



## **Magnetotelluric study for searching Teide volcano magma chambers (Tenerife, Canary Islands)**

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The Teide volcano (3717 m.a.s.l) is the central structure of the island of Tenerife (Canary Islands, Spain) and together with the Pico Viejo as well as the Las Cañadas caldera form the most important complex of the island known as the Las Cañadas-Teide-Pico Viejo Complex. The regional 3D electrical resistivity model of the island (Piña-Varas et al., 2014, 2015 and 2017 and García-Yeguas et al., 2017) has revealed the internal structure of the island being a low resistivity structure associated to the clay cap the most distinctive feature of the model. In this work we present the results obtained from the acquisition of new magnetotelluric stations to detect the presence or not of possible local small shallow phonolite chambers (less than 1 km depth). Thus, previous to the new data acquisition a sensitivity study (Piña-Varas et al., 2017) was carried on to study the distribution of the new magnetotelluric soundings in order to detect the presence or not of low resistivity anomalies that can be associated to those chambers. Joint interpretation of the obtained magnetotelluric results together with other geophysical and geological information is summarised in a hypothetical model, allowing us to better understand the internal structure of the island.

### References:

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