Abstracts

Optimal Design of an Offset-Fed, Twin-Slot Antenna Element for Millimeter-Wave Imaging Arrays

Y. Qian, S.-I. Iwata and E. Yamashita. "Optimal Design of an Offset-Fed, Twin-Slot Antenna Element for Millimeter-Wave Imaging Arrays." 1994 Microwave and Guided Wave Letters 4.7 (Jul. 1994 [MGWL]): 232-234.

The optimal design of an offset-fed, twin-slot antenna suitable for millimeter wave imaging arrays is reported. The dimensions of the antenna and the slot separation for realizing a desirable beam pattern are obtained by using the spectral domain method. The optimal position of the feeding microstrips for perfect impedance matching is determined through a full-wave analysis using the FD-TD method, which takes into consideration both the slot elements and the feeding networks. The input characteristics of an optimally designed antenna is evaluated with a network analyzer, where a reasonable agreement with theoretical predictions is obtained.

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