عنوان مقاله:

An Improvement in Temporal Resolution of Seismic Data Using Logarithmic Time-frequency Transform Method

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خلاصه مقاله:

The improvement in the temporal resolution of seismic data is a critical issue in hydrocarbonexploration. It is important for obtaining more detailed structural and stratigraphic information. Manymethods have been introduced to improve the vertical resolution of reflection seismic data. Eachmethod has advantages and disadvantages which are due to the assumptions and theories governingtheir issues. In this paper, we improve the temporal resolution of reflection seismic data using thelogarithmic time-frequency transform method. This method has minimum user-defined parameters.The algorithm uses valuable properties of both the time-frequency transform and the cepstrum toextend the frequency band at each translation of the spectral decomposing window. In this method,the displacement of amplitude spectrum by its logarithm is the basic idea of the algorithm. We testedthe mentioned algorithm on both synthetic and real data. The results of the both tests show that theintroduced method can increase the temporal resolution of seismic data.

کلمات کلیدی:

Seismic Temporal Resolution, Time-frequency Transform, Logarithmic Method, Enhancing Temporal Resolution