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## 三峡库区奉节天池滑坡实时遥测技术应用实例

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**摘要** 对滑坡监测的特点及国内外滑坡监测技术的发展现状进行简要的介绍, 对无线实时遥测技术在滑坡监测中的应用现状做必要的综述, 对KLA-1型地表位移遥测系统的工作原理进行阐述, 并详述阐述将遥测系统应用于三峡库区奉节天池滑坡应急监测的具体情况。KLA-1型地表位移遥测系统是测量地表相对位移的监测仪器, 在宜昌茅坪、重庆北碚、重庆万州枇杷坪等地已实际应用。该系统由三部分组成, 分别为位移传感装置、数据采集发射模块、数据接收处理终端。在实际监测过程中, 当滑体滑动时, 监测点相对于固定点有线位移, 这一信息由角位移传感器记录并转化为相应的电学量, 电学量由无线发射模块通过GSM网络发射至远程终端, PC机作为终端通过相应的监测软件进行数据的接收及分析。通过奉节天池滑坡实测数据的分析, 给出天池滑坡滑体位移随时间的变化曲线, 预测此滑坡未来的发展趋势, 证明监测设备的准确性、实时性, 并说明此种监测技术运用于滑坡监测具有很高的实用价值。

**关键词** [边坡工程](#); [地质灾害](#); [实时监测](#); [遥测技术](#); [滑坡预报](#)

分类号

## APPLICATION OF REAL-TIME TELEMETRY TECHNOLOGY TO LANDSLIDE IN TIANCHI FENGJIE OF THREE GORGES RESERVOIR REGION

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### Abstract

The landslide monitoring character and development status of landslide monitoring techniques are introduced. The application of wireless real-time telemetry system in landslide monitoring is summarized. The principle of KLA-1 earth surface displacement telemetry system is expatiated, and the application of this system in landslide monitoring in Tianchi Fengjie of Three Gorges Reservoir region is depicted in detail. The KLA-1 is an apparatus to measure the relative displacement of the surface, which has been used to monitor the displacement of landslides in Maoping, Yichang, and Pipaping, Wanzhou, Chongqing. The system consists of three major components, namely displacement sensing devices, data acquisition and launch module, data receiving and processing terminal. In actual monitoring process, when the landslide moves, there is linear displacement between monitoring point and fixed-point. The information is recorded by angular displacement sensor and converted into corresponding electrical data. The electrical data then are launched by the wireless transmitter module through GSM network to remote terminals, and PC as a terminal receive and the data are analyzed through corresponding monitoring software. According to data analysis, the relationship between displacement of landslide and time is obtained; the developing trend of this landslide is predicted. The veracity and real time of the monitoring device is proven, and the high practical value of this monitoring technology used to monitor landslide is indicated.

**Key words** [slope engineering](#); [geological disaster](#); [real-time monitoring](#); [telemetry technology](#); [landslide forecast](#)

