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## Distributed Acoustic Sensing for monitoring seismic and acoustic perturbation on accelerators

*Thursday 8 September 2022 09:20 (20 minutes)*

The WAVE initiative investigates and designs a seismic and geo-acoustic measurement network in and around and around the Science City Hamburg Bahrenfeld. WAVE is a unique and innovative infrastructure for geophysics, physics and especially for large-scale research facilities.

A key element of WAVE is the widespread use of modern seismic sensors, in particular distributed acoustic sensing (DAS). This technology uses fiber optic cables as sensitive seismic sensors. It enables ground motion data to be recorded at an unprecedented spatial density over long distances.

I am going to present some first data taken around the DESY campus and especially in the XFEL accelerator tunnel to discuss applications for improving beam stability in accelerators.

### Summary

First data taken with a DAS (seismo-acoustic fiber measurement) measurement device on the DESY campus and in the XFEL accelerator tunnel will be presented to discuss further applications for beam stability improvements.

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**Session Classification:** Session 2: Beam Diagnostics

**Track Classification:** Beam diagnostics