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Chang-Yeol Jung* (chajung@indiana.edu), Indiana University, Bloomington, IN 47405. *Monte Carlo simulations for 2-dimensional Maxwell equations in random media.*

We perform the Monte Carlo simulations for two-dimensional Maxwell equations in random media for which the parameters (permeability, permittivity) fluctuate randomly in space; more precisely, two different media interface randomly in two-dimensional space. We numerically compute the statistics for the output solutions of Maxwell equations to demonstrate the effect of the random inputs. In the simulations the so-called polynomial chaos expansions are used to handle the random fluctuations. (Received September 10, 2007)