

**Running Safety Assessment for Flange Climbing at Low Speeds
Related to Rail Grinding Profile**

Hisayo DOI Takefumi MIYAMOTO
Atushi FURUKAWA Tetsuhiro ANAMI

Rail grinding has been implemented as a part of maintenance of railway track for the purpose of reducing damage on rails and environmental noise etc. When executing grinding to remove head checks at rail gauge corner in curves, the grinding-rail profile and grinding range should be carefully considered so as not to induce flange climb derailment. Based on numerical simulation, a new indicator is proposed to evaluate security of safety against flange climb derailment. The indicator and the further consideration of the rail profile derive a condition of the grinding range of the rail profile and the minimum curve radius in tracks allowable for securing safety.