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Ambient Noise Classification in the Vienna Basin

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We use the densely spaced CBP Array in the Vienna Basin, Austria, to infer shear wave velocity structure of the basin. We aim at calculating Green's functions by crosscorrelating ambient noise seismograms recorded at station pairs of the array. This requires bandpass filtering, whereby the lowpass corner frequencies are typically around 0.3 Hz so that noise generated by ocean waves can be used for the crosscorrelation. However, the inter-station distances in the CBP array are as short as 20 km, and we must therefore filter the data at higher frequencies than in most other studies. Above 1 Hz the primary source of ambient noise is human activity, which may not be distributed the same way as natural seismic noise. In order to reliably determine the Green's functions we must therefore classify the noise sources first. It is particularly important to know the source locations, which ideally should be randomly distributed outside the array. To this end we analyse crosscorrelations of short time series, to investigate the effects potential variations in ambient noise and their source locations have on the Green's functions. This analysis is ongoing, and we will report the final results at the meeting.