

Earth's Rock and Roll: Rotational Motions in Seismology

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The unwanted noise of ring lasers (whenever seismic wave fields perturb their measurements of Earth's rotation rate) has led to a new field: rotational seismology. The additional ground motion components (i.e. rotation around three orthogonal axes) had been widely ignored, as they are very difficult to measure. Yet, when combined with collocated standard seismometers (three components of displacement) a wealth of information can be recovered from the wavefield. We will report on these new developments with applications in seismic tomography, earthquake physics, planetary seismology, engineering, and other fields.

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