Unitary polaritons in homogeneous media and photonic crystals

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This paper presents the characteristics of unitary polaritons, quasiparticles of electromagnetic waves in material media satisfied for $n = \pm 1$. The parameters of unitary polaritons are calculated for various crystals such as NaCl, ZnSe, ruby and globular photonic crystal based on synthetic opal. We have determined the existence of room temperature Bose-Einstein condensate of unitary polaritons. Two unitary polaritons − scalar boson conversion process is proposed.

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