Abstracts

Characterization of Planar Antennas Fabricated on GaAs Epilayers Containing as Clusters for Picosecond Short-Pulse Applications

L. Carin, D.R. Kralij, M.R. Melloch and J.M. Woodall. "Characterization of Planar Antennas Fabricated on GaAs Epilayers Containing as Clusters for Picosecond Short-Pulse Applications." 1993 Microwave and Guided Wave Letters 3.9 (Sep. 1993 [MGWL]): 339-341.

Coplanar-strip horn antennas are fabricated on GaAs grown by molecular beam epitaxy at substrate temperatures of 220, 250, and 270° C. These antennas are switched photoconductively using a picosecond laser to generate and detect freely propagating bursts of electromagnetic radiation. The dependence of the antenna performance on substrate growth temperature is assessed and is also compared with the performance of like antennas fabricated on oxygen-bombarded silicon on sapphire. It is shown that in our picosecond measurements the radiated pulse duration is not very sensitive to substrate growth temperature but the radiated intensity is highly sensitive to this parameter.

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