Crustal Structure and tectonic attribute Revealed by a Deep Seismic Sounding Profile of Dinghu-Gaoming-Jinwan in the Pearl River Delta

Xiuwei Ye\textsuperscript{1,2}, Xiang Zhang\textsuperscript{1,2}, Jinshui Lv\textsuperscript{1,2}, Baofeng Liu\textsuperscript{3}, Xiaona Wang\textsuperscript{1,2}, Liwei Wang\textsuperscript{1,2}, and Zuoyong Lv\textsuperscript{1,2}

\textsuperscript{1}Guangdong Provincial Key Laboratory of Earthquake Early Warning and Safety Diagnosis of Major Projects, Guangdong Earthquake Agency, Guangzhou 510070, China
\textsuperscript{2}CEA Key Laboratory of Earthquake Monitoring and Disaster Mitigation Technology, Guangdong Earthquake Agency, Guangzhou 510070, China
\textsuperscript{3}Geophysical Exploration Center, China Earthquake Administration, Zhengzhou 45002, China

To find out the crustal structure and tectonic attribute of the Pearl River delta and offshore area (PRD), in 2015, the Guangdong Earthquake Agency collaboration with the other unit carried out a three-dimensional joint onshore-offshore seismic detection experiment in the PRD. This paper processed the data of Dinghu-Gaoming-Jinwan L1 line on the west side of PDR. We utilized ray tracing and travel-time simulation method to obtained a P-wave velocity model of the L1 profile. The study showed: Along the profile, the depth of the Moho gradually decreases from the northwestern inland 30.0km to the southwestern coastal 28.0km. Upheaval of the Moho is between Dinghu and Gaoming. The low velocity layer in the mid-crustal is a heterogeneous continuum. The velocity of low velocity layer NW side is lower than the SE side, especially between Dinghu and Gaoming. The minimum velocity is 6.05 km/s\(^{-1}\). The deep Wuchuan-Sihui fault and Guangzhou-Enping fault may be one of the most important channels for deep material upwelling. It is the continuum upheaval of the Moho which from Dinghu, Gaoming on the west side of PDR to Qingyuan, Conghua on the east side of PDR delimited by Wuchuan-Sihui fault and Guangzhou-Enping fault.