

论文

直供方式下综合地线对牵引回流的影响

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摘要:

为探讨高速、重载运营条件下牵引回流的分布规律,通过分析钢轨和综合地线电路,获得了钢轨和综合地线的等效阻抗,进而得到牵引电流在钢轨和综合地线之间的分配比例.根据遂渝线无砟轨道试验段典型参数计算出综合地线上最大电流为牵引回流的19.7%,与实际测量结果吻合.

关键词: 钢轨 综合地线 牵引回流 等效阻抗

Impact of Integrated Grounding Wire on Traction Return Current in Direct Power Supply System

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Abstract:

In order to investigate the distribution of traction return current for high-speed and heavy-load railways, the equivalent impedances of rail and integrated grounding wire were calculated by analyzing their electrical circuits. With the equivalent impedances, the ratio of traction currents in the rail and integrated grounding wire was obtained. A calculational result based on the typical parameters of ballastless track of Shuining-Chongqing railway indicates that the maximum current flowing through the integrated grounding wire is 19.7% of the traction return current, and it is consistent with the testing result.

Keywords: rail integrated grounding wire traction return current equivalent impedance

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