

Recent developments in dynamics of electromagnons in multiferroics

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Invité par Pascale ROY

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Grand Amphi SOLEIL

Séminaires

Magnetoelectric effect in multiferroics has attracted much interest recently because of possibility to modulate electric polarization by external magnetic field. A related effect, control of magnetization by electric voltage is more difficult to realize experimentally but is strongly desirable especially from the point of view of applications. A promising way to solve this task is to use novel magnetoelectric excitations (electromagnons) which determine the terahertz dynamics of several multiferroic systems.

In the first part of the talk we discuss an electrical control of dynamic magnetoelectric effect in a classical multiferroic manganite DyMnO_3 , a material containing coupled antiferromagnetic and ferroelectric orders.

In the second part recent results on the terahertz dynamics in multiferroic ferroborate $\text{SmFe}_3(\text{BO}_3)_4$ will be presented. This material reveals record values of magnetodielectric effect exceeding $\Delta\epsilon/\epsilon \sim 300\%$.

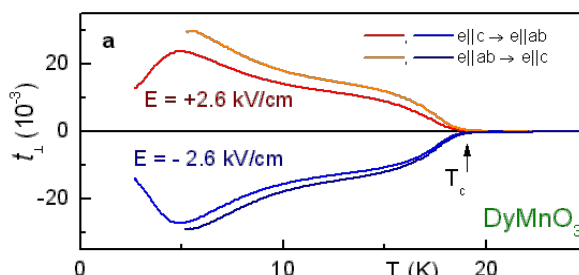


Fig. 1. Electric field control of the terahertz radiation due to electromagnon in DyMnO_3 .



Ce séminaire sera suivi d'une pause-café



Formalités d'entrée : accès libre dans l'amphi du Pavillon d'Accueil. Si la manifestation a lieu dans le Grand Amphi SOLEIL du Bâtiment Central, merci de vous munir d'une pièce d'identité (à échanger à l'accueil contre un badge d'accès).

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