

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

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**Mercredi 15 décembre 11h15**

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

**Emission and Absorption quantum noise measurement with an  
on-chip resonant circuit**

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Using a quantum detector, a superconductor-insulator superconductor junction, we probe separately the emission and absorption noise in the quantum regime of a superconducting resonant circuit at equilibrium. At low temperature the resonant circuit exhibits only absorption noise related to zero point fluctuations whereas at higher temperature emission noise is also present. By coupling a Josephson junction, biased above the superconducting gap, to the same resonant circuit, we directly measure the noise power of quasiparticles tunneling through the junction at two resonance frequencies. It exhibits a strong frequency dependence, consistent with theoretical predictions [1].

[1] J.Basset, H.Bouchiat and R.Deblock, Phys. Rev. Lett. 105, 166801 (2010).

A coffee will be served at 11h00

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