

ATOM CHIPS: COLD ATOMS MEET THE NANOWORLD"

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New and exciting physics is currently emerging at the interface of ultracold atom physics and condensed matter physics. Atom chips are systems that experimentally combine the two worlds: on an atom chip, an atomic Bose-Einstein condensate (BEC) is trapped and manipulated by the microscopic magnetic potentials that are created by microfabricated current-carrying wires. I will give a short overview of the subject and describe experiments in which BECs are coupled to optical and nanomechanical resonators on the chip.