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中秦岭地带重力异常特征及地壳结构的探榷

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Discussion on gravity anomalies and crustal structure of the Middle Qinling Mountains

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摘要 对陕西榆林—重庆鱼泉综合地球物理大断面中在陕西户县经中秦岭至镇巴测段的重力场给以分析和探讨.文中给出了中秦岭造山带（或中秦岭块体） 的地壳密度结构、Moho界面深度与山根构造特征.并重点分析研究了本测段的重力异常在其地壳结构与构造解释中所明显反应的断裂构造（带）.即中秦岭北侧断裂构造带；中秦岭中部断裂构造系；中秦岭南侧的宁陕断裂构造带；安康（石泉西南）断裂构造带；芭蕉口断裂构造；城口断裂构造带北延段；镇巴断裂构造带；鱼渡断裂构造和铁溪断裂构造.并对各断裂构造带对应的重力异常段计算其水平方向导数V_{xz}，给出了断裂构造的分布位置、形态、倾向等要素.最后从重力学角度对中秦岭造山带的地壳结构与断裂构造具有的衔接与过渡特征作了相应的探榷.

关键词 中秦岭, 重力场, 重力水平方向导数, 地壳结构, 断裂构造

Abstract: We analyzed and discussed the gravity field across the middle Qinling Mountains from Huxian to Zhenba in the synthetical geophysical transect from Yulin in Shaanxi province to Yuquan in Chongqing. For the first time, we obtained the crustal structure, Moho depth and mountain root of the middle Qinling Mountains. Based on our research, several major faults with obvious gravity anomalies are suggested in the interpretation for the structure and tectonics of the crust. They are the fault on north of Qinling, the faults in middle Qinling, Ningshan fault on south of Qinling, Ankang (on the southwest of Shiquan) fault, Bajiaokou fault, the north section of the Chengkou fault, Zhenba fault, Yudu fault and Tiexi fault. In addition, we calculated the directional derivatives of gravity anomalies V_{xz} and derived the location, size, style and tendency of the faults. At last, we discussed the joint and transition characteristics of crustal structure and fault structure of the middle Qinling from the view of gravity.

Keywords Middle Qinling, gravity field, Gravity directional derivative, Crustal structure, Fault structure

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