

Long-lived free induction decay signal in CsMnF₃ single crystal

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Abstract

Elementary excitations in antiferromagnets are magnons, and these quasiparticles with integer spin are governed by Bose statistics. In certain conditions their density can be controlled by applied radiofrequency pulse leading to the formation of Bose-Einstein condensation (BEC). We report the investigations of free induction decay signal duration in CsMnF₃ under different conditions and discuss it in the framework of the magnon BEC. The observed results in CsMnF₃ and previous investigations in superfluid ³He-A are compared. © Kazan Federal University (KFU).

Keywords

Antiferromagnets, Bose-Einstein condensation, Magnons, Nuclear magnetic resonance