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(54) Title: SEISMIC SIGNAL PROCESSING METHOD WITH GAUSSIAN SLOWNESS-PERIOD PACKETS

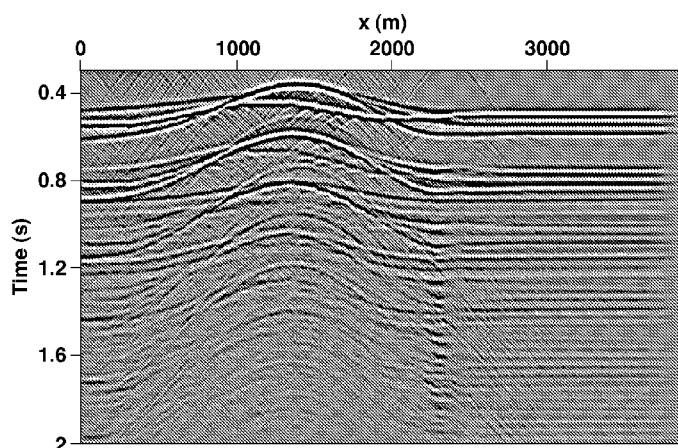


FIG. 7

(57) Abstract: Method for addressing non-stationary seismic data for data processing techniques (106) that assume that the data are stationary. In the present invention, windowing operations are applied, not in time and space as in traditional methods, but in frequency and wavenumber. This windowing in frequency and wavenumber is done implicitly by a cascade of separable one dimensional time and spatial filtering operations (104). These filters are Gaussian functions modulated by a complex exponential. By using a variety of these filters, the input data can be decomposed into a series of slopes and frequencies that can be reassembled to the original by applying the adjoint operation followed by a weighted sum (108). This decomposed domain of time, space, frequency and slope can be used as a domain where a priori information about the output can be applied in a straightforward manner.

