勘探地球物理进展 2010 33 (1): 46-51 ISSN: 1671-8585 CN: 32-1664/TE 当期目录 上一期

应用实例

三维炮检域迭代直接静校正技术及应用

黄明忠,冯泽元,李培明,徐 海

中国石油集团东方地球物理公司采集技术支持部,河北涿州072751

收稿日期 2009-5-11 修回日期 2009-6-29 网络版发布日期 2010-3-17 接受日期

摘要 中东某稀疏三维工区表层条件复杂,工区中部折射层不稳定且部分缺失,工区东部有一地表异常区带,模型静校正和折射静校正都未能很好地解决该区的静校正问题。将二维炮检域迭代直接静校正技术推广应用到该区三维资料处理中,取得了很好的应用效果。该技术在共炮点叠加剖面和共接收点叠加剖面而不是在CDP叠加剖面上拾取成像层位,适合于CDP覆盖次数低的稀疏三维。由于对拾取的参考模型层位具有很强的依赖性,使用该方法解决中长波长静校正问题时,参考模型层位的拾取必须有解释人员的参与和认可。

关键词 静校正；表层结构；共炮点叠加；共接收点叠加

Application of 3 D shot and receiver domain iterative direct statics

Huang Mingzhong,Feng Zeyuan,Li Peiming,Xu Hai

Huang Mingzhong,

Geophysical Prospecting Company,BGP Inc.,Zhuozhou 072751,China

Abstract Statics is vital to data processing in complex area.Statics based on surface model or model inversion are commonly used in practice.They are effective in areas with high density and high quality of surface surveys as well as areas with stable refractor.A sparse 3 D block in the Middle East features complex near surface structure.Refractors are unstable or even missing in the middle and there is an abnormal near surface belt in the east.Desired results are obtained when 2 D shot and receiver domain iterative direct statics is adapted to the sparse 3 D project.The 3 D version which is based on common shot and common receiver stacks rather than CDP stack is suitable for sparse 3 D data of lower CDP fold.Since the results of this method depend heavily on horizon picking of reference model,interpreters and processors should work collaboratively in the horizon picking of reference model to minimize possible errors when this method is taken to solve mid long wave statics problem.

Key words statics;near surface structure;common shot stack;common receiver stack

分类号 P631.4

DOI:

通讯作者:

作者个人主页: 黄明忠;冯泽元;李培明;徐 海