Radiation By Axial Slots On A Dielectric-Coated Nonconfocalconducting Elliptic Cylinder

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Microwaves, Antennas and Propagation, IEE Proceedings -;Publication Date: Apr 1996;Vol: 143,Issue: 2

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Summary

The radiation properties of axial slots on a conducting elliptic cylinder coated by a dielectric are investigated. The dielectric coating has an elliptical outer trajectory which is not confocal with the conducting slotted elliptic cylinder. A dual infinite-series solution based on the boundary-value method is obtained with the aid of the addition theorem of Mathieu functions. Both TM and TE cases are considered. The dual infinite series involved in the solution are then truncated to generate numerical results. The accuracy of the calculations is checked by comparison with published data. Other interesting results for different geometries are then illustrated