

Jian Lin: 2011 Coulomb 3.3 Short Course at Peking University

Application of Coulomb 3.2 in earthquake and volcano research and teaching?
Coulomb 3.2 3D
Google Earth GPS
Mac/PC/Linux 7.4/1,600
<http://earthquake.usgs.gov/research/modeling/coulomb/>

We believe that one learns best when one can see the most and can explore alternatives quickly. So the principal feature of Coulomb is ease of input, rapid interactive modification, and intuitive visualization of the results. Coulomb calculates displacements, strains, and stresses caused by fault slip, magmatic intrusion or dike expansion. Typical uses are how an earthquake promotes or inhibits failure on nearby faults, or how fault slip or dike expansion will compress nearby magma chamber. Geological deformation associated with strike-slip, normal, and thrust faults or fault-bend folds is also a useful application. Calculations are made in an elastic halfspace with uniform isotropic elastic properties following Okada (1992). The internal graphics are intended for publication, and can be imported into illustration or animation programs for enhancements. There are over 1,600 registered Coulomb users world wide. Coulomb runs on Mac's, PC's and Linux boxes. It is a MATLAB application, so you will need to install MATLAB 7.4 or later. The Coulomb 3.2 program, user guide, and tutorial files are freely available from <http://earthquake.usgs.gov/research/modeling/coulomb/>.

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