

塔里木盆地高分辨率卫星磁异常特征

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摘要 本文使用美国国家地球物理数据中心(NGDC)提供的岩石圈磁场球谐模型的球谐系数,计算了塔里木盆地16~720阶、高度为0 km的垂向分量 ΔZ ,反映了塔里木地区高分辨率的卫星磁异常特征.盆地北部和南部的磁性特征明显不同,分界线大体在北纬40°附近,北部表现为东西向的负异常,南部表现为正异常特征,整体呈北东走向,中部被北西向异常所叠加.结合区域地质背景,对盆地内部的磁异常特征综合分析表明,盆地基底可能并非一个完整块体,而是由多个古老地块拼合而成.

关键词 [球谐分析](#),[岩石圈磁场](#),[长波长特征](#),[空间分辨率](#),[塔里木盆地](#)

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The feature of high resolution satellite magnetic anomalies over Tarim basin

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Abstract Spherical harmonic coefficients of lithospheric magnetic field model provided by National Geophysical Data Center (NGDC) are used in this paper. Taking Tarim basin for example, vertical component ΔZ in the altitude of 0km using spherical harmonic degree 16~720 were computed, which indicates the feature of higher resolution satellite magnetic anomalies. The magnetic features of the north and the south of Tarim basin are different obviously, whose boundary lies in 40°N nearly. The northern part shows negative anomaly with EW trending and the southern portion, as a whole, positive anomaly with NE trending, which is superposed by NW trending. Considering the regional geologic conditions, comprehensive analysis of the satellite magnetic anomalies characters in this area suggest that the basin basement probably is composed of a few old blocks.

Key words [spherical harmonic analysis](#) [lithospheric magnetic field](#) [long wavelength feature](#) [spacial resolution](#) [Tarim basin](#)

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