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标题: A Terahertz Wavemeter Based on a Fabry-Perot Interferometer Composed of Two Identical Ge Etalons
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摘要: A simple and convenient terahertz wavemeter based on a Fabry-Perot interferometer (FPI) is presented. The interferometer is composed of two identical Ge etalons, which act as high-reflectance mirrors for terahertz waves. The transmission characteristics of the Ge FPI are analyzed using multiple-beam interference theory. The theoretical finesse of the FPI, defined as a ratio of 2 pi to the phase halfwidth of the transmission fringes, is larger than 12.5. Here, the wavemeter is used to measure the wavelengths of an optically pumped NH3 terahertz laser. The experimental results indicate that the measuring uncertainties are within +/- 1%. Higher accuracy can be expected if the power or pulse energy of the terahertz source is more stable.
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