

ISOTOPIC STUDY OF ALKALINE COMPLEXES ALONG THE CABO FRIO AND PARANAÍBA HIGH LINEAMENTS AND TECTONIC INTERPRETATION

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Both alkaline magmatic lineaments, the Cabo Frio Lineament (CFL) with a W-E trend and the Paranaíba High Lineament (PHL) with a NW-SE direction, show a similar age range (90-50my). The alkaline intrusions of PHL decrease in age from NW to SE, and the intrusives from CFL decrease in age from W to E. The intersection of both continental lineaments is the Poços de Caldas province (87-53 Ma). The age progression of LCF and PHL could have been caused by the passage of the tail of the Tristan da Cunha hot spot, which show much stronger affinities with these alkaline rocks than the Trindade plume, even if the later has a favorable geographic position relative to these intrusives. The Tristan da Cunha plume could have maintained a position under Poços de Caldas from about 90-50 my, and could represent the last continental volcanism manifestation for PHL and the first for the CFL. Both, PHL and CFL show an offshore extension. The Cruzeiro do Sul Deformation Zone (CSDZ), a NW-SE lineament traced across the São Paulo Plateau into the Cabo Frio area, is the offshore extension of the PHL. The Martins Vaz Fracture Zone (MVFZ) is the oceanic extension of the LCF. Both, the MVFZ and the CZDF meet at the Cabo Frio High and separate the Campos from the Santos Basin.