

## Analysis of dielectric-loaded cavities using an orthonormal-basis method

---

*J.A. Monsoriu, M.V. Andres, E. Silvestre, A. Ferrando and B. Gimeno. "Analysis of dielectric-loaded cavities using an orthonormal-basis method." 2002 Transactions on Microwave Theory and Techniques 50.11 (Nov. 2002 [T-MTT] (Mini-Special Issue on the 2002 IEEE Radio Frequency Integrated Circuit (RFIC) Symposium)): 2545-2552.*

An orthonormal-basis method to analyze dielectric-loaded cavities is proposed. Resonant frequencies and fields are obtained by solving an eigenvalue problem in which the modes of an auxiliary problem define the orthonormal-basis that is used to expand the fields of the original problem. The merit of our approach is to take advantage of some mathematical properties to develop a computationally efficient and versatile method. The accuracy of the method is demonstrated by comparing our results with other results available in the literature.

 [Return to main document.](#)