

AOB Seminar

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開催日時: 2013 年 2 月 8 日(金) 14:00 - 15:30

場 所: 地震・噴火予知研究観測センター 別館 第一会議室

講演題目: Earthquake triggers and shadows on the scale of the fault and the planet

There has been a fierce debate over whether static and dynamic stresses dominate in the production of aftershocks and progressive mainshock sequences, a debate important for seismic hazard forecasting. There are two strong tests to discriminate between static and dynamic stress triggering: Only static stress casts stress shadows, and these should shutdown earthquakes or at least drop the seismicity rate. In contrast, only dynamic stresses could trigger aftershocks at great distances from the mainshock rupture. Here we show cases in which both are true: Several stress shadows do, in fact, shut down aftershocks, and at least one mainshock—the 11 April 2012 M=8.6 event in the Indian Ocean—triggered large aftershocks all over the globe for several days. From this we argue that static stress is the dominant process of aftershock generation, but surface waves launched by megaquakes can trigger some events for brief periods.