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**Propagation of light in birefringent tilings** ANGELO MASCARENHAS, BRIAN FLUEGEL, LEKHNATH BHUSAL, National Renewable Energy Laboratory — Two-dimensional tilings of an optically birefringent material are proposed as an orientational superlattice for light. The light modes that result from loss-free refraction are analyzed. It is shown that the behavior for light propagation in such lattices leads to totally bound as well as propagating states. The behavior of light propagation in several such tilings is compared.

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