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MAGNETIC FIELD SHIELDING OF UNDERGROUND POWER CABLE LINE BY H-SHAPED SHIELD

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Abstract

In the article the magnetic field distributions, generated by underground extra-high voltage (330 kV) three-phase power cable line in the environment, in particular near the cables in the trench and on the ground, are analyzed for using of H-shaped shield made of different materials including aluminum, low carbon steel and non-oriented grain steel. As shown, the best shielding effectiveness is realized by aluminium shield. The H-shaped shield made of high-conducting non-magnetic materials is proposed to use in order to mitigate the magnetic field level on the ground down to regulated nonhazardous values. References 14, figures 7.

Key words: underground extra-high voltage power cable line, trench cable laying, H-shaped shield, ferromagnetic shield, high-conducting materials, ecological safety, computer modeling.

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