Abstracts

A cryogenic focal plane array for 85-115 GHz using MMIC preamplifiers

N.R. Erickson, R.M. Grosslein , R.B. Erickson and S. Weinreb. "A cryogenic focal plane array for 85-115 GHz using MMIC preamplifiers." 1999 MTT-S International Microwave Symposium Digest 99.1 (1999 Vol. I [MWSYM]): 251-254 vol.1.

A new focal plane array for 85-115 GHz is described. This array has 16 pixels, and uses InP MMIC preamplifiers with 40 dB gain, followed by a wideband subharmonic mixer to convert to a 5-20 GHz IF band. A low loss isolator is used to achieve an excellent input match. Square corrugated feed horns are used for efficient filling of the focal plane. Critical components are operated at a temperature of 20 K. The noise temperature varies from 50-130 K, including all pixels, across the full band.

❑ Return to main document.