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西藏错勤—申扎剖面大地电磁测深研究

闫永利¹, 马晓冰¹, 陈赟¹, 王光杰¹, 王显祥¹, 兰海强¹, 吕庆田^{2*}

1. 中国科学院地质与地球物理研究所, 北京 100029;
2. 中国地质科学院矿产资源研究所, 北京 100037

The study of magnetotelluric sounding on Coq 址-Xainza profile in Tibet

YAN Yong-Li¹, MA Xiao-Bing¹, CHEN Yun¹, WANG Guang-Jie¹, WANG Xian-Xiang¹, LAN Hai-Qiang¹, LV Qing-Tian^{2*}

1. Institute of Geology and Geophysics, Chinese Academy of Sciences, Beijing 100029, China;
2. Chinese Academy of Geoscience, Beijing 100037, China

摘要

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摘要 通过对西藏冈底斯地区错勤—申扎大地电磁测深剖面的研究,揭示了该地区壳幔结构特征.上地壳底界面深度大约20 km,在扎日南木错以西和当惹雍错以东地区分别发育壳幔高导层(体).高导层(体)的中心——电阻率低值区出现在20~40 km深度,其根部可追踪到上地幔.从高导层(体)的发育特征推断:错勤—申扎剖面壳幔高导层(体)是在印度板块与欧亚板块主、晚碰撞阶段地幔热流物质上涌和后碰撞阶段地壳东西向拉张作用下,导致中、下地壳岩石相继发生两期部分熔融的结果.而当惹雍错可能是一条深度可能达到上地幔的深、大断裂.

关键词 冈底斯, 大地电磁测深, 壳幔结构, 深断裂

Abstract: Through studying of Coq 址-Xainza magnetotelluric sounding profile on the Gangdis? Block in Tibet plateau, the structures in the region are obtained. The upper crust is 20 km. The high conductivity layers(or bodies) in crust-mantle are extensively distributed on the west of Zhari Namco and the east of Tangra Yumco respectively. The centers of high conductivity layers (or bodies) are in the 20~40 km depth, the roots of the bodies (or layers) are in the upper mantle. According to the distribution of high conductivity layers(or bodies), we infer that the layers resulted from two periods of partial melt of mid-lower crust. The intrusion of upper-mantle magma brought about the first partial melt of mid-lower crust in period of main and late collisions between India continent and Asia continent, and the post-collision extension resulted in the second partial melt. The depth of Tangra Yumco rift can extend to upper mantle.

Keywords Gangdis? Block, Magnetotelluric sounding, Crust-mantle structure, Deep rift

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