

## **Application of HILS Technique to Pantograph-Catenary System**

Shigeyuki KOBAYASHI    Takayuki USUDA    Mitsuru IKEDA

The performance of pantograph can be evaluated by several ways with consideration on dynamic interaction between pantograph and overhead catenary system (OCS). Though an on-track testing provides the most realistic data, it takes relatively high cost. Therefore, in order to investigate the characteristics of pantograph-OCS dynamic interaction with small cost, an easy-to-execute experiment method is required. This paper proposes a pantograph test bench system based on HILS technique. In the constructed system, a real-time simulator calculates the motion of contact wire, and a shaker excites a real pantograph using the calculated displacement of contact wire. This study focuses on the fundamental validation of the proposed system.