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MITIGATION OF THREE-PHASE POWER LINE MAGNETIC FIELD BY GRID ELECTROMAGNETIC SHIELD

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Abstract

This paper deals with the mitigation of the three-phase power line magnetic field by a grid electromagnetic shield. The shield is made of a set of wires located in the same plane and connected in parallel. Shielding characteristics of three equivalent metal capacity grid shields, consisting different number of wires and having different wire cross-sections and different distances between wires, is studied by numerical simulation. To justify the possibility of the three-phase power line magnetic field mitigation, the magnetic field distributions for a grid shield and an equivalent metal capacity flat shield are calculated. References 10, figures 5.

Key words: power line, magnetic field, shielding, electromagnetic shield, grid shield, simulation.

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