

Estimation Method of Switching Load of Turnout for Point Machine Monitoring System

Shunsuke SHIOMI Ken TAKASAKI Naoyuki OKO Kentaro TSUBAKI

A monitoring system of state of point machine is to estimate switching load of a turnout using motor current and voltage to prevent a switch malfunction of a turnout. In conventional estimation methods, the relationship between load estimation results and measured values of motor voltage and current has been pre-defined. Therefore, if installation conditions of point machine differ from those at the time of design, there will be an error in the estimated value. In order to reduce this error, we have developed a method to precisely estimate the switching load using the same measurement items as conventional methods. We also proposed a method to estimate a switching load even under severe conditions, such as when a clutch slips before a malfunction.