

论文

基于改进的最佳匹配地震子波的地震资料衰减特性分析

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摘要 简述了改进的最佳匹配地震子波的小波函数构造及参数的物理含义; 根据地震波的高、低频分量在黏弹介质中传播时被地层吸收的差异, 给出了一种在时-频域定性估计地震波衰减特性的方法; 分别以改进的最佳匹配地震子波的小波及Morlet小波作为母小波分析地层吸收特性, 并比较了两种小波函数刻画地层吸收特性的能力; 测试了这种方法对噪声的敏感程度. 将文中提出的方法用于某油田的一段实测地震资料衰减分析, 得到的吸收特性剖面能较好地反映油气的空间展布.

关键词 [MBMSW小波](#) [地震资料衰减特性](#) [时-频域](#)

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### Characteristic analysis of seismic attenuation using MBMSW wavelets

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**Abstract** In this paper, a new type of analyzing wavelet named modified best matching seismic wavelets (called MBMSW wavelets) is proposed briefly, and the MBMSW wavelet's parameters are introduced. An amplitude attenuation formula is presented in time-frequency domain, based on the difference between the energy absorbing of the seismic wave's high frequency components propagating in visco elastic media and that of the low ones. Using the MBMSW wavelet and the Morlet wavelet as analysing wavelets, the characteristics of seismic attenuation curves are estimated with the field and synthetic data and their time resolution are compared. The robust of the method is tested by the noised synthetic data.

**Key words** [MBMSW wavelet](#); [Characteristics of seismic attenuation](#); [Time frequency domain](#)

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