

Abstracts

On the Numerical Reconstruction of Images from a Microwave Hologram

K. Nagai, Y. Aoki and M. Suzuki. "On the Numerical Reconstruction of Images from a Microwave Hologram." 1973 Transactions on Microwave Theory and Techniques 21.1 (Jan. 1973 [T-MTT]): 13-18.

A new technique for the numerical reconstruction of images from a long-wavelength hologram is proposed. The technique is to calculate images by the fast Fourier transform (FFT) algorithm with the hologram data sampled by a straight line approximation. This sampling technique is convenient to reduce the number of the sampling points, and the image can be reconstructed with less data than the conventional equally spaced sampling method. A one-dimensional hologram is constructed at S band and an image is reconstructed by the proposed method. These results are discussed and compared with the results of the conventional numerical reconstruction.

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