Abstracts

Far field computation for the FDTD method in curvilinear coordinates

K. Ravard, C. Rostoll, R. Gillard and J. Citerne. "Far field computation for the FDTD method in curvilinear coordinates." 1999 MTT-S International Microwave Symposium Digest 99.3 (1999 Vol. III [MWSYM]): 1289-1292 vol.3.

This paper proposes a far field transformation when the near field is computed by the FDTD method in curvilinear coordinates. This general computation appears to be useful and suitable tool for the analysis of conformal microstrip antennas and circuits printed on arbitrary curved surfaces, whose shape influences the radioelectric performance, including the radiation pattern. This new calculation is applied to the study of the analytical case of a dipole. The validity of the computation is also demonstrated by comparison with measured data for a microstrip patch antenna and a microstrip patch array printed on metallic cylinders.

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