

AOB Seminar

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開催日時: 2017 年 7 月 28 日(金) 10:00-11:30

場 所: 地震・噴火予知研究観測センター A 棟 3 階 第二講義室

講演題目&要旨:

Source determinism, ground motion estimation, and early warning

The issue of source determinism, whether large and very large events have different characteristics in the first seconds of rupture, and its implications for the usefulness and impact of earthquake early warning (EEW) have long been a source of discussion. In this talk I will discuss observations that suggest there is a weak form of determinism. Rupture nucleation (the first seconds) is a magnitude independent process but soon thereafter (tens of seconds) rupture organizes into a self similar slip pulse. We will discuss observational and simulation results that suggest a new paradigm for early warning: A universal nucleation process means that EEW systems will always have a blind zone where no forecast of strong shaking is possible. However, large earthquakes produce damaging shaking over large areas, and given the self similar properties of slip-pulses, following nucleation (~tens of seconds) a dense network will be able to discern the nature of rupture and forecast strong shaking to the region surrounding a large event in advance of its onset.