Journal of the European Microwave Association

Volume 3 – Issue 2 – June 2007

"Novel wavelets on non-rectangular grids for planar circuit analysis", pp. 163-171

Guido Schneider and Arne F. Jacob

Abstract – Planar structures of arbitrary shape are investigated by means of a Method of Moments (MoM) Galerkin scheme. A novel type of wavelet basis function is presented that is based on a generalization of the well-known rooftop function. The functions can easily be combined with the two-dimensional Chui- Wang-Wavelet-basis on rectangular grids. A fast estimation criterion to a priori determine the significant matrix entries is given. Numerical results demonstrate the advantages of these functions.