Three-dimensional P and S wave separation using dispersion relationship and Imaging of underground structure

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In the elastic wave that spreads in the earth, P, SV, and SH waves exist. We describe a method to separate a three-dimensional elastic wave field record into P, SV, and SH waves. The method of separating is based on a plane-wave expansion for elastic wave fields and the dispersion relationship. In this paper, we apply this method to three-dimensional synthetic data and apply prestack Kirchhoff depth migration to separated data. As a result of these processing, we succeeded in visualize the reflector with certain accuracy.