

地理学 河口海岸学

## 基于DEM的秦岭数字地貌格局研究

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**摘要** 基于格网精度为100 m×100 m的DEM数据,应用地理信息系统技术和栅格分析方法,研究秦岭数字地貌格局.首先提取秦岭的主分水岭,作为秦岭南北坡的参考分界线;确定秦岭地貌的分类分级指标,并确定4 km<sup>2</sup>为秦岭地势起伏度的最佳统计单元;对秦岭的起伏度和高度数据进行分类、编码后,经过数据融合后得到秦岭的数字地貌格局.结果分析表明,利用精度较高的栅格数据,得到秦岭15种地貌组合的空间分布特征,与前人研究成果相符合,精度相当高,同时也为秦岭数字地貌研究提供技术和方法依据.

**关键词** [秦岭; 格网精度; 地理信息系统; 数字地貌格局](#)

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## Study on digital landform patterns based on DEM in Qinling Mts(Chinese)

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### Abstract

Using GIS and grid methods, the digital landform patterns were studied in Qinling Mts., based on the DEM data with grid precision of 100 m×100 m. The main ridge of Qinling Mts. was firstly abstracted as the reference boundary of north-south slope. Then the landform classification index was established and 4 km<sup>2</sup> was calculated as the optimal statistical unit of landform relief in Qinling Mts. Lastly the relief data and elevation data were fused and the results of digital landform patterns of Qinling Mts. were formed after data classification and encodment. The spatial distribution of landform patterns of Qinling Mts. was specified and the 15 mountain landforms were obtained by high precision grid data. They are concordance with the former research achievements with the scale of 1 000 000 in this area.

**Key words** [Qinling Mts.](#) [grid precision](#) [GIS](#) [digital landform pattern](#)

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