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Genetic algorithm optimization for multiband patch antenna design

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Abstract:

A combined method of moment (MoM)/genetic algorithm (GA) numerical procedure for achieving multiband-frequency characteristics in patch antenna design is demonstrated in this paper. Method of moment (MoM) solution used in simulation relies on RWG (Rao-Wilton-Glisson) edge element. MoM application analyses rectangular patches fed by a coaxial probe and suspended over a ground plane. GA optimization manipulates the impedance matrix of a mother structure in order to detect the optimal patch shape matching the required multiband properties.