Clustering Model for Seismicity Data Analysis: Earthquake Declustering, Seismicity Anomaly Detection, and Model Extension

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The Epidemic-Type Aftershock Sequence (ETAS) model has become a standard model, or null hypotheses, for testing other models and hypotheses related to seismicity. This seminar introduces the history of the ETAS model and some other general topics, including

1. Stochastic separation of earthquake clusters from the catalog;
2. Techniques related to testing hypothesis or seismicity anomalies against the ETAS model;
3. Topics on model extensions: the role of earthquake fault geometry in seismicity triggering and inversion of earthquake fault geometry based on seismicity; hypocenter depth; focal mechanisms; etc.

EARTH SYSTEM SCIENCE PROGRAMME

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