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Salvatrice Montalbano, Hervé Diot, Olivier Bolle

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Asymmetrical magnetic fabrics in the Egersund doleritic dike swarm (SW Norway) reveal sinistral oblique rifting before the opening of the Iapetus

Salvatrice Montalbano[a,*], Hervé Diot[b], Olivier Bolle[a]

[a] *Département de Géologie, Université de Liège, Quartier Agora, Allée du Six Août 12, 4000 Liège, Belgique*

[b] *UMR-CNRS 6112, Laboratoire de Planétologie et Géodynamique, Université de Nantes, 2 Rue de la Houssinière, 44322 Nantes Cedex 3, France & Faculté de Sciences et Technologie, Université de La Rochelle, Avenue M. Crépeau, 17402 La Rochelle Cedex 1, France.*

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Abstract

The 616 ± 3 Ma (Ediacaran) Egersund doleritic dike swarm cuts across the Rogaland anorthosite province and its granulitic country rocks, in SW Norway. The structure of eight out of eleven main dikes of the swarm was investigated using the anisotropy of magnetic susceptibility (AMS) technique. Thermomagnetic data and values of the bulk magnetic susceptibility reveal a magnetic mineralogy dominated by Ti-poor titanomagnetite. Magnetic fabric and global petrofabric are coaxial, except in sites strongly affected by hydrothermal