

Paleomagnetism in the Juiz de Fora Complex from the Ribeira Belt, SE Brazil.

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The Juiz de Fora Complex is predominantly composed of granulites, granodioritic-migmatitic gneisses, meta-charnockites and meta-enderbites, which crop-out along the Além Paraíba dextral shear zone. These rocks have been affected by the Brasiliano orogeny (700-550 Ma) which was responsible by the observed structural pattern. Samples from 67 sites distributed between the Três Rios and Natividade cities were collected for paleomagnetic analyses. They were submitted to both a.f and thermal demagnetization. An eastern (western) high positive (negative) inclination characteristic magnetization was isolated from granulites and gneisses. Hysteresis and thermomagnetic curves indicate Ti-poor magnetite as the main magnetic carrier, although, the thermal demagnetization suggests that hematite might also be responsible for this direction. Thermometry data suggest that studied rocks reached temperatures of 700-800°C during the Brasiliano orogeny. Temperatures as high as these certainly reseted any previous magnetizations suggesting that the magnetization found here should represent the uplift and cooling phase of the Brasiliano event in the area. The corresponding paleomagnetic pole is similar to that obtained for the Piquete Complex (Ribeira Belt) situated SW of the studied area. These poles agree with other high quality 500-530 Ma. Gondwanan poles indicating that the Gondwana Supercontinent was already formed by that time.