

COMBINING ASYNCHRONOUS DATA SETS IN REGIONAL BODY-WAVE TOMOGRAPHY

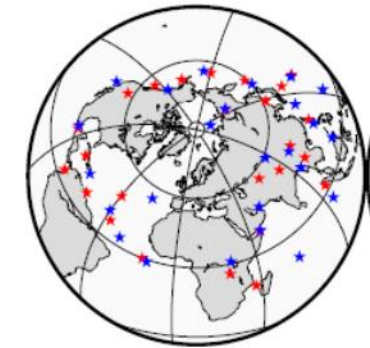
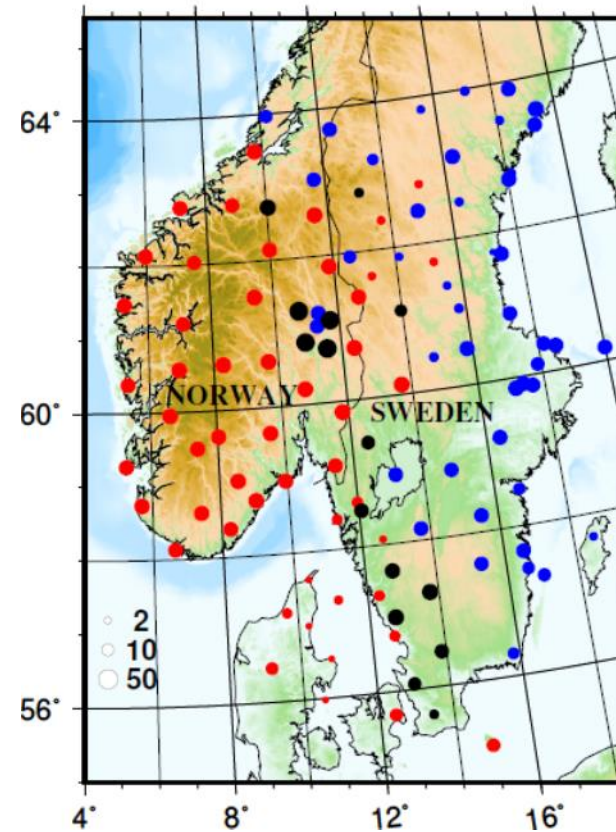
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I present the results of a resolution test using teleseismic P-wave residuals from two sets of events recorded at two sets of stations which are located adjacent to each other.

The residuals are relative traveltimes residuals, not absolute ones, as in many regional body-wave tomographies.

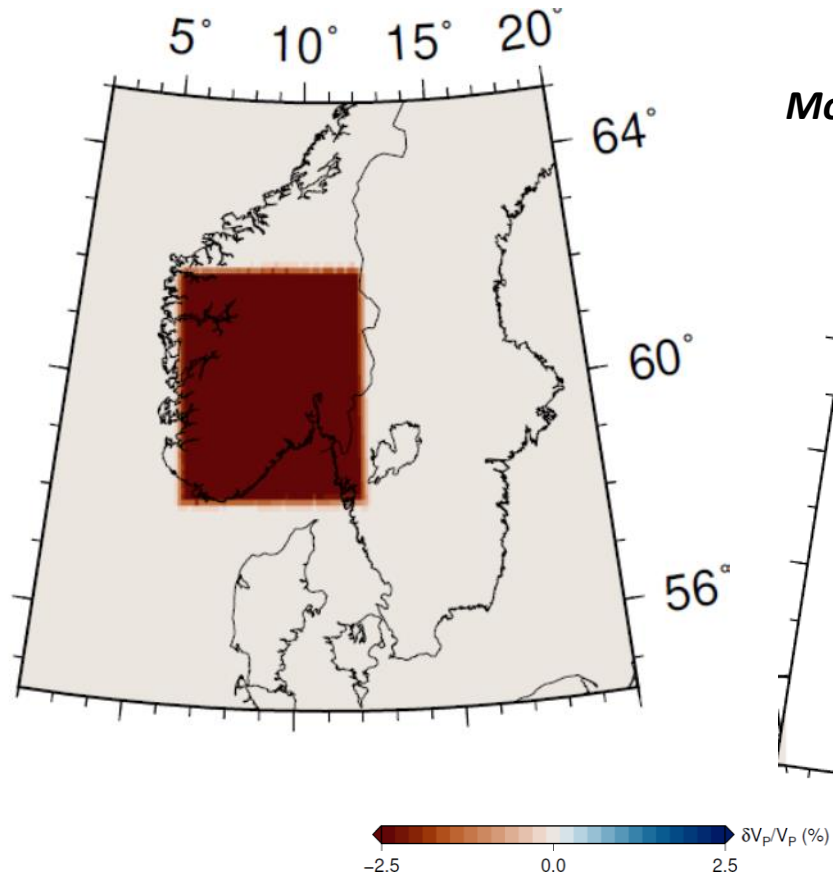
The resolution test shows that using relative kernels, that take into account that the residuals are relative to the mean residual for each event, large-scale biases related to the disjoint geographical distribution of the two sets of stations can be removed.

Station and event distribution



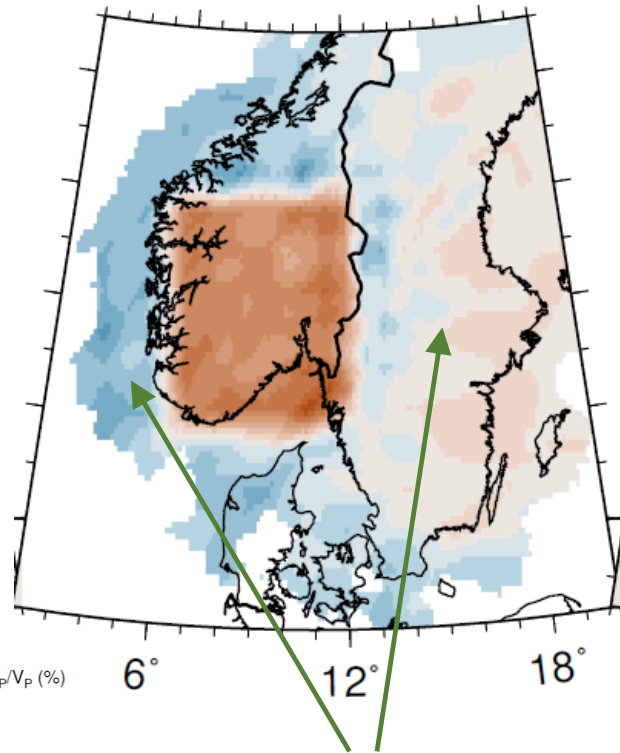
*Blue stations record blue events;
Red stations record red events;
Black stations record all events.*

Synthetic P-wave model at 200km depth
(a simple low-velocity zone in the mantle)

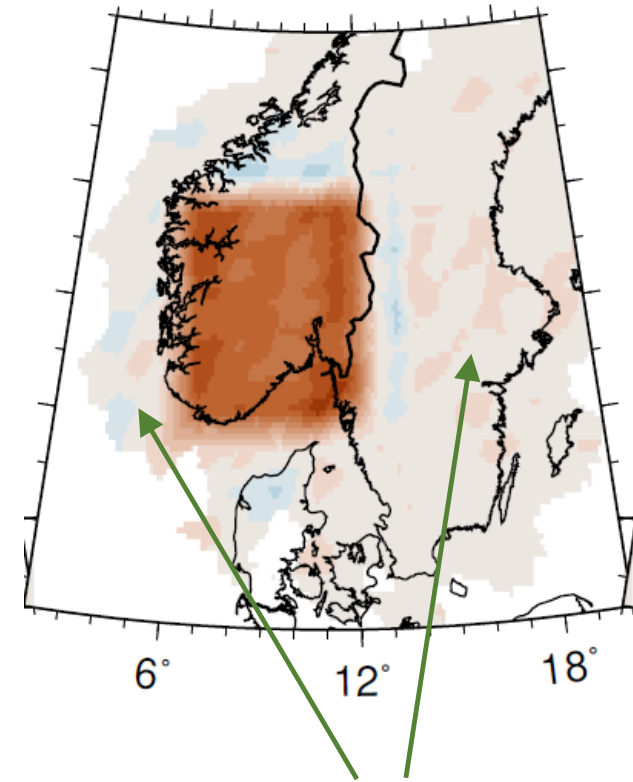


Model inverted with relative kernels
(The relative kernels take into account that each residual is measured with respect to the mean for each event)

Model inverted with usual kernels



Bias in the large-scale velocity



Bias removed