Magnetooptical Effects in Wave Properties for a Semiconductor Photonic Crystal at Near-Infrared

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Abstract

Abstract: We investigate the magnetooptical effects in near-infrared wave properties for a 19
semiconductor-based photonic crystal (PC) containing n-type InSb. We find that the static 20
magnetic field serves as an externally switching and tuning agent in the wave transmission 21
near 1.54 m. With the applied static magnetic field, an additional small transmission gap, 22
which does not appear in the absence of static magnetic field, can be opened up. The 23
position of this gap can also be further tuned by the variation in this static field.

Keyword：Photonic Crystal