

Abstracts

Radiation and absorption losses of the whispering-gallery-mode dielectric resonators excited by a dielectric waveguide

S.V. Boriskina and A.I. Nosich. "Radiation and absorption losses of the whispering-gallery-mode dielectric resonators excited by a dielectric waveguide." 1999 Transactions on Microwave Theory and Techniques 47.2 (Feb. 1999 [T-MTT]): 224-231.

The scattering of a surface wave of a dielectric layer backed by a ground plane from the whispering-gallery-mode dielectric resonators is considered by use of the surface potential approach and analytical regularization. Efficient numerical algorithms have been developed with applications to the bandstop filter design. Transmitted and reflected power fractions and radiation and absorption losses are calculated and compared for two alternative field polarizations. The effect of excitation of the higher order modes of the waveguide is also studied.

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