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标题: Terahertz dual-core photonic band-gap fiber directional coupler
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摘要: A low-loss and broadband terahertz twin-core photonic band-gap fiber directional coupler is proposed, which consists of a cladding with a triangular lattice array of sub-wavelength air rods and two cores formed respectively by omitting seven nearby air rods. The group velocity dispersion, the coupling and the loss of the fibers are investigated by using a full-vector finite element method. The numerical simulations show that the loss coefficient of the coupler is less than 0.021 cm(-1), and the coupling broadband of 0.14 THz can be realized. The directional coupler has potential applications in terahertz communication systems, such as filtering, wavelength-division multiplexing, polarization isolation, switching and so on.
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