

## 青藏铁路粒径改良路基热状况分析

黄明奎1, 2, 汪 稔2, 胡明鉴2

(1. 重庆交通学院 土木建筑学院, 重庆 400074; 2. 中国科学院 武汉岩土力学研究所岩土力学重点实验室, 湖北 武汉 430071)

收稿日期 2004-10-17 修回日期 2005-3-23 网络版发布日期 2007-4-3 接受日期 2004-10-17

**摘要** 基于青藏铁路北麓河试验段粒径改良路基、普通路基、天然场地的地温监测资料, 定量分析了3种方式下土层的热状况变化特征。结果表明: 修筑有路基的吸热量大于天然场地的吸热量; 粒径改良路基经历的融化期略长于天然场地, 但远短于普通路基。从热收支状况来看, 粒径改良路基放热强度大于吸热强度, 总体呈现出放热状态, 但同天然场地相比, 热收支变化不甚突出。粒径改良路基有使路基表层热收支趋于天然状态的趋势, 具有保护多年冻土的作用, 是一种积极保护冻土的较好的措施。

**关键词** [土力学](#); [粒径改良路基](#); [热收支](#); [地温](#); [多年冻土](#)

分类号

## ANALYSIS OF THERMAL STATE UNDER PARTICLE REFORMATIVE ROADBED IN QINGHAI—TIBET RAILWAY

HUANG Ming-kui1, 2, WANG Ren2, HU Ming-jian2

(1. School of Civil Engineering and Architecture, Chongqing Jiaotong University, Chongqing 400074, China; 2. Key Laboratory of Rock and Soil Mechanics, Institute of Rock and Soil Mechanics, Chinese Academy of Sciences, Wuhan 430071, China)

### Abstract

Based on observed data of particle reformative roadbed, normal roadbed and natural ground in Beiluhe test site of Qinghai—Tibet Railway, the characteristics of underlying ground thermal regime of three modes are quantitatively analyzed. Results indicate that the endothermic quantity of constructing embankment is greater than that of natural field. The thaw period of particle reformative roadbed is longer than that of natural field, but less than that of normal roadbed. By contrast with natural ground, the thermal exchange of the particle reformative roadbed is almost equal to natural ground according to thermal exchange state. The exothermal intensity is greater than the endothermal intensity. It entirely presents exothermal state. The thermal exchange state can be restored by using the particle reformative roadbed. It takes on the effect that the particle reformative roadbed can protect frozen soil and it is also an effective way to actively protect frozen soil.

**Key words** [soil mechanics](#); [particle reformative roadbed](#); [thermal exchange](#); [ground temperature](#); [permafrost](#)

DOI:

### 扩展功能

#### 本文信息

- ▶ [Supporting info](#)
- ▶ [PDF\(325KB\)](#)
- ▶ [\[HTML全文\]\(0KB\)](#)
- ▶ [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](#)
- ▶ [复制索引](#)

#### [Email Alert](#)

- ▶ [文章反馈](#)
- ▶ [浏览反馈信息](#)

#### 相关信息

- ▶ [本刊中 包含 “土力学; 粒径改良路基; 热收支; 地温; 多年冻土” 的相关文章](#)
- ▶ [本文作者相关文章](#)

- [黄明奎](#)
- 
- [汪 稔](#)
- [胡明鉴](#)