

## MA 1 Invited Talk Demidov

Time: Monday 09:30–10:00

Room: HSZ 03

**Invited Talk**

MA 1.1 Mon 09:30 HSZ 03

**Direct observation of Bose-Einstein condensation of parametrically driven magnons.** — •VLADISLAV DEMIDOV — Institut fuer Angewandte Physik, Universitaet Muenster, Corrensstrasse 2/4, 48149 Muenster, Germany

In thin ferromagnetic films the spectrum of magnons shows a minimum with non-zero energy at wavevectors of about  $10^4 \text{cm}^{-1}$ . The system of magnons in a film can be efficiently driven by means of the microwave parametric pumping. The resulting state of the driven magnon system can be considered as a quasi-equilibrium and is described by Bose-Einstein statistics with the non-zero chemical potential.

Using Brillouin light scattering technique we are able directly to measure the distribution of parametrically driven magnons over the spectrum. We show that, as the power of the parametric pumping increases, the system of magnons is characterized by the increasing chemical potential. Finally, if the pumping power exceeds a certain threshold, the chemical potential reaches the energy of the bottom of the spectrum and the system undergoes a Bose-Einstein-condensation. For larger values of the power the magnons form a coherent condensate at the bottom of the spectrum, which manifests itself in the appearance of an intensive maximum of the magnon density at the corresponding energy.