

Kirchhoff's Depth Migration over Heterogeneous Velocity Models with Ray Tracing Modeling Approach

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Abstract : Complex seismic signatures are generated due to the complexity of the subsurface which is difficult to interpret. In the present study, an attempt has been made to model the complex subsurface using the Ray tracing modeling technique. Add to this, for the imaging of these geological features, Kirchhoff's prestack depth migration is applied over the synthetic common shot gather dataset. It is found that the Kirchhoff's migration technique in addition with the Ray tracing modeling concept has the flexibility towards the imaging of various complex geology which gives satisfactory results with proper delineation of the reflectors at their respective true depth position. The entire work has been carried out under the MATLAB environment.

Keywords : Kirchhoff's migration, Prestack depth migration, Ray tracing modelling, velocity model

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