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Mathematical Modeling and Numeric Simulation. Applications in BioMedicine: Biological Effects of Electric and Magnetic Fields

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Many physical simulations involve coupled systems. Simulation of complex systems has evolved into a research discovery tool: such models and simulations, drawing upon the dramatic scale up of computational power and associated architectures and algorithmic innovation, can address complex systems with many degrees of freedom and with multiple length and time scales of interest. Using specific programs can be predicted the distribution of Electric and Magnetic Fields in objects to be treated, even of complex shapes, so as to be able to define the treatment protocol. The data to be provided for performing a simulation are the geometry of the objects and their dielectric characteristics.