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灾害地质

泥石流类型与地貌分形特征的关系研究

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摘要：

泥石流是一种频繁发生且危害性很大的自然灾害。作为中国泥石流灾害重灾区之一的陇南地区,泥石流不仅严重阻碍G212线的正常运营,也严重影响沿线地区的经济发展和人民生活。通过对G212线陇南段232条泥石流沟的调查资料分不同属性、不同发展阶段和不同危害程度进行统计,结合分形理论,分析了泥石流沟道数与地貌要素的定量关系。结果表明:地貌形态要素对泥石流的属性、发展阶段和危害程度等不同类型泥石流的影响程度不同; 综合分维值、形成区形态参数和地形坡度等参数都在一定程度上定量反映了不同类型泥石流的特征。

关键词： G212线陇南段 泥石流类型 分形特征

RESEARCH ON THE RELATIONSHIP BETWEEN THE TYPE OF DEBRIS FLOW AND FRACTAL CHARACTERISTICS

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Abstract:

Debris flow is a kind of disaster,which happens frequently and has serious harm to the nature. Longnan,as one of the very severe areas,hit by debris flows,landslides not only seriously impede the normal operation of G212,but also affected the

region␣s economic development and people␣s lives. Through dealing with the investigation statistics of the 232 debris flow gullies along G212 Longnan section in different attributes,different stages of development,as well as the different degree of harm,and combining the fractal theory,we have analyzed the quantitative relationship between the debris flow number and the landscape elements. The results indicate that topographic factors have different influences on debris flow with different attribute,different stages of development and different degree of damages; to some extent,integrated fractal dimension,shape parameters and terrain slope parameters in forming regions all can reflect the quantification features of different types of debris flow.

Keywords: G212 Longnan section　Type of debris flow　Fractal characteristics

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