



## **Geomagnetic variations recorded in Neogene lava flows in Iceland**

Leo Kristjansson

University of Iceland, Institute of Earth Sciences, Reykjavik, Iceland (leo@raunvis.hi.is)

Several thousand lava flows of 16 - 0 Ma age have been sampled in Iceland by the author and others since 1972 for detailed paleomagnetic studies, mostly in composite sections consisting of temporally overlapping mountainside profiles. These flows are relatively unaffected by any hydrothermal or tectonic disturbance, and they carry a consistent stable primary remanence component yielding low  $\alpha_{95}$  values with 4 or even 3 samples. The resolving power of this collection has been steadily improved in recent years, so that the directional data from the lavas provide unique and robust information on various long-term characteristics of the geomagnetic field. Among these is the (non-Fisherian) frequency distribution of virtual geomagnetic pole (VGP) latitudes. The angular standard deviation of the pole positions has decreased significantly in the 16 - 0 Ma interval. The large size of the collection also allows plotting of the relative mean virtual geomagnetic dipole moment as a function of VGP latitude. Apparent major excursions are quite commonly encountered in the lava profiles. As the mean time passing between successive lavas may be up to 10 ka, pole paths generally cannot be traced in detail. However, this is likely to be possible in rapidly erupted flow-unit sequences which occur widely in Iceland but have not been a priority target so far. The individual reversals and excursions are often valuable in local stratigraphic correlation. New observations will be presented on these aspects, in particular on field variations during the late-glacial Skalamaelifell excursion.