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# New electric method for Timanfaya Volcano monitoring (Lanzarote Island, Canary Islands, Spain)

**J. Carmona**, A. García, R Ortiz

Departamento de Volcanología, Museo Nacional de Ciencias Naturales, Madrid, Spain (jcarmona@mncn.csic.es / +34 914111328 )

The aim of this work is the establishment of superficial geothermal fluid circulation model in the Timanfaya volcanic zone (Lanzarote Islands, Canary Islands, Spain). This study is based on seismic activity in Timanfaya zone, with the self potential anomalies (originated by fluid circulation) and their temperature variations correlation. The special environmental conditions, the presence of a moderate and stable seismic activity and the logistical facilities make Timanfaya an ideal place for this study. To accomplish this objetive, continuous records of seismic activity for the last 5 years, a boreholes network (for geothermal field studies) and meteorological data of Timanfaya National Park are available.

The results of the present work show the presence of electric signals that precede the recorded seismic events and well correlated variations of gas pressure in the ground, demonstrating therefore, that seismic activity of Timanfaya is a consequence of gasses circulation mechanism, responsible also of the thermal anomalies in the zone. In the light of these results, the addition of this electrical method to the current volcanic activity monitoring network is here proposed.