

DEEP SEISMIC PROFILING OF METROPOLITAN AREAS IN JAPAN: PRELIMINARY RESULTS OF OSAKA-SUZUKA 2004

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The metropolitan areas in Japan, such as Tokyo and Osaka, have high risk of seismic hazards. The Headquarters for Earthquake Research Promotion Japan determined to start the new program targeting the reduction of seismic hazard in the metropolitan areas. As a part of this program, the project to reveal the regional characterization of metropolitan area, including the deep seismic profiling, began from 2002 as a basically five years project. A long-term goal is to produce a map of reliable estimations of strong ground motion. This requires accurate determination of: source, propagation path, ground motion response. This projects focuses on identification and geometry of: source faults, subducting plates and mega-thrust faults, crustal structure, seismogenic zone, sedimentary basins, 3D velocity properties. In the fiscal year of 2004, deep seismic profiling was carried out in the Kinki metropolitan area along the EW trending seismic line from Oksaka to Suzuka. Across the Osaka and Ise plains, detailed structures of the sedimentary basins and displacements produced by active faulting are clearly imaged using in the central mountain range, low-fold seismic reflection data were acquired using four explosive shots. The obtained seismic section portrays clear reflectors between four and five seconds (two-way travel time).