

Theory of polariton condensation

Wpisany przez Jacek Szczytko

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[Szkoła IN](#) : □ **Thursday 12 of November 2015, g. 12:15-14:00, room 3.73, Pasteura 5, Faculty of Physics University of Warsaw**

Microcavity polaritons form a hybrid light-matter system that is under active experimental and theoretical investigation as a platform for quantum fluids.

In this talk, I will review the theoretical description of microcavity polaritons based on generalisations of the Gross-Pitaevskii equation and Bogoliubov theory. Both resonant, parametric and nonresonant excitation will be addressed. These descriptions allow to describe features such as the excitation spectrum, superfluidity, spatio-temporal coherence and nonequilibrium effects. Because of the nonequilibrium situation, microcavity polariton condensates can sustain flows in their steady state, which has led to the observation of quantized vortices.

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