

18 - S/No: 0817201

AGG N.º 36

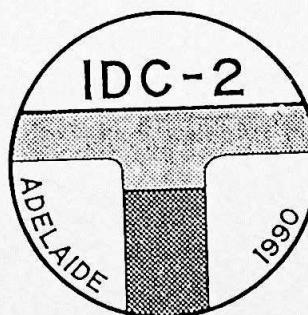
Geological Society of Australia

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# ABSTRACTS

Number 28

MAFIC DYKES  
AND  
EMPLACEMENT MECHANISMS



SECOND INTERNATIONAL DYKE CONFERENCE  
ADELAIDE, SOUTH AUSTRALIA  
12-15 SEPTEMBER 1990

5181-0857230

## MESOZOIC DYKE SWARM OF THE SÃO SEBASTIAO ISLAND (SE BRAZIL): PALAEOMAGNETISM AND GEOCHEMISTRY

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There are many mafic dykes in southeastern Brazil which are apparently related to the Paraná Basin lower cretaceous volcanism (Serra Geral Formation). These dykes are very frequent in the Ponta Grossa Arch region where they form swarms with a NW-SE directional trend and along the Santos and Rio de Janeiro coastline, where their directions follow the Brasiliano (500 Ma) structures with a NE-SW trend.

A geochemical, petrological and paleomagnetic analysis is presented for dykes along the southeastern coast of Brazil especially those outcropping at the São Sebastião Island (São Paulo) and results are compared with those obtained for the Paraná Basin volcanics (Serra Geral lava flows and Ponta Grossa Arch dykes).

The island of São Sebastião (São Paulo State) is mainly constituted by upper cretaceous alkaline complexes whose emplacement occurred after an important dyke activity of lower cretaceous age. The São Sebastião (SS) dykes (N40-60E) intrude precambrian gneissic terrains and parallel those of similar age outcropping along the Santos-Rio de Janeiro (SRJ) coastline. SS - dykes are represented by high-TiO<sub>2</sub> (>3%) tholeiites (as those of SRJ-dykes) and acid rock-types high in incompatible elements (Chapecó type) therefore they can be associated with flood volcanics of the northern Paraná Basin. Notably, Chapecó acid dykes are present in the lower cretaceous NW-SE dyke swarms of the Ponta Grossa Arch.

Oriented blocks for paleomagnetic analysis were sampled from eight acid and basic dykes at the São Sebastião Island. A paleomagnetic pole was calculated for them using also results obtained from four similar dykes intruding the adjacent continental area. This paleomagnetic pole at 314.0°E 85.4°S  $A_{95} = 4.3^\circ$  does not quite agree with lower cretaceous poles obtained for Serra Geral and the Ponta Grossa Arch.