Abstracts

Study of a Fabry-Perot Cavity in the Microwave Frequency Range by the Boundary Element Method

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In order to describe very closely the operation of a quasi-optical multidiode oscillator using a Fabry-Perot cavity, each component must be modeled. This paper presents the description of such a cavity by the Boundary Element Method (BEM). The difficulties of adapting classical models to this practical case are discussed in the first part of the paper and justify the use of a more complete and flexible method such as the three dimensional Boundary Element Method. Two levels of approach are succinctly described in the second part. The first one, which has been called zero order, is quite classical. The second one is the most original part of the study and has been called the Second Order Approach. The evolution of the computed results as a function of the number and the distribution of the meshes is given in the last part. They are compared to analytical results and measurements.

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