FEATURES OF AN ASYMPTOTIC SERIES EXPANSION METHOD FOR DETERMINE OF ELECTROMAGNETIC FIELD OF PULSE CURRENT FLOWING NEAR CONDUCTIVE BODY

Authors

Yu. Vasetsky, I. Mazurenko, K. Dziuba
Institute of Electrodynamics National Academy of Science of Ukraine,
Pr. Peremogy, 56, Kyiv-57, 03680, Ukraine,
e-mail: yuriy.vasetsky@gmail.com

Abstract

An analysis of accuracy of asymptotic method for three-dimensional pulse electromagnetic field created by arbitrary current contour, which is located near the flat surface of a conductive body are made. Values of time intervals by which separate terms of series limited are received. Comparison with exact values has shown possibility considerably to simplify calculation at the initial stage of pulse process. References 3, figures 3.

References

1. Gulyi G.A. Scientific bases of discharge impulse technologies. Kyiv: Naukova dumka, 1990. 208 p. (Rus)
 2. Vasetsky Yu., Gorodzha L., Mazurenko I. Approximate model for the calculation of alternative magnetic field of arbitrary contour taking into account eddy currents in conducting half-space. *Tekhnichna Elektrodynamika*. Tematychnyi vypusk Modeliuvannia elektronnykh, energetychnykh ta tekhnologichnykh system. 1999. No 1. Pp. 88–93. (Rus)
 3. Tozoni O.V. A method of the second sources in the electrical engineering. Moskva: Energiia, 1975. 296 p. (Rus)

[PDF](#)