



## **Analysis and repair of bias in existing teleseismic travel time databases**

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Accuracy of teleseismic travel time databases are crucial to global tomographic velocity modelling. However, great uncertainties influence the travel time selection, some leading to significant biases.

We compare travel time identifications from the International Seismological Centre (ISC) with high quality picks on seismological stations in our study area of Southern Scandinavia. We find bias differences amounting to more than 1 second among ISC stations.

Uncertainties related to noise level mean that on stations located in a rather noisy area, for instance on sediments, arrivals may be later than they should compared to arrivals at low noise bedrock stations. Other biases are related to choice of filtering and habits of the person identifying arrivals.

We test and discuss different approaches for reducing these biases by comparing statistics of ISC picks and high quality picks across tectonic and national boundaries.