

The Structure Feature and Formation Mechanism of the Degraded Soil in Dry-Hot Valley Region of the Jinsha River, Yunnan Province, China

GONG A-du and HE Yu-rong

(Institute of Mountain Hazards & Environment, Chinese Academy of Science and Ministry of Water Conservancy, Chengdu 610041 China)

Abstract: In order to find the relationship between soil structure and soil degradation, these indexes including dispersion ratio, erosion ratio, aggregation rate, aggregation state, structure deterioration ratio, erodibility index (E_{VA}), soil porosity were studied in this paper. The result indicated that:

1. Soil dispersion ratio, erosion ratio, E_{VA} , aggregation rate and aggregation state ect. can reflect dispersion properties of soil particle. Dispersion ratio, erosion ratio and E_{VA} were positively interrelated to soil degradation, while aggregation rate and aggregation state were negatively interrelated to soil degradation.
2. The ratio of soil structure deterioration, index of unstable aggregate (E_{LT}), $>1\text{mm}$ waterstable aggregate and $>0.5\text{mm}$ waterstable aggregate can embody stability of soil waterstable aggregate. The front two factors were positively interrelated to soil degradation, while the back two factors were negatively interrelated to soil degradation.
3. As soil degradation was aggravated, soil antierodibility and soil antidispersion lowered. The degradation of soil in Yuanmou county, Yunnan Province mainly displayed soil antierodibility was lower, which is concerned on soil organic matter and soil clay quantity.

Key words: soil structure; soil degradation; dry-hot valley of the Jinsha River

中科院成都山地灾害与环境研究所 2002 年硕士、博士招生信息

1. 硕士招生信息(招生人数 12 人)

学科代码	研究方向	考试科目
070501	自然地理学	
01	泥石流	① 101 英语 ②201 政治(理) ③314 高等数学(丁) ④401 自然地理学或 461 结构力学或 462 生态学 ⑤562 地貌与第四纪地质或 566 流体力学或 567 水土保持学或 568 土力学
02	滑坡	同上
03	山地侵蚀	同上
04	山地生态环境研究	① 101 英语 ②201 政治(理) ③314 高等数学(丁) ④401 自然地理学 ⑤561 普通生态学
070502	人文地理学	① 101 英语 ② 201 政治(理) ③ 314 高等数学(丁) ④ 401 自然地理学 ⑤564 经济地理
070503	地图学与地理信息系统	① 101 英语 ② 201 政治(理) ③ 314 高等数学(丁) ④ 401 自然地理学或 569 地图学与 GIS ⑤ 563 遥感概论
090301	土壤学	① 101 英语 ② 201 政治(理) ③ 314 高等数学(丁)或 352 土壤微生物或 353 农业生态 ④ 402 土壤学 ⑤ 565 土壤农化分析
02	土壤地理	① 101 英语或 102 俄语或 103 日语 ②201 政治(理) ③ 351 普通地质学 ④ 402 土壤学 ⑤ 565 土壤农化分析

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Application of GM(1, 1) Majorized Model to Simulation-forecast of Landslide

LI Xiao-hong, JIN Xiao-guang, KANG Hui-ming, LU Yu-yi and YANG Xin-hua

(Key Lab. for the Exploitation of South West Resources & the Environmental Disaster
Control Engineering Ministry of Education, Changqing 400044 P. R. China)

Abstract: Grey system theory is a new cross course by China famous scholar professor DENG Ju-long founded in 1982 . Grey model of the theory was applied extensively and gained a series of significant achievement in natural science and social science. It be used mid-long-term forecasting of slope or landslide and had high accuracy in geologic hazard study. But when themodel be used short-impending slip forecasting , it's accuracy was relatively poor even not suit , so it had been much room for improvement. Actual example of slide deformation make known that majorized GM(1, 1) model based on majorized grey model ground value had a majorization bility to model results. This majorizant model had not only applied to mid-long-term forecasting of slope deformation, but also suited to short-impending slip forecasting of landslide and had relative high forecasting accuracy. Correctness and extensive application of the majorized GM(1, 1) model was examined by contrasting analysis of original linear GM(1, 1) model and non-linear Verhulst model. The study not only enriched analysis method of landslide deformation forecasting , but also had momentous theory and practice significance.

Key words: GM(1, 1) majorized mode; landslide deformation; modeling and forecasting; application

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2. 博士生招生信息(招生人数 20 人)

学科代码	研究方向	指导教师	考试科目
070501	自然地理学		
01	山地灾害(泥石流滑坡)及其防治	崔 鹏	①101 英语 ②211 现代自然地理学 ③311 山地灾害学
02	泥石流与泥沙	欧国强	(同上)
03	山地灾害防治工程	许唯临	(同上)
04	边坡工程	王成华	(同上)
05	环境影响与评价研究	陈国阶	①101 英语 ②211 现代自然地理学 ③312 山地环境学
06	环境退化与生态建设	钟祥浩	(同上)
07	山地侵蚀	张信宝	(同上)
08	水文与森林生态	程根伟	(同上)
09	环境演化与生态修复	李 勇	①101 英语 ②211 现代自然地理学 ③312 山地环境学或④315 水土保持学
10	遥感与 GIS 理论与应用	周万村	①101 英语 ②211 现代自然地理学 ③313 遥感地学分析、地理信息系统导论
11	3S 技术的灾害环境动态监测研究	刘淑珍	(同上)
12	土壤资源与农业环境	何毓蓉 田光龙	①101 英语 ②211 现代自然地理学 ③314 土壤地理学

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考试时间: 第一次 2001 年 10 月; 第二次 2002 年 3 月, 以准考证上的时间为准。

考试地点: 成都市人民南路四段九号 中国科学院成都山地所办公楼内。

联 系 人: 梅 雯 电话: 028- 5229890; E- mail: sdb@imde. ac. cn; 网址: http: //www. imde. ac. cn