

Terahertz applications of plasma wave electronics

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Plasma waves propagating in a short-channel High Electron Mobility Transistor (HEMT) have a resonant response to electromagnetic radiation. Experimentally, we have demonstrated the detection of the terahertz radiation by an AlGaAs/GaAs HEMT. In this paper, we review recent theoretical and experimental results dealing with plasma waves in HEMTs and their applications for sources and detectors operating in millimeter and submillimeter range.

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