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MITIGATION OF OVERHEAD LINE MAGNETIC FIELD BY GRID SHIELD WITH ELECTRICALLY SEPARATED SECTIONS

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Abstract

The paper deals with the mitigation of the overhead line magnetic field by a U-shaped grid shield. We consider grid shields made of conductors, which are grouped into electrically separated sections. Conductors within each section are connected in parallel. We vary the number of sections and their topology. Also we vary the parameters of arms of the U-shaped grid shield, namely the length and the number of conductors. We show that the U-shaped grid shield with two electrically separated sections is advisable to use. The one section consists of conductors of a U-shaped shield stem. Another section consists of conductors of both arms connected in parallel. Also we show that the number of conductors in the arm can be reduced to five, if the quantity of metal of the arm is kept. References 10, figures 3, table 1.

Key words: overhead line, magnetic field, shielding, reference level.

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