



## **Assessment of Seismoactive Layer and Aftershocks Probability in Elbasan-Dibra Urban Zone**

Altin Bidaj<sup>1\*</sup>, Rrapo Ormeni<sup>2</sup>

<sup>1</sup>*Polytechnic University, Civil Engineering Faculty, Tirana, "Muhamet Gjollësja" street, Nr.54, Albania;*

<sup>2</sup>*Polytechnic University, Institute of Geosciences, Energy, Water and Environment, Tirana, "Don Bosko" street, Nr.60, Albania*

*Received August 06, 2014; Accepted September 04, 2014*

**Abstract:** Assessment of seismoactive layers and aftershock occurrence probability as part of seismic hazard evaluation represent large interests for Elbasan-Dibraurban zone. Determination of seismoactive layers represents interests for recognition of real depth of seismic energy generation. Shallow earthquake with low energy causes higher damage in buildings than a deep earthquake with higher energy. Based on the depths of earthquakes data is showed that the seismoactive layer in Elbasani-Dibra earth crust has the bottom in the depth of about 20 km. Community structures affected by shallow earthquakes and from larger aftershocks may be compromised by the prolonged shaking associated with the main shock. We hypothesize that the mainshock rupture directivity and slip distribution influence in aftershock hazard. These results are first steps towards more detailed geodynamic and seismotectonic and hazard seismic analysis in this area.

**Keywords:** *shallow earthquake, seismoactive layers, aftershocks, seismic hazard,*

---

\* Corresponding E-mail: [altinbidaj@yahoo.com](mailto:altinbidaj@yahoo.com); Tel: +355 68 26 28 492