Interface 2003
Abstract

Detecting Features in Seismic and Geodetic Data

Andrea Donnellan, (Jet Propulsion Laboratory), donnellan@jpl.nasa.gov,
Robert Granat, (Jet Propulsion Laboratory), Robert.Granat@jpl.nasa.gov, and
John Rundle, (University of California, Davis), jbrundle@ucdavis.edu

Abstract

Earthquakes are non-regular in both time and space making forecasting of future earthquakes difficult. Additionally they occur on timescales of hundreds to thousands of years. Seismic data and more recently geodetic data are used to study earthquake processes as well as geological study of earthquake faults. Earthquake faults are part of larger systems in which faults interact with each other. An earthquake on one fault can either inhibit or increase stress on nearby faults. We are using multiple approaches to better understand the earthquake processes and interacting fault systems. These include simulating earthquake processes as well as looking for patterns in seismic and geodetic data. We are using extensions of principle component analysis and hidden Markov modeling to detect features and anomalies in the data. The approaches show promise toward forecasting future earthquakes.

Take me back to the main conference page.