

## **Abstract**

The variability and spatial distribution of magnetic susceptibility of rock samples from the Monchique igneous complex were investigated.

This study involved an experimental component for data acquisition, and a physical and computational component for the analysis and interpretation of the experimental data.

The results here obtained allowed to put forward the basis of a potential theoretical model for the emplacement and evolution of the Monchique complex. It was concluded that the complex ascended rapidly, and that the two blocks, Foia and Picota, derived from the same magmatic chamber, though in two different times. Picota ascended later, when the Foia material was already cooler. Foia has uprised compressed and confined in the northeast-southwest direction, while the Picota ascent was subject to the Foia material, not completely solidified, and to the compression, westwards, by the metasediments earlier to the massif's emplacement.