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Fracture properties inversion from azimuthal AVO using singular value decomposition.

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ABSTRACT

We develop a technique for inversion of fracture properties from azimuthal AVO. The method is based on the decomposition and reconstruction of the amplitude changes with azimuth in terms of principle components, which are calculated via singular value decomposition (SVD). We present the method and illustrate its application to surface seismic with a synthetic example of multi-azimuth common-offset gathers with different fracture densities.