

# Azimuth Estimation of KiK-net surface seismometers deployed in Hokkaido, Japan

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At the dense strong motion network, KiK-net, not only a surface sensor but also a borehole sensor (at about 100 m depth) are installed. Although the borehole sensor-azimuth has been carefully investigated, we estimate the surface sensor-azimuth at KiK-net stations in Hokkaido by evaluating correlation between surface and borehole long-period waveforms. At 100 among total 112 stations, the azimuth errors are less than 20 degrees. However, at 12 stations the azimuth errors are larger than 20 degrees; one of the stations shows the error of about 180 degrees. Finally we show the effect of the azimuth error on the analysis of S-wave spectral ratios between the surface and borehole records.