



Comparison Study Between Vault Seismometers and Posthole Seismometers

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Surface vault broadband seismometers have typically yielded good results on the vertical, but have been significantly noisier on the horizontal. There are several reasons for this issue, including inherent problems with surface tilt noise and air convection. A comparison study was undertaken between the highest performing vault seismometers and a new broadband Posthole seismometer in a down-hole installation at different depths. A spectral analysis was conducted and PSD plots were generated. We find that the burial of a seismometer results in a reduction of observed site noise that increases with depth of the seismometer, particularly on the horizontal components. This effect is observed for both high and low frequency data. Additionally, we compare the data for selected seismic events observed at both a vault seismometer and a posthole seismometer at the same location.