



Lithospheric Structure in the southeastern margin of Tibetan Plateau by using ChinArray Data

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The China Seismic Array Program (ChinArray) is to understand the deep structures and their relationship to seismic activity in the continent of China. The first phase of the program was carried out in the region of Yunnan, in the southeastern margin of the Tibetan Plateau. How is the relationship between the Plateau and surroundings blocks? How is the characteristics of the deep structures, especially along the faults we observed on the surface? We also want to know more about deep background structures where the strong earthquake occurred. The seismic array includes 350 broadband portable seismic stations, with the average interval of 35km. By using the seismic inversion methods, we obtained the 3-D seismic velocity structure, the shape of the Moho discontinuities, the seismic anisotropy of the lithospheric medium. These results could be used to build the 3-D model of the lithospheric structures. The low velocity zone in low crust was founded inside the Plateau area. Moho depth distribution was obtained from the seismic receiver function. They showed the different margins of the extension materials of Tibetan Plateau in deep from that on the surface. The Red River fault is the border of the blocks in crust. While it has no remarkable variation in mantle beneath the Red River fault. The seismic anisotropy figure showed that the directions of the splitted fast S waves are different in northern and southern part of the Yunnan area. We deduced that the extrusion of Tibetan Plateau was obstructed below the crust around the latitude of 26°N.