

## **Analysis of Long Period Magnetotelluric Data from Abrolhos and Trindade Islands in South Atlantic: Insights into Lithospheric Structure and Oceanic-Crust Transition**

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### **SUMMARY**

This study presents a temporal analysis of long period magnetotelluric (MT) data collected from the Abrolhos archipelago and Trindade island (Jan 2019 – Jan 2021), situated on continental and oceanic crusts, respectively. The data are used as a basis for understanding the lithospheric structure beneath these two crust types and potentially exploring the transition between them. Trindade Island, located closer to the oceanic ridge, offers an opportunity to investigate the South Atlantic oceanic crust's characteristics. The resistivity MT modes are integrated with seismological models generated from seismographic stations on the same islands. Furthermore, the collected data over two consecutive years will allow both assessing seasonal conductivity oceanic changes and examining the possible effects of major global climatic events. This interdisciplinary approach aims to enhance our understanding of lithospheric dynamics and environmental influences on oceanic regions.

**Keywords:** Long-period MT data, Abrolhos Archipelago, Trindade Island, lithospheric structure, Ocean process

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