Abstract

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Improved Mode Localization in Triangular Lattices: Light Maniplulation Using Dynamic Photonic Crystals

Dynamic photonic crystals structures have been suggested in previous works [1-2] for optical storage and processing. By optimizing the radius of the dielectric rods in a triangular lattice structure, the present work gives maximum mode localization in the photonic bandgap. Preserve in the translational invariance and adiabaticity, using the new model leads to higher bandwidth compression capabilities. While increasing the bandwidth, this design does not show significant increase in group-velocity dispersion Predictions from first principle analysis are confirmed by quantitative analysis.