

**Modeling of Load Transmit Characteristics of Switching Equipments  
at Operation of a Switch-and-lock Movement**

Syunsuke SIOMI    Yoshinobu IGARASHI

In the development and redesign of the switch-and-lock system to ensure its safety and reliability, it is important to verify a number of mechanical properties including the force required to derive switching. Furthermore, it is very difficult to perform tests for all possible combinations of switch-and-lock systems and turnouts. Against this background, we are developing a model to estimate the switching loads while aiming to establish a technique to analyze and evaluate the mechanical performance of switch-and-lock systems to replace such measurement tests. In this report, we present a model to estimate the switching loads noticed in load transmit characteristics of switching equipments, and also present the results of computer simulations using the model and experiments applying substantial switch-and-lock system combined with turnout.