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标题: Plasmon Absorption in grating-coupled InP HEMT and Graphene sheet for tunable THz Detection
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摘要: Tunable resonant absorption by plasmons in the two-dimensional electron gas (2DEG) of grating-gated InP- and Graphene-based HEMTs are investigated. Fourier-spectrometer-obtained transmission resonances are observed over a wide spectral band from mm wavelengths to THz frequencies. These results are found to be consistent with grating period and 2DEG sheet charge density dependent theoretical calculations. The temperature dependence of these transmission resonances as a function of temperature is also reported for both devices. Such devices have potential as a chip-scale frequency-agile THz imaging spectrometers for man-portable or space-based spectral-sensing applications.
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