



The equake-rc online platform: Open resources for earthquake source studies

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Finite-fault inversions to image earthquake source kinematics, using seismic, geodetic and other geophysical data, have become common practice for seismological studies. Although largely neglected in the past, it is imperative to study the uncertainty involved in such inversions. Earthquake source models, and the assessment of their variability and uncertainty constitute the driving factors of the equake-rc online platform. The portal at <http://equake-rc.info> comprises three main sites: (1) SRCMOD database: <http://equake-rc.info/srcmod>, (2) Source Inversion Validation (SIV) benchmarks: <http://equake-rc.info/siv>, and (3) Codes for Earthquake Rupture and ground-motion Simulation (CERS): <http://equake-rc.info/cers>. The SRCMOD database collects and disseminates rupture models of past earthquakes within an open and unified repository. The SIV benchmarks aims at investigating the current state-of-the-art in earthquake source inversions to develop robust approaches for quantifying their uncertainties. The site provides open datasets (benchmarks with varying degree of complexity), and tools for code verifications and inversion validations. The CERS site currently provides three software packages: 'RupGen' for generating synthetic earthquake rupture models, 'Slip2Stress' for computing on-fault static stress changes, and 'BB-Simulation' for computing hybrid broadband seismograms by combining high frequency synthetics with low frequency waveforms. This equake-rc platform embodies a collaborative framework for the scientific community, and provides enhanced visibility of related research results. We envision that this open resource will further promote research on earthquake source processes.