

## Efficient FD-TD Analysis of Dielectric Resonators with Tuning Screw and Multilayer Structure

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Y. Shen, Z. Bi, K. Wu and J. Litva. "Efficient FD-TD Analysis of Dielectric Resonators with Tuning Screw and Multilayer Structure." 1992 MTT-S International Microwave Symposium Digest 92.2 (1992 Vol. II [MWSYM]): 967-970.

An efficient finite difference time domain method, coupled with digital filtering and spectrum estimation techniques, is used to analyze the resonant frequencies and field distribution of two resonant structures of practical importance. The semiconductor-dielectric multilayer resonators, which are especially important in optically controlled circuits, are first time analyzed and in reasonable agreement with the experimental results. The results of a practical tuning screw dielectric resonator are also given and compared with the available rigorous results.

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