



Receiver function imaging of the mantle discontinuities beneath Fennoscandia and northern Europe

Andrew Frassetto and Hans Thybo

University of Copenhagen, Geography and Geology, Copenhagen, Denmark (af@geo.ku.dk)

Receiver functions from the Mantle Investigations of Norwegian Uplift Structure experiment (MAGNUS) are depth-converted using interval wavespeeds from AK-135 for the 410-km and 660-km discontinuities and combined using common-conversion-point stacking. This preliminary work shows a potentially complex mantle-transition-zone beneath southern Norway, with reduction in the amplitude of the 410-arrival and 20-30 km of shallowing of the 660-arrival beneath the axis of the Oslo Rift. To refine these measurements and place them in a regional context, we incorporate the MAGNUS dataset with permanent stations and previous temporary seismic deployments across Fennoscandia and northern Europe. New constraints on the depth to the lithosphere-asthenosphere boundary and character of the mantle-transition-zone will aid in understanding the causes for potentially recent uplift in the southern Scandes and the region of unusually slow upper mantle resolved beneath the region (Weidle and Maupin, 2008).