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ANALYTICAL AND NUMERICAL DETERMINATION OF THREE-DIMENSIONAL QUASI-STATIONARY ELECTROMAGNETIC FIELD OF ALTERNATING CURRENT CONTOUR NEAR THE CONDUCTING MEDIUM

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Abstract

The distributions of three-dimensional quasi-stationary electromagnetic field formed in the system of "spatial contour with alternating current – conducting half-space" are analyzed. The calculations are carried out by two ways: analytically and numerically using program Comsol. The obtained data are in agreement with each other. They verify the theoretical result about zero normal components of electric field strength and current density in the conducting half-space. References 3, figures 5.

Key words: three-dimensional electromagnetic field, eddy current, numerical and analytical methods.

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