Electromagnetic Compatibility of Locomotive Signaling Devices and Rolling Stock

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We have analyzed the issues of electromagnetic compatibility of automatic locomotive signaling devices and promising rolling stock, as well as sources of interference affecting the operation of the automatic locomotive alarm receiver. We propose to consider the interference scheme at the input of an automatic locomotive alarm and the equivalent circuit of inductive coupling paths for the analysis of interference from an asynchronous traction electric motor. We believe that the use of these circuits clearly shows useful and interfering inductive coupling arising between the elements of the locomotive signaling system, path and power equipment of the locomotive. By analyzing each inductive coupling this allows developing technical solutions aimed at reducing the degree of interference influence on the automatic locomotive signaling functioning. Further consideration of this issue requires determining the parameters of the inductive coupling four-poles.

References