



## **Influence of Wind Turbines on Seismological Records**

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In the area of the Gräfenberg array in Southern Germany a large number of wind turbines has been installed since 2011. The wind turbines are located in various distances to the 13 stations of the array, down to distances of 1.4 km at two sites. The noise spectra of the sensitive GRF stations are significantly affected between 1 and 10 Hz by wind dependent influences of the turbine towers. The effects of the wind turbines are visible in the seismograms at least up to distances of 15 km. Also the borehole station GRFO in about 100 m depth shows wind turbine noise signals comparable to the collocated surface station GRA1. This leads to severely reduced recording and detection capabilities of the single stations and of the whole array at high wind speeds. The results were found by systematically analyzing continuous data records at all GRF stations over many years. The effect of the sedimentary limestone layer beneath all GRF stations as propagation medium for the noise signals is currently under investigation.