Abstracts

Analysis of a nonconfocal suspended strip in an elliptical cylindrical waveguide

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The separation of variables method along with an addition theorem of Mathieu functions are employed in this paper to analyze the problem of a nonconfocal suspended strip in an elliptical waveguide. An infinite-dimensional determinant is obtained, which represents the characteristic equation of the proposed structure. To obtain the cutoff wavenumbers for both TE and TM cases of such a structure, the infinite determinant is truncated. Convergence when truncating was observed. Numerical results for the special case of a confocal structure is discussed first for comparison with published data. Results of other interesting cases are also presented.

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