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Title:High Performance Photonic Crystal Substrate Wideband Terahertz Square Microstrip Patch Antenna
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Abstract:In this paper, a wideband terahertz square microstrip patch antenna on thick photonic crystal substrate is presented and Computer Simulation Technology Microwave Studio is used to simulate its electromagnetic wave transmission properties. The proposed antenna can work at five frequency point's scope at terahertz frequency regions. The thick substrate is used to increase the bandwidth of the antenna and the photonic crystal structure of the substrate is used to enhance the gain, directivity, bandwidth, and radiation efficiency of the antenna. The corresponding enhancements are similar to 22 dB, similar to 23 dBi, similar to 39% and similar to 92%, respectively.
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