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摘要: Ultrafast photoconductors have been an enabling device technology in the THz field during the past decade. And their implementation is now worldwide in time- and frequency-domains systems of various types. While the technological push is towards InGaAs or similar photoconductors operating at 1550 nm, the GaAs-based devices operating around 800 nm still provide superior performance and robustness in most cases. This paper contrasts the GaAs and 1550-nm devices in terms of materials design and solid-state metrics such as electron-hole lifetime, carrier mobility, and resistivity. It also summarizes the main materials developed over the past 20 years.
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