

本期目录 | 下期目录 | 过刊浏览 | 高级检索

[打印本

页] [关闭]

### 灾害地质

## 岷江上游叠溪古堰塞湖沉积物粒度特征及环境意义

王小群, 王兰生, 沈军辉

地质灾害防治与地质环境保护国家重点实验室(成都理工大学) 成都 610059

摘要:

利用古堰塞湖沉积物中连续的地质记录来研究区域过去气候变化规律,这一方法是继通过深海沉积、极地与高山冰芯、黄土、湖泊、洞穴石笋、珊瑚等沉积物中的地质记录来研究全球气候变化途径之后的又一新途径。反映沉积物中环境信息的代用指标有多种,其中粒度特征就是其中一种,它可以反映沉积过程中的古环境、古气候特征。通过该项研究可以建立青藏高原东部边缘(岷江上游叠溪地区)2万年以来的古环境古气候演化规律以及地质环境的演化规律,找到气候环境变化与地质环境演化的相关性。本文采用精细粒度分析和系统粒度分析等方法提取了堰塞湖相沉积物的粒度特征资料,并与已有的冰川湖沉积物的研究成果进行了对比分析。通过精细分析得到了堰塞湖相沉积物多为粉土和黏土;深色沉积物与粗颗粒相对应,浅色沉积物与细颗粒相对应的关系;并结合有机质测试发现:深色沉积物有机质含量多于浅色沉积物,表明粗颗粒土代表的是雨水充沛水动力条件好且植被相对茂盛的气候环境特征,细颗粒土则与其相反;沉积物中深浅交替的纹层厚度约为2~5cm;这些特征与冰川湖沉积物特征差别很大,因此其代表的气候环境意义也完全不同。通过整个剖面的系统粒度分析得到了整个沉积过程的粒度变化特征,并据此结合年代测试结果将整个沉积剖面划分了7个粒度变化周期,揭示了该沉积过程中该地区经历了7次气候环境的变迁。

关键词: 叠溪古堰塞湖 粒度分析 古环境 古气候

LACUSTRINE SEDIMENT GRANULARITY

- 扩展功能
- 本文信息
- Supporting info
- PDF(1117KB)
- [HTML全文]
- 参考文献 [PDF]
- 参考文献
- 服务与反馈
- 把本文推荐给朋友
- 加入我的书架
- 加入引用管理器
- 引用本文
- Email Alert
- 文章反馈
- 浏览反馈信息
- 本文关键词相关文章
- 叠溪古堰塞湖
- 粒度分析
- 古环境
- 古气候
- 本文作者相关文章
- 王小群
- 王兰生
- 沈军辉
- PubMed

# ANALYSIS AND ITS ENVIRONMENTAL SIGNIFICANCE ON DIXI ANCIENT DAMMED LAKE ON THE UPSTREAM OF MINJIANG RIVER

WANG Xiaoqun, WANG Lansheng, SHEN Junhui

Article by  
Wang, X. Q.  
Article by  
Wang, L. S.  
Article by  
Shen, J. H.

State Key Laboratory of Geohazard Prevention and Geoenvironment Protection(Chengdu University of Technology),Chengdu 610059

## Abstract:

Using the geologic record of the ancient dammed lake sediments for regional climate and environment characteristic is a kind of new way. It is different from through deep ocean, polar ice core, loess, lakes, stalagmites, coral etc sediments geological record study of global climate change. Many substitution indexes reflect the environmental information of sediments. Sediment granularity is one of these indexes. It can reflect the pale-environment and pale-climate characteristics in the sedimentary process. In the eastern edge of Qinghai-Tibet Plateau 20, 000 years, the climate-environment evolution and the geological environment evolution are established. The precise granularity analysis and systematic granularity analysis were used to extract the granularity information in the ancient dammed lake sediments, and glacial lake sediments with the existing research results were compared. Through the study, the following conclusions: Dixi ancient dammed lake sediments are semi-diagenetic (unconsolidated soil) materials, mostly composed of silt and clay grain sizes. Sedimentary bedding showed dark color and light colored alternating sedimentation features with rhythm-layer thickness between 2~5cm. Dixi ancient dammed lake sediments have different characteristics from loess and glacial lake sediments. Based on bed sizes and color, combined with organic tests, we found out that dark-colored coarse particles in the ancient dammed lake sediments were accumulated in an environment that has abundant rainfall and lush vegetation; while light-colored fine particles were accumulated in arid climate with relatively sparse

vegetations. Systematic study of granularity on sediment profile showed that there were 7 cyclical changes in granularity, revealing 7 climate and environment changes the region experienced during the entire deposition process.

Keywords: Diexi ancient dammed lake  
Lacustrine sediments Granularity analysis Paleo-climate Paleo-environment

收稿日期 2010-05-05 修回日期 2010-06-28 网络版  
发布日期

DOI:

基金项目:

国家自然科学基金面上项目(41072230)

通讯作者:

作者简介: 王小群, 主要从事岩土工程、地质工程专业的  
教学与科研工作. Email: wangxiaoqun@cdut.edu.cn

作者Email:

---

#### 参考文献:

[1] 王兰生, 杨立铮, 王小群, 段丽萍. 岷江叠溪古堰塞湖的发现

[J]. 成都理工大学学报(自然科学版), 2005, 32 (1) :  
1~11.

Wang Lansheng, Yang Lizheng, Wang Xiaoqun, Duan Liping. Discovery of huge ancient dammed lake on upstream of Minjiang River in