Modelling in Electromagnetism

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REVUE DE PHYSIQUE APPLIQUÉE

Modelling in Electromagnetism

Modelling has become essential for studies and designs in electromagnetism as in many other domains. It generally allows the replacement of the experimentation on a real device, necessarily submitted to many constraints, by computations where the parameters may be modified as much as one likes. If, in a few exceptional cases, modelling may be done analytically, most of the time it requires use of numerical techniques. In the 70's, these were limited to bidimensional systems; in the 80's, they were extended to tridimensional systems that became accessible due to the evolution of computers. This special issue of the *Revue de Physique Appliquée* publishes articles dedicated to different aspects of modelling. These texts concern, for example, improvements in 3D (mesh generation studies of different formulations for eddy-currents) between electromagnetic and mechanical phenomena or between electric and magnetic equation. Also included are articles dealing with applications of numerical or analytical modelling to study turbogenerators or solid rotor machines, magnet machines or inductive sensors and, finally, the introduction of techniques and codes suited to wave guides (multipoles).

without any claim to be exhaustive, these contributions add to the numerous articles already published by the *Revue de Physique Appliquée* in the area of modelling in electromagnetism.

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