

## Characteristics and Stability Analysis of a Landslide in Kuancheng County , Hebei Province

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**Abstract:** In Kuancheng county of Hebei province, a railway to be built will cut across an ancient landslide of about 770 000 cubic meters, and in front of it in cutting way though. Excavation of the cutting slope leads to the ancient landslide revivification. Based on geological survey in the field, this paper expounded the geological environmental conditions and developmental characteristics, analyzed the forming reason and revival mechanism systematically, i. e.: Influence of faults nearby damaged the rock mass integrity, the scour and lateral erosion by the front river reduced the slope stability, and the landslide occurred with rainstorm or earthquake. Cutting slope excavation of the railway is the main cause of anti-sliding section invalidation and the ancient landslide revivification. On the basis of results of field test and laboratory experiment, calculated the landslide stability respectively along the existing and the ancient sliding surface with different working conditions. And analyzed the influence degree of slope excavation to the landslide stability systematically. Finally reasonable treatment measures were put forward for the landslide.

**Key words:** landslide; revivification; stability; landslide treatment

### 封面照片说明: 长白山岳桦林

天然岳桦林——长白山高海拔地区的主要植被类型,主要分布于海拔 1 700 ~2 000 m,位于长白山火山锥体的下部。那里山坡陡峻,气温低,雨量丰沛,风力强大,蒸发量较小,相对湿度较大,土层薄,土壤类型主要为山地生草森林土,形成了独特的长白山岳桦林带。

岳桦林带是山地针叶林和山地苔原之间的过渡带,是山地苔原和森林成分的特殊结合,并有自己的特殊成带的岳桦林景观植被类型。林带中,山地苔原和森林成分互相渗透,乔木以岳桦为主,还有云杉、冷杉、落叶松、东北赤杨等,灌木主要有牛皮杜鹃、笃斯越桔等。较严酷的低气温条件,使岳桦林的树木较稀疏,并矮曲成丛生状。其矮曲和稀疏的程度随海拔增高而增大,在上部呈匍匐状生长,根系发达,能适应高山严寒的气候、瘠薄的土壤和强风的吹袭。

(嘉 益)