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First results regarding the lithosphere and mantle structure of the oceanic plate between Mohns ridge and the Barents shelf from broadband OBS recordings

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A large aperture network of 12 OBS stations equipped with
broadband 3-component seismometers and hydrofones was installed
for about one year (September 2007 to September 2008) west of Bear Island
to record local seismicity and teleseismic signals.

Hints for anomalous low velocities in the upper mantle between
Knipovich/Mohns ridge and the Barents shelf are found
from teleseismic P-wave absolute and relative traveltime residuals
(relative residuals are determined with the help of nearby
permanent stations on Bear Island and Spitzbergen).
Furthermore long period Rayleigh wave trains from global earthquakes (down to 100 s)
are used
to confirm this result by dispersion analysis and inversion of phase
velocity dispersion curves.
The analysis of group velocities obtained from ambient noise complements the
model towards shorter periods.
From a few records receiver functions could be calculated which helped to constrain
the plate structure at a few locations further.