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标题: Effecting Factor of Peak Frequency of THz Wave from Photoconductive Antennas
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摘要: Photoconductive antennas with different structures generate terahertz (THz) waves with different peak frequencies at the same experimental conditions, so does the same antenna at different experimental conditions. It is necessary to investigate the determinants of peak frequencies of THz radiation from photoconductive antenna to obtain the THz wave with required peak frequency. In this paper, the factors of laser spot size, trapping time, carrier lifetime, carrier density, bias field, antenna gap size were analyzed based on our experiment and literatures. The peak frequency moved to higher frequency with the decrease of antenna gap size, carrier lifetimes, trapping time, laser beam diameter, and the peak frequency moved to lower frequency with the decrease of bias field, carrier densities.
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