

CEA - Saclay 91191 Gif-sur-yvette Cedex  
**Service de Physique de l'Etat Condensé**  
**SÉMINAIRE**

\*\*\*\*\*

**Mercredi 05 décembre 11h15**

**Orme des Merisiers SPEC Salle Itzykson, Bât.774**

**Non-diffractive Sub-wavelength Wave Beams in  
a Medium with Externally Controlled  
Anisotropy**

**Andrei Slavin**

Department of Physics, Oakland University, Rochester (USA)

It is predicted and experimentally demonstrated that in a medium with externally induced anisotropy a wave source of a sufficiently small size can excite practically non-diffractive wave beams with stable sub-wavelength transverse aperture. The direction of the beam propagation is controlled by rotating the induced anisotropy axis. Non-diffractive wave beam propagation, reflection, and scattering, as well as the beam steering have been directly observed by optically probing dipolar spin waves in yttrium iron garnet films, where the uniaxial anisotropy was created by an in-plane bias magnetic field.

A coffee break will be served at 11h00. The seminar will be given in English.

---

Contact : [marcelo.goffman@cea.fr](mailto:marcelo.goffman@cea.fr)/[sebastien.aumaitre@cea.fr](mailto:sebastien.aumaitre@cea.fr) –Tel : +33 1 69 08 55 29 / 74 37  
<http://iramis.cea.fr/spec/>