Geophysical Research Abstracts
Vol. 13, EGU2011-5807, 2011
EGU General Assembly 2011

Coseismic stress evolution, different patterns from different slip distributions

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Analyzing different seismic sequences in the world, we compute the stress evolution in an elastic homogeneous and layered half space.
The heterogeneous slip on the main event plane is retrieved from DInSar and GPS inversion with a new algorithm. It keeps into account the real resolving power of the available data, imaging better details of the area covered by measurements and avoiding the oversplitting for areas where an adequate resolution cannot be achieved.
We will focus our computations on the 2009 L'Aquila (Central Italy) event, on the 2010 Chile event and on the 2008 Balochistan (Pakistan) sequence, thus encompassing a wide range of possible fault mechanisms.
We compute stress perturbations induced by the largest events of seismic sequences to analyze the aftershocks seismicity pattern in terms of spatio-temporal stress field evolution, projecting the stress on average fault parameters accordingly with the main geologic characteristic of the seismogenic regions. We also resolve the Coulomb Failure Function (CFF) on the available real earthquakes fault planes. We wish to enlighten the differences between the stress evolution retrieved after traditional inversion methods for the fault slip patterns, and the one obtained adopting the uneven fault patches approach we developed.
We analyze the correlation between seismicity pattern and regions of increased stress value showing how the different slip on fault planes could change the results in terms of stress triggering and stress shadowing.