Abstracts

Surface-wave coupling of active antennas for homodyne sensor systems (1998 Vol. III [MWSYM])

R.H. Rasshofer and E.M. Biebl. "Surface-wave coupling of active antennas for homodyne sensor systems (1998 Vol. III [MWSYM])." 1998 MTT-S International Microwave Symposium Digest 98.3 (1998 Vol. III [MWSYM]): 1891-1894.

In this paper, we present a novel method for significantly enhancing the performance of low cost millimeter wave sensors systems based on active integrated antennas. Our method uses the planar active antenna's parasitic surface-wave field as a LO signal for a mixing rectenna. Compared to a self-mixing active 67 GHz antenna, the surface-wave coupled rectenna receiver shows a considerably improved MDS (10 dB lower) and the possibility for high quality homodyne I/Q signal detection.

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