Bacterial foraging optimisation and method of moments for modelling and optimisation of microstrip antennas

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Abstract: A novel technique applying bacterial foraging optimisation (BFO) in conjunction with the method of moments (MOM) is developed to calculate accurately the resonant frequency and bandwidth of rectangular microstrip antenna of any dimension and of any substrate thickness. The resonant frequency results obtained by using (BFO/MOM) algorithm are in very good agreement with the experimental results available in the literature. The computation time is greatly reduced as compared with the classical MOM. Furthermore, the idea of this paper can be used for calculating the various parameters of microstrip antennas of different structures and geometries.