

Séminaire SOLEIL

Doping of single ions and addressing of nano particles with high lateral resolution

J. MEIJER

(Ruhr-Universität Bochum, Allemagne)

Invité par Stefan KUBSKY

**Vendredi 12 février à 13h30
Grand Amphi SOLEIL**

The fabrication of quantum device, based on solid state materials, requires a technology that is able to implant single ions. A method that use an AFM-tip with a small hole like a nanomask is already established e.g. to implant single NV-centers in diamond. Furthermore, we now combined this system with a nano particle source to focus and collimate a charged nano particle source to a given position.

However these techniques allow only a statistical implantation of single ions.

A new method, successfully realized at the University of Ulm, offers the implantation of countable ions without additional detection methods. Calculations show that a lateral resolution below one nm could be achieved. The talk will give an overview of the status of these methods as well as the first results to apply single ion implantation in the fabrication of NV centres in diamond as a solid state room temperature qubit.

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).

SYNCHROTRON SOLEIL

Division Expériences - L'Orme des merisiers - Saint-Aubin - BP 48 - 91192 GIF S/YVETTE Cedex

<http://www.synchrotron-soleil.fr/portal/page/portal/Soleil/ToutesActualites>

Secrétariat Division Expériences : sandrine.vasseur@synchrotron-soleil.fr