



Investigation of the inner structure of La Crosa de Sant Dalmai maar (Catalan Volcanic Zone, Spain)

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La Crosa de Sant Dalmai volcano is one of the most representative volcanic edifices of the Catalan Volcanic Zone (NE Spain). It is a very well preserved maar-type structure, of 1.5 km in diameter, which was excavated at the contact between a hard and a soft substrate formed by Palaeozoic granites and Quaternary gravels, respectively. In order to infer the uppermost inner structure of La Crosa de Sant Dalmai maar we have performed a multiparametric geophysical study including gravimetry, magnetometry, self potential, and electric resistivity tomography. The results obtained, together with a field geology revision and a 15 m probing information from a borehole drilled inside the maar crater, have permitted to get a detailed 3D picture of the post-eruptive maar infill sequence as well as of the uppermost part of the maar-diatreme structure, which helps to understand its origin and posterior evolution. In this sense, it is worth mentioning the little erosion and degradation suffered by original tuff ring, which accounts for a much younger age, probably Holocene, of La Crosa de Sant Dalmai maar than it was previously stated