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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.

Szkoła odbywa się dzięki wsparciu projektu POKL UDA – POKL.04.01.01-00-100/10 "Chemia, fizyka i biologia na potrzeby społeczeństwa XXI wieku: nowe makrokierunki studiów I, II i III stopnia" prowadzonemu na Wydziale Chemii UW.