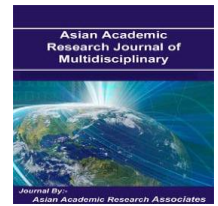




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SIMULATION OF ELECTROMAGNETIC FIELD DISTRIBUTION GENERATED BY WAVE TRANSMITTERS

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Abstract

To simulate the electromagnetic field distribution in medium frequency range, we chose a radio station that has the emission system composed of three transmitters, the antenna embedded in a single device and then sent to a 2 x 4 antenna, with directions of maximum radiation on the 143⁰ and 240⁰ azimuths. The program calculates the directivity characteristic of the antenna (antenna system), depending on the azimuth antenna gain and then draws on the power apparently radiated electromagnetic field distribution in three-dimensional plane, depending on the terrain. From the experimental results analysis and those obtained by way of simulation field on medium waves radio transmitter, it can be concluded that electromagnetic field levels (measured and the simulated) are comparable, which allows us to use in design phase the simulation method of the radio communication systems

Keywords: electromagnetic field, medium wave, apparent radiant intensity, propagation models, numerical analysis methods

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