



Acoustic and elastic radiative transfer theory with nonisotropic scattering: applications to a local event in South Norway

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We developed a Monte Carlo algorithm for elastic Radiative Transfer Theory (RTT) in a continuous random medium and used it together with acoustic RTT to simulate envelopes and compare those with data. As an example of envelope inversion we used the magnitude 3.5 earthquake of 7. April 2004 at Flisa (South Norway), which was situated in a local distance to the NORSAR array. Our objective was to invert the energy envelopes of seismograms with RTT in the multiple scattering regime with anisotropic scattered acoustic and elastic waves in a von Karman random medium. We estimated the power law of the random medium and the scattering parameters of earth's crust near the NORSAR array. The results will be compared and discussed for three models: unbounded space and scattering layer over homogeneous half space with acoustic RTT as well as elastic RTT in an unbounded space.