Abstracts

Computer-Based Electromagnetic Education

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Computers provide an exciting opportunity for boosting electromagnetic education and corporate training. Animated graphics of the wave propagation phenomenon, visualization of the abstract and highly mathematical subjects, one-on-one and self-paced tutoring, and the ability to mimic often unavailable and expensive laboratory experiments are among the often-cited benefits of a computer-based electromagnetic education. The activities of the NSF/IEEE Center for Computer Applications in Electromagnetic Education (CAEME) is reviewed here. This Center was established to stimulate and accelerate the use of computers and software tools in electromagnetic (EM) education. A reflection of the extensive software package developed and distributed by the CAEME Center is described, and examples of the developed software are presented. To help integrate available EM software in classroom teaching and corporate training, CAEME developed four multimedia lessons for instruction. These interactive media lessons integrate and allow individuals to interactively manipulate information from multimedia sources such as video, software, and animated graphics and also include instructional information such as quizzes and tutorials to help evaluate the students' performance. Features of these lessons are presented, and future developments in the Center's activities are discussed.

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