



Asymmetry of ambient noise correlograms as a tool for instrument response correction

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Standard procedures of processing ambient seismic noise include instrumental response correction of raw data. Proper correction is of fundamental importance especially in case pairs with different instrumentation were correlated. Due to usually applied amplitude equalization or one-bit normalization in further steps of data processing the phase correction is more important than the amplitude correction. Nevertheless station metadata may not be accurate enough or the actual calibration may be unstable during the long term monitoring period. Phase asymmetry between causal and acausal parts of the correlograms can indicate calibration problems but also can be used for correcting the considered calibrations. In a limit case, no apriori calibration is necessary provided other properties of seismic noise are met (e.g. stationarity and azimuthal isotropy). The suggested approach is formulated analytically and documented by using a synthetic example and real data from the Reykjanet (SW of Iceland) and WEBNET (West Bohemia/Vogtland) local networks.

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