Journal of Physics: Conference Series 2014 vol.568

Bose-Einstein condensation in antiferromagnets at low temperatures

Alakshin E., Bunkov Y., Gazizulin R., Isaenko L., Klochkov A., Safin T., Safiullin K., Tagirov M., Zhurkov S.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© Published under licence by IOP Publishing Ltd. The Bose-Einstein condensation (BEC) was predicted by Einstein in 1925 and this effect is characterized by the formation of a collective quantum state, when macroscopic number of particles is governed by a single wave function. The BEC of magnons was discovered experimentally in superfluid phase of 3He. In the present work we report our progress on the BEC of magnons investigations in solid antiferromagnets at low temperatures by magnetic resonance methods. The duration of the FID signal in two samples of easy-plane antiferromagnets CsMnF3 has been studied. Obtained data confirm the formation of magnon BEC in antiferromagnet CsMnF3.

http://dx.doi.org/10.1088/1742-6596/568/4/042001