Abstracts

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

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.

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