Abstracts

Dipole Excitation and Scattering by Spherical Objects in GTEM Cell

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The GTEM (GigaTEM) cell is proving a useful tool for characterizing the e.m. emission of objects under laboratory conditions. In order to enhance its practical use, however, it is essential to be able to identify and predict differences between tests in "open site" and in cell environment. The modes of the empty cell were previously reported. In this contribution, we address in the first time the problem of excitation by dipoles in the non uniform environment of the cell. Moreover, we present an analytical model of the scattering by a dielectric or conducting sphere in the cell. Numerical results are compared with experimental data, when possible, and with theoretical results for scattering by the same object in free space, showing very good agreement as regards the resonant frequencies.

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