Abstracts

Lens-Coupled Imaging Arrays for the Millimeter- and Submillimeter-Wave Regions

K. Uehara, K. Miyashita, K.-I. Natsume, K. Hatakeyama and K. Mizuno. "Lens-Coupled Imaging Arrays for the Millimeter-and Submillimeter-Wave Regions." 1992 Transactions on Microwave Theory and Techniques 40.5 (May 1992 [T-MTT]): 806-811.

We have been developing four kinds of lens-coupled antenna imaging arrays for operation at millimeter- and submillimeter-wave frequencies. The comparison between dipole antennas, Yagi-Uda's, trap-loaded antennas, and microstrip patches will be discussed from the viewpoint of the matching with the detectors and optical systems. The radiation patterns and input impedance of each antenna have been calculated and measured to attain the optimum matching using model experiments. The trap-loaded antenna arrays have been successfully applied to plasma diagnostics at the Tsukuba GAMMA 10 tandem mirror.

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