

Line-pantograph EMI in railway systems

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Abstract-

At present, the EN50121 standards are the main reference for electromagnetic compatibility in European railway systems. These standards should improve as technology and testing develops. Therefore, major sources of EMI in a railway environment need to be better understood. This study is complex because many different railway power systems exist in Europe (1.5 kV DC, 3 kV DC, 15 kV 16.7 Hz, 25 kV 50 Hz). European railways are using new control and communication systems, and electromagnetic compatibility problems should be carefully studied and solved.

Index Terms- Pantographs, electromagnetic interference, electromagnetic compatibility, railways, line-pantograph interaction, EN50121 standards, European railway s

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