

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

Mercredi 21 novembre 11h15

Orme des Merisiers SPEC Salle Itzykson, Bât.774

**Coherent quantum phase slip ? Josephson
effect's complete conjugate**

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We are carrying out studies of coherent quantum phase slip (CQPS) effect which is the exact quantum mechanical conjugate to the Josephson effect. It is a phenomenon involving coherent tunneling of magnetic flux across a thin superconducting wire, just like tunneling of Cooper-pair across thin insulator in the Josephson tunnel junction. The existence of CQPS was recently proposed theoretically. By utilizing CQPS, it is expected that many quantum devices conjugate to the Josephson devices can be realized. For example, quantum current standard conjugate to the Josephson voltage standard, superconducting quantum charge detector conjugate to the superconducting quantum flux detector (SQUID) and so on should be realized. We have initiated experiments toward the detection of CQPS by utilizing several superconducting materials.

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

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