

## Rheological behaviour on the crust of the northern Fennoscandian shield

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The continental lithosphere is usually old, cold, having a multilayer rheology and its rheological behaviour is determined by the brittle and ductile properties of the constitutive rocks that form the lithosphere. Rheological strength was derived for the seismic POLAR profile based on the seismic velocity structure (Janik et al., 2009; Moisio and Kaikkonen, 2013). Relations between the focal depths of the earthquakes and the rheological strengths were analyzed especially the factors that have influence on the brittle strength favouring the observed distribution of the earthquakes.

### References:

Janik, T., Kozlovskaya, E., Heikkinen, P., Yliniemi, J. and Silvennoinen H., 2009. Evidence for preservation of crustal root beneath the Proterozoic Lapland-Kola orogen (northern Fennoscandian shield) derived from P and S wave velocity models of POLAR and HUKKA wide-angle reflection and refraction profiles and FIRE4 reflection transect. *J. Geophys. Res.*, 114, B06308, doi:10.1029/2008JB005689.

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