

## **Pantograph Contact Force Monitoring on Commercial Lines**

Takayuki USUDA      Mitsuru IKEDA

Yoshitaka YAMASHITA      Michihito MINAMOTO

Although the wear of contact wire is one of the most important problems for maintenance of an overhead catenary system, the wear mechanism of the contact wire is very complicated, and many unsolved problems still exist. The authors have studied on the quantitative effect of the pantograph contact force and the arc due to contact loss on the contact wire wear. For this purpose, the authors have developed a method, by which contact forces of all pantographs are measurable during the train passing on sections where sensors installed on the catenary. This paper reports some results of the contact force measured on Shinkansen commercial lines. Furthermore, a contact wire wear progression model which was derived from these data is described. The method is adaptable to evaluate the satisfactory function of pantograph as well.