

论文

复杂介质小波多尺度井间地震层析成像方法研究

裴正林

石油大学(北京)CNPC物探重点实验室, 北京 100083

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摘要 复杂介质井间地震层析成像是一个很复杂的非线性反演问题, 常规的线性化反演方法无法得到好的解. 采用基于图形的弯曲射线追踪方法, 并将小波多尺度思想引入到井间层析成像, 提出了小波多尺度井间地震层析成像方法, 很好地解决了非线性成像的难题, 提高了图像的质量和分辨率. 物理模型实验结果表明, 该方法适合于复杂介质成像, 并具有良好的实用性和效果.

关键词 [井间地震](#) [走时层析成像](#) [小波多尺度反演](#)

分类号

DOI:

STUDY ON METHOD OF WAVELET MULTI SCALE CROSSHOLE SEISMICTOMOGRAPHY IN COMPLEX MEDIA

PEI ZHENGLIN

University of Petroleum, Key Lab of Geophysical Exploration, CN PC, Beijing 100083, China

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Abstract Crosshole seismic tomography in complex media is a very complicated nonlinear inverse problem. It is difficult to obtain a satisfactory and clear image by using linearized tomographic method. This paper proposes a wavelet transform based on multi scale inverse method of seismic travel time tomography using the forwarding method of the graph based on bending ray tracing. This method effectively solves the difficulty of nonlinear tomography, overcomes the drawbacks of the linearized inverse methods and enhances the tomographic resolution. The results of physical modeling show that the method is high resolution, suitable to complicated models and good effect.

Key words [Crosshole seismic; Travel time tomography; Wavelet multi scale inversion.](#)

通讯作者:

zhenglinpei@hotmail.com

作者个人主页: 裴正林

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