

83

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Title:Study on the influencing factors of photonic crystal's band gaps in THz waveband

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Abstract:The photonic band gaps of two dimensional square lattice photonic crystals are analyzed in terahertz range using the plane wave expansion method and the finite difference time domain method. The simulation results indicate that the photonic gaps vary with the dielectric constants and radius of materials in the square lattice photonic crystal. Then the band gaps and transmitting characteristics of photonic crystal that based on the plastic and high-resistivity silicon are studied.

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