

**Examination of the Micro Crack Propagation Caused by Rail White Layer
and the Grinding Method**

Masahiro TSUJIE Hiroyuki MATSUDA Takashi NAKAMURA
Akira NAMURA Ying JIN Hisashi MORI

It is thought that rail-squats is caused by Rolling Contact Fatigue (RCF) and the White Layer (WL). Rail-squats due to RCF can be prevented by grinding rail head periodically. However, the mechanism of rail-squats due to WL has not been cleared, and the specific countermeasure has never been established. The aim of this research is to examine the factor of WL occurrence and the specific measures against WL and micro cracks. In this paper, we investigated the actual condition of rail WL, the factor of WL occurrence, the generation and the propagation of micro cracks around WL, and the effect of rail head grinding.