SFB/TRR 21 - Seminar

21. December 2011, Tübingen

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Bose-Einstein-condensation of Magnons at room temperature

Bose Einstein condensation (BEC) in dilute atomic vapors is known for over 15 years now. In 2006 clear evidence for the existence of a Bose-condensed state in a gas of quasi-particles was produced in a system of exciton polaritons in a microcavity and in the magnon gas of an epitaxally grown in-plane magnetized Yttrium-Iron-Garnet (YIG) film. The main advantage of quasi-particles with respect to atoms is their low mass and high density, which makes it possible to achieve the conditions for BEC even at room temperature. As condensation of quasi-particles occurs in solids there is also no need for performing experiments in vacuum. In this talk I will give a short introduction into the concept of magnon BEC and present the latest research results.

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