

Deriving fracture attributes from seismic anisotropy: a case study

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Abstract

Over the last few years there has been significant interest in the analysis of open fluid-filled fractures from P-wave azimuthal anisotropy. This paper presents the results of a recent study on the Tin Fouyé Tabankort Field, in the Illizi Basin (Algeria). The goal of this study was to characterise the seismic anisotropic fractures from RMS amplitude maps on a small volume of the field. Using an integrated workflow that combines azimuthal-friendly processing with a proprietary geostatistical decomposition technique, we have obtained robust quantitative estimation of the anisotropy attributes. A good correlation was observed between the extracted fracture intensity and orientation, the seismic coherency maps and the fault interpretation. Such results contribute to a better evaluation of the fracture networks.