Abstracts

A Millimeter Wave Fabry-Perot Maser

W. Culshaw and R.C. Mockler. "A Millimeter Wave Fabry-Perot Maser." 1961 PGMTT National Symposium Digest 61.1 (1961 [MWSYM]): 3-4.

So far a major limitation to the development of millimeter, and sub-millimeter wavelength beam masers, has been the lack of a suitable high Q resonant structure of adequate dimensions for these wavelengths. This is necessary so that a sufficient number of state-selected molecules can be injected into the resonant structure, for the weak molecular stimulated power emission to exceed losses, and give maser oscillation or detectable amplification. Recent developments in Fabry-Perot interferometers, or resonators for millimeter research, appear very significant for such maser applications, and indicate the possibility of operating such devices at shorter wavelengths, utilizing rotational transitions in molecules such as HCN, and NH/sub 3/.

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