

引用本文(Citation):

侯贺晟, 高锐, 贺日政, 蔡勋育, 刘金凯, 熊小松, 管焜, 曾令森, James H.Knapp, Steven Roecker. 西南天山—塔里木盆地结合带浅深构造关系 ——深地震反射剖面初步揭露. 地球物理学报, 2012,55(12): 4116-4125,doi: 10.6038/j.issn.0001-5733.2012.12.024

HOU He-Sheng, GAO Rui, HE Ri-Zheng, CAI Xun-Yu, LIU Jin-Kai, XIONG Xiao-Song, GUAN Ye, ZENG Ling-Sen, James H.Knapp, Steven Roecker. Shallow-deep tectonic relationship for the junction belt of western part of South Tianshan and Tarim basin —Revealed from preliminary processed deep seismic reflection profile. Chinese J. Geophys. (in Chinese), 2012, 55(12): 4116-4125, doi: 10.6038/j.issn.0001-5733.2012.12.024

西南天山—塔里木盆地结合带浅深构造关系 ——深地震反射剖面的初步揭露

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Shallow-deep tectonic relationship for the junction belt of western part of South Tianshan and Tarim basin —Revealed from preliminary processed deep seismic reflection profile

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摘要

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摘要

盆山结合部的浅-深结构样式是进行陆内造山动力学研究与讨论的重要依据. 2007年, 在喀什东的天山与塔里木盆地之间的过渡带上, 完成了一条近南北向的长度为121 km的主动源深地震反射剖面, 显示出盆山结合部现今地壳尺度的构造格架. 剖面南部呈现出10~12 km巨厚的沉积盖层, 沉积盖层内发育滑脱断层; 盆山结合部多排隆起构造以及天山山前上地壳显现出向北倾斜的断裂与地表地质观察吻合; 盆山结合带展现出滑脱与逆冲推覆构造相关的断层褶皱; 与塔里木盆地稳定沉积层相比, 在南天山浅、中层地层受到强烈的变形改造, 导致地层比较破碎, 反射变弱、连续性较差; 时间剖面上可以追踪到比较连续的Moho反射, 从南向北有加深的趋势. 深地震反射剖面揭露出的西南天山与塔里木盆地的这些浅-深构造, 展现出塔里木盆地盖层向南天山滑脱与南天山向塔里木盆地逆冲推覆的特征, 反映出陆内汇聚下的盆山耦合关系.

关键词 西南天山, 塔里木盆地, 盆山结合带, 深地震反射剖面, 浅深构造关系

Abstract:

Shallow-deep structure relationships for the junction belt is the import basis for the research and discussion of intracontinental orogenic dynamics. A deep seismic reflection profile of 121 km long, running in nearly SN direction, deployed in the junction zone between South Tianshan and Tarim basin to the east of Kashi, was completed in 2007. The profile shows nowadays lithospheric tectonic framework of this junction zone. From south to north, for upper crust structure observed from the profile is the folded sedimentary cover with huge 10~12 km thick and detachment fault developed within the sedimentary cover. Fold-thrust belt can be divided into several rows of anticlines, including Muziduke anticline, Tashipisake anticline, Keketamu-Artux anticline, Kashi anticline, and northward incline faults are matched with geology observation. Fault-related folds were generated in association with detachment faults and thrust faults in this junction basin-range region. In the north part of the profile, comparing with continuous reflection of Tarim basin, the discontinuous reflection of middle and shallow crust beneath Tianshan Mountain which is weak and distorted indicate that strong deformation undertaken with the formation making it more broken. Continuous reflection Moho, being well defined along this profile, shows the trend deepened from the south and a little upward in the middle then deepens to the north within 1 s disparity. The image of the deep structures determines the coupling relationship between the Tarim basin and the Tianshan

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Mountains, features the detachment of the sedimentary cover of the Tarim basin towards the South Tianshan and the corresponding thrusting of the South Tianshan towards the Tarim basin under the process of intra-continental convergence.

Keywords [Western part of South Tianshan](#), [Tarim basin](#), [Junction belt](#), [Deep seismic reflection profile](#), [Deep and shallow tectonic relationship](#)

Received 2012-04-10;

Fund: