

Abstracts

VCO Based Chirp Generation for Broad Bandwidth Compressive Receiver Applications

J.S. Levy, P.J. Burke, L.D. Cohen and R. Cecchini. "VCO Based Chirp Generation for Broad Bandwidth Compressive Receiver Applications." 1993 MTT-S International Microwave Symposium Digest 93.2 (1993 Vol. II [MWSYM]): 1113-1116.

This paper discusses an advance in state-of-the-art broadband chirp generation for compressive receiver applications. Linear chirp of 1-GHz bandwidth and 1- μ sec duration were generated with an ultralinear, millimeter wave, Gunn VCO and sawtooth waveform driver. The chirp generation circuit was developed for use as a swept local oscillator for a 500-MHz instantaneous bandwidth compressive receiver. Compressive receiver performance with this SLO approach demonstrates a >10 dB improvement in receiver noise floor relative to that obtained with a conventional impulse based SLO.

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