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Propagation of long-lifetime polaritons in a semiconductor microcavity[1] GERMAN V. KOLMAKOV, OLEG L. BERMAN, ROMAN YA. KEZERASHVILI, the New York City College of Technology, the City University of New York — We study propagation of polaritons in a high-quality microcavity. The polaritons are formed by the cavity photons coupled with the excitons in a semiconductor quantum well. We focus on the long-lifetime polaritons ($\sim$ 100 ps), which can spread in a semiconductor structure over a few mm distance before they damp. The case where the polaritons form a non-equilibrium Bose-Einstein condensate is considered. We discuss the changes in the spatial polariton distribution if the polaritons are accelerated by a constant force in the wedge-shaped microcavity.

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