



## **Volcano-tectonic evolution of Pico-Faial Volcanic Ridge assessed by paleomagnetic studies**

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The morphology of volcanic oceanic islands results from the interplay between constructive and destructive episodes. In this study, directional analyses obtained from paleomagnetic studies on well-dated volcanic rocks are used as a tool to assess tilting related to destructive processes along the Pico-Faial linear volcanic ridge (Azores Triple Junction, North Atlantic). A paleomagnetic study of 46 lava flows and one dyke in both islands indicates significant tilting. In Faial Island, magmatic inflation and normal faults making up an island-scale graben, can be responsible for the tilting. In Pico Island, inflation related to magma intrusion during flow emplacement can be at the origin of the inferred tilting, whereas gradual downward movement of the SE flank by slumping processes appears mostly translational.

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