

AN ASSESSMENT OF THE VALIDITY OF METHODS FOR PREDICTING THE RESPONSE OF A PANTOGRAPH RUNNING UNDER STITCHED EQUIPMENT

Theoretical methods for predicting the response of a pantograph interacting with overhead line have been previously developed and successfully applied to trolley wire and simple overhead equipment. The next stage in the project was to extend the theory to cater for stitched equipment.

A series of running tests have been carried out on a length of half-scale stitched equipment at the Melton Mowbray to Edwalton test track. The results were analysed and compared with predictions from a newly developed theoretical model. The comparisons are encouraging, particularly for contact force, though less so for registration arm uplift and contact point trajectory. It is believed that the major source of error in the theory is a defect in the overhead model, which can now be explained. A substantial amount of further work will be required to overcome this error.