Abstracts

Simple Techniques to Correct for VCO Nonlinearities in Short Range FMCW Radars

J. Fuchs, K.D. Ward, M.P. Tulin and R.A. York. "Simple Techniques to Correct for VCO Nonlinearities in Short Range FMCW Radars." 1996 MTT-S International Microwave Symposium Digest 96.2 (1996 Vol. II [MWSYM]): 1175-1178.

Standard hardware techniques for the linearization of the frequency sweep in FMCW radars are difficult to implement and often offer only moderate improvement in linearity. A simple software-based linearization technique is introduced for short-range FMCW radars, and compared with a simple hardware linearization scheme. These techniques have been verified in an existing C-band FMCW scatterometer, and result in a dramatic focusing of the point return. The resulting range resolution (measured) approaches the theoretical limit, with a >20dB reduction in sidelobes.

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