Abstracts

Spectral Domain Analysis of an Elliptical Microstrip Ring Resonator (Comments)

W.C. Chew. "Spectral Domain Analysis of an Elliptical Microstrip Ring Resonator (Comments)." 1986 Transactions on Microwave Theory and Techniques 34.3 (Mar. 1986 [T-MTT]): 369-369.

Along with the above paper several other papers have been published recently by Sharma and his co-workers [2]-[3] on the analysis of the resonant frequencies of a microstnp disk using the quasi-static approach. The quasi-static approach has been proven to be incorrect in [4] and [5]. The quasi-static argument on the correction to the resonant frequencies of a microstrip disk is based on some intuitive arguments that are not rigorous. The only thing it predicts correctly is that the resonant frequencies of a microstrip disk should decrease compared to that of a magnetic-wall model. The author may argue that since the correction to the magnetic-wall model is small, any approximate method is viable. However, we have found that the quasi-static correction could be as much as 50 percent in error. Even when this correction is small, if we bother to calculate it, I think we should calculate it correctly. The author's quasi-static correction has a new twist compared to earlier authors, but when epsilon/sub r/ = 1, it does not differ from the quasi-static correction of earlier work.

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