



CEA – Saclay, 91191 Gif-sur-Yvette Cedex
Service de Physique de l'Etat Condensé - UMR 3680

SÉMINAIRE

Mercredi 12 septembre 2018 à 11h15

Orme des Merisiers SPEC, Salle Itzykson, Bât.774

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Backaction of quantum measurements in superconducting circuits

When a quantum system is measured, it collapses onto a state that corresponds to the measurement outcome. This measurement backaction takes subtle forms if the system first interacts with an ancillary quantum system, which is then measured. Observing these phenomena requires detectors, which are able to extract most of the information leaking out of a quantum system. Superconducting circuits now offer a testbed for these questions.

I will show how quantum measurement backaction can be observed in circuit quantum electrodynamics (c-QED) experiments. In particular I will show that it is possible to follow a quantum state under a weak continuous measurement and use it to realize feedback.

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

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