Investigating the subtle fabrics of the Ben Loyal syenite, Sutherland Scotland

Conference or Workshop Item

How to cite:

For guidance on citations see FAQs.

© [not recorded]
Version: Accepted Manuscript

Link(s) to article on publisher’s website:

Copyright and Moral Rights for the articles on this site are retained by the individual authors and/or other copyright owners. For more information on Open Research Online’s data policy on reuse of materials please consult the policies page.
Investigating the subtle fabrics of the Ben Loyal Syenite

Barrett, T.J., Stevenson, C., Anderson, P.

University of Birmingham

The late Caledonian (c. 426Ma) syenite intrusions of Loch Loyal; the Ben Loyal, Ben Stumandach and the Cnoc nan Cuilean intrusions were intruded into Moine and Lewisian metasediments. The Ben Loyal intrusion itself can be split into two distinct bodies, a subsolvus foliated outer portion and a hypersolvus structureless inner core. The foliations in the outer portion are generally concordant to the margins except in the SE where they seem to parallel regional tectonic fabrics. The emplacement of these bodies was therefore probably controlled at least partially by pre-existing structures. However the transition between concordant fabrics and regional fabrics is ambiguous due to the lack of structural data in the unfoliated inner core. Anisotropy of magnetic susceptibility (AMS) measurements can reveal subtle fabrics that are not otherwise visible.

To examine any potential fabrics in the unfoliated core and to quantify further the visible fabrics in the outer core samples were taken from both the inner and outer regions of the intrusion for AMS analysis. With this data we hope to reveal any subtle fabrics in the inner core and to test the relationship between in the inner and outer cores. The overarching aim is to test the hypothesis that this intrusion was dominantly controlled by existing structures.