

Abstracts

On the Modal Expansion of Resonator Field in the Source Region (Short Papers)

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Two field expansions for the electromagnetic field radiated by electric and magnetic currents in a cavity resonator are presented. The first utilizes the cavity resonant modes only, while the other utilizes, in addition, the irrotational modes. The first expansion is shown to be more suitable if the exciting currents have volume distributions. On the other hand, the second expansion is more suitable if the resonator contains surface or filamentary current distributions. Typical examples are given to demonstrate the convergence behavior of the two expansions near and within the source region.

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