

Effect of a dipping layer on the location of Pishan earthquake sequences by the using of array methods

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On July 3th, 2015, an earthquake occurred in Pishan county in the Xinjiang Uygur Autonomous Region in China. We used the data recorded by Hetian small aperture seismic array, analyzed the earthquake sequences by the using of array methods. System location errors were found for Pishan earthquake sequences, at the diagram, the error vectors were all point to one direction, that is 300° . Large slowness errors occurred, $-6.43s/^\circ$ in average. Through researching the events in all direction in the slowness domain, we concluded that the system errors came from the effect of a dipping layer below the array. Then we founded that most of the errors can be compensated by the dipping layer with a 300° dip, 210° strike, 45° dip angle and 0.78 velocity contrast.