



Mapping of magnetic chrons: paleomagnetic polarity map of East Iceland, 0-13 Myr

Johann Helgason

National Land Survey of Iceland, Akranes, Iceland (jhelgason@internet.is)

Through data on palaeomagnetism, stratigraphy and radiometric age dating an immense database on magnetic chrons has been established for the lava succession in Iceland (e.g. Kristjánsson, 2008). Correlation of magnetic chrons with the geomagnetic time scale provides a reasonable age estimate for vast stratigraphic sequences. The basalt lava succession in Iceland has a thickness of tens of kilometers. The magnetostratigraphic data offer, through the help of paleomagnetism and radiometric dating, a detailed timing of events in the evolution of the Iceland mantle plume region.

Yet a magnetic polarity map for Iceland has been lacking but during the last 50 years, comprehensive stratigraphic mapping has paved the way for a magnetic polarity map in various parts of Iceland. Here, such a map is presented for a segment of East Iceland, i.e. for lavas ranging in age from 0 to 13 M yr.

The map is a compilation based on various studies into the cliff section and stratigraphic work performed by numerous research initiatives, both in relation to hydroelectric research as well as academic projects.

References:

Kristjánsson, L., 2008. Paleomagnetic research on Icelandic lava flows. *Jökull*, 58, 101-116.

Helgason, J., Duncan, R.A., Franzson, H., Guðmundsson, Á., and M. Riishuus., 2015. Magnetic polarity map of Akrafjall and Skarðsheiði and new ^{40}Ar - ^{39}Ar age dating from West Iceland., Presentation at the spring conference of the Icelandic Geological Society, held on March 13th 2015 at the University of Iceland.