



## Session 16

### Seismic instrumentation – How precise is precise enough?

Conveners:

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In the four decades since the first inertial broadband seismometers were introduced, these feedback instruments have become standard seismic measuring tools. They allow high quality ground motion measurements over four to five decades of frequency, while also resolving these vibrations with astonishingly high resolution, from the order of mm/s down to nm/s even under rough field conditions. Modern feedback seismometers are precision measuring tools in the same league as other instruments designed for use in clean, stable laboratory environments.

Linking this precision to the international system of units (SI) and tracking it over the lifetime of a broadband seismometer or seismic station requires carefully crafted calibration procedures. Instrument manufacturers deploy a variety of individual techniques to calibrate their wares before they are sold. Network operators deploy clever procedures to remotely monitor the performance of their instruments during their lifetime in the field. An effort is also currently underway to link the calibration of seismic sensors to fundamental SI constants and thereby introduce seismometers to standardized procedures common in the world of metrology.

We invite all those interested in seismic instrumentation and calibration techniques to this session, whether manufacturers, users or metrologists, to share and discuss calibration techniques for broadband seismometers and their results. We also want to pose the question about how precise seismic instruments need to be, and to what extent the uncertainty in their calibration affects the models used for the interpretation of seismic data. And we want to compare the high precision measurements of ground motion made with inertial seismometers with recent observations made using optical fibers and other techniques. We invite everybody interested in seismic instrumentation to submit abstracts to this session.

