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Multiple 6C-station Huddle Test in Fürstenfeldbruck, Germany

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Rotational motions play a key role in measuring seismic wavefield properties. To fully understand and describe the behavior of seismic waves, both translational and rotational components should be properly investigated. Portable blueSeis-3A (iXblue) sensors allow to measure 3 components of rotational motions with high sensitivity in a frequency range from 0.001 Hz to 50 Hz.

A huddle test was performed in Fürstenfeldbruck, Germany by the University of Potsdam in collaboration with the Ludwig-Maximilians University of Munich (LMU) and Federal Institute for Geosciences and Natural Resources (BGR) between 26 of August and 02 of September 2019, in order to further investigate the performance of multiple rotational instruments in combination with seismometers. Within the scope of this test, 5 rotational and 3 translational sensors were deployed on the basement of the observatory on decoupled plinth. Our preliminary results show good correlation between all components and rotational sensors. To investigate the coherent noise between sensors, we applied a 50 Hz low-pass filter and 100 Hz sampling rate. To better illustrate, probabilistic power spectral densities and spectrograms have been created. In general, we will discuss the reliability of the data recorded by rotational sensors for further investigations.