Abstracts

The Radiation Field and Q of a Resonant Cylindrical Plasma Column

W.D. Hershberger. "The Radiation Field and Q of a Resonant Cylindrical Plasma Column." 1961 PGMTT National Symposium Digest 61.1 (1961 [MWSYM]): 49-50.

A cylindrical plasma column placed across a waveguide or situated in free space in such a fashion that the electric field of an incoming wave is perpendicular to the axis of the column displays a series of resonant responses constituting a reflection and absorption spectrum. The spectrum may be elicited and observed at a fixed microwave frequency by varying the current through the column on which the incoming wave impinges and noting the reflected power. The present paper discusses (1) the electromagnetic field associated with the assumed electronic motion for the principal member of the spectrum and (2) the effect of radiation damping on the Q for this member.

❑ Return to main document.