic active zone with earthquakes and active tectonics), climate effects leading to huge and irregular precipitation quantity, as well as the anthropic activity. The aim of this paper consists in the implementation of the near-real time electromagnetic ground-based measuring system (EGBMS) and methodology destined to monitor the intermediate Vrancea's earthquakes and associated landslide in a test site placed near by the Provita de Sus locality, Prahova District. Owing to an increasing threat of the landslide in this test site, pre and post seismic landslide models for disaster forecasting are imposed. In this context, the following specific activity stages were accomplished: (i) optimisation of the specific sensor structure in laboratory and field conditions; (ii) experiment and continuous improvement of the EGBMS at the peculiar conditions of the monitored area for pattern recognition; (iii) assessment of the short-term electromagnetic precursory parameters related to both the earthquakes (EQ) occurred at intermediate depth interval, characteristic to the seismic-active Vrancea zone, and the landslides associated, mainly, due to the reactivated faults developed in the Sub-Carpathian area; (iv) elaboration and managing of the datasets available to produce pre and post seismic 2D geophysical models and tomographic images as a first step for the hazard level assessment.