

Conducted and radiated interference measurements in the line-pantograph system

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Abstract— We present the results of a measurement campaign aimed at investigating electromagnetic interference (EMI) phenomena in the interaction between overhead railway power supply lines and pantograph. In order to obtain such data, an experimental setup was assembled in a shielded room, consisting in a short section of overhead line and a full scale pantograph. One of the most interesting results consists in the observation of a very significant (both from the qualitative and the quantitative point of view) difference between the EMI behavior in the switch-on (pantograph going up) and switch-off (pantograph going down) transients.

Index Terms— Electromagnetic interference, line-pantograph system, lumped parameter model, time-domain measurements.

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