PRACTICAL ASPECTS OF THE COMMON-REFLECTION-SURFACE STACK TECHNOLOGY

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The Common-Reflection-Surface (CRS) stack method (see e. g. Mann, 2002) is a generalised multi-dimensional and multi-parameter stacking velocity analysis technology based on coherence measures. It can be seen as a powerful alternative to the conventional normal moveout (NMO)/dip moveout (DMO)/stack approach. However, instead of using just one stacking parameter (namely the stacking velocity), the CRS stack incorporates three (2D) or eight (3D) stacking parameters, the so-called kinematic wavefield or CRS attributes. These contain information about the subsurface and have, thus, various useful applications. For instance, they allow to estimate the geometrical spreading factor, to flatten prestack data, or to determine a velocity field for migration (see e. g. Duveneck, 2004). While in previous years the emphasis of CRS stack applications has mainly been put on its ability to produce simulated zero-offset sections of high signal-to-noise ratio and good structural resolution (see e. g. Trappe et al., 2001), the attributes have meanwhile increasingly gained in relevance and broaden the field of application. Whereas conventional processes like NMO/DMO are widely investigated and frequently applied, the CRS technology and its related applications are still under development and subject of current research. We address the use of the CRS stack method in a production environment with land and marine data and focus on practical aspects of the processing flow.

References

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