

## The present geodynamics of Albania

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Geological structure of Albania comprises different formations widely varying in age beginning since the Paleozoic era to Quaternary. From the tectonic stand point Albanides belongs to folded Alpine belt, representing a particular node in the geology of the Mediterranean Alps. Albanian geological environment have a long and complicated history. It is folded and dissected by many tectonic faults. During the Alpine geological evolution of Albanides, an imbricated tectonic thrusting system, with considerable amplitude, has been developed in the outer part, while a series of normal faults have been developed in the inner part. The convergence of the geological structures is southwest oriented, from inner to external tectonic area, associated by mass displacement. These displacements can be observed nowadays from geodynamic measurements, of the GPS networks in Albania, and the surrounding. GPS data for Albanian territory, recorded during a 10-years period, in reference to the Eurasia and Apulia plates, reveal an important pre-Pliocene compression of the outer Albanides, including Sazani, Ionian and Kruja zones, undergoing a major post-Pliocene shortening in the western side.

The outer Albanides are structured by infringements of over-thrust and up-thrust type, by NNW-SSE oriented folds, which in some cases are dislocated by transverse faults, of NE orientation.

Actual results from GPS measurements of the points located in outer Albanides show a displacement towards west and northwest in relation to Eurasia, and southwest in relation to Apulia block.

From numerous focal mechanisms solutions (FMS) of shallow earthquakes it results a horizontal compression dominating along the Adriatic collision contact. Active tectonics in this area is reflected from historical and instrumental strong earthquakes. Quite often, they are generated from the activation of tectonic faults, which in turn are responsible for this seismic activity of the country.

Referring to the historical data, the whole territory of Balkans and its southwest territory in particular, is characterized by a high seismicity rate. In general, Albanian seismicity is characterized by an intense micro-activity ( $1.0 \leq M \leq 3.0$ ), by many small earthquakes ( $3.0 \leq M \leq 5.0$ ), by medium size earthquakes ( $5.0 \leq M \leq 7.0$ ) and very seldom by strong ones ( $M > 7.0$ ).

This paper aims a general representation of the geodynamics of Albania, based on recent results from earthquake and GPS instrumental data.

Keywords: Albanides, frontal collision, thrusting system, normal faults