

Andrzej Białoń: Overview of the Key Electromagnetic Compatibility Issues in High-Speed Rail Direct-Current Traction Operation

The monograph, published in English, deals with the issues of ensuring electromagnetic compatibility of electrified DC traction railway lines during the operation of high-speed rolling stock. The monograph presents general problems of electromagnetic compatibility of DC traction systems, the results of experimental tests of electromagnetic compatibility, the construction of electromagnetic interference models in DC traction systems and in command-control and signalling devices. The different aspects of electromagnetic compatibility between the electric traction power system and the traction rolling stock on the one hand and the command-control and signalling devices on the other are also shown. The required level of electromagnetic compatibility of DC traction power supply equipment and traction vehicles with other equipment should be achieved by essential and technically feasible measures. These activities should be based on a reasonable configuration selection of the systems involved and the parameters of the infrastructure. Examples of such measures are also shown in the monograph.

Keywords: disturbances, electromagnetic compatibility, railway traffic control devices, high-speed rail, DC traction