# Abstracts

## Resonant modes of circular microstrip patches in multilayered substrates

*V. Losada, R.R. Boix and M. Horno. "Resonant modes of circular microstrip patches in multilayered substrates." 1999 Transactions on Microwave Theory and Techniques 47.4 (Apr. 1999 [T-MTT]): 488-498.*

Galerkin's method in the Hankel transform domain (HTD) is used for computing the resonant frequencies, quality factors, and radiation patterns of the resonant modes of circular microstrip patches. The patches are assumed to be embedded in multilayered dielectric substrates. In this paper, the dyadic Green's function of the problem in the HTD is determined in terms of the two-dimensional Fourier transform of a related Green's function. New basis functions for the current density on the patches are introduced. It is shown that these new basis functions ensure a very quick convergence of the numerical results obtained via the Galerkin's method with respect to the number of basis functions. Also, a very efficient technique is presented, which makes possible the fast computation of the infinite integrals arising from the application of Galerkin's method in the HTD. At the end of this paper, the numerical results obtained are compared with previously published numerical results, with numerical results computed by means of the electromagnetic simulator "Ensemble", and with measurements carried out by the authors. Good agreement is found in all cases among all sets of results.

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