

Abstracts

Longitudinal Impedance of Simple Cylindrically Symmetric Structures

S.A. Kheifets. "Longitudinal Impedance of Simple Cylindrically Symmetric Structures." 1987 *Transactions on Microwave Theory and Techniques* 35.8 (Aug. 1987 [T-MTT]): 753-760.

A method derived for calculation of the electromagnetic fields of a point charge moving along an axis of cylindrically symmetric structures is applied here to cavities and collimators with side tubes. The longitudinal impedance for such structures is calculated. In particular, the impedance for a pipe loaded with a thin washer is also calculated. It is shown that for large particle energy and for high frequencies, the longitudinal impedance of a collimator can be found analytically and that it is a constant over a broad range of frequencies.

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