Abstracts

A Study of Waveguides for Far Infrared Interferometers Measuring Electron Density of Tokamak Plasmas

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In the 0.1-1-mm wavelength range, waveguide propagation offers some advantages over optical propagation in multichannel infrared interferometers measuring electron density of Tokamak plasmas. In this paper, the necessary conditions for use of waveguides for this purpose are defined. Possible waveguides are theoretically and experimentally studied, taking into account their shape, size, material, and length. It is shown that it is possible to find waveguides well suited for these interferometers. These results can also be applied to other far infrared interferometers and devices.

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