Waveform Modeling for 3D Seismic Velocity Structure Using Body Wave Data Recorded by the Dense Seismographic Networks in Japan

Speaker : Prof. Fumiko Tajima
Affiliation : LMU Munich
Date & Time : 15:00 - 16:00 Sep 18, 2009 on Friday
Place : Earth Science Bldg. 5F #503 COE Seminar Room
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Abstract :
I have been carrying out several projects using broadband waveform modeling in various aspects of seismology in collaboration with my students at Hiroshima University. In this talk I would like to introduce some of the recent results focusing on the shallow 3D structures in Japan. These include a. study and visualization of highly variable strong ground motions recorded by the dense network of seismic instruments in Yokohama-city by Sou Adachi (Bachelor’s thesis, 2006; Master’s thesis, 2008), b. characterization of earthquake spectra in comparison with micro tremor spectra calculated from data recorded by a single short-period instrument, study of local site effects toward estimating site specific strong ground motions in southwestern Japan by Takumi Hayashida (Bachelor’s thesis, 2005; Master’s thesis, 2007), and c. study of seismogenic conditions – seismic source properties and structural heterogeneities around the source area by Reiko Tajima (Doctoral Dissertation, 2009). I will also show some slides from our on-going project to model the seismic structure in southwestern Japan using pronounced sP-phase and S-wave arrivals recorded for intra-slab earthquakes. Through the course of the studies, we envision to advance our understanding of seismogenic conditions and hazardous ground motions caused by earthquakes in this country where the people have been always exposed to the highest seismic risks, and thus installed the most advanced monitoring and recording systems of seismic signals.