

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

Mardi 26 mai 14h00

Orme des Merisiers SPEC Salle Itzykson, Bât.774

**Non-Gaussian noise-induced phase transition in the
electronic Mach-Zehnder interferometer**

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We consider dephasing in the electronic Mach-Zehnder interferometer strongly coupled to current noise created by a voltage biased quantum point contact (QPC). We find the visibility of Aharonov-Bohm oscillations as a function voltage bias and express it via the cumulant generating function of noise. In the large-bias regime, high-order cumulants of current add up to cancel the dilution effect of a QPC. This leads to an abrupt change in the dependence of the visibility on voltage bias which occurs at the QPC's transparency $T=1/2$. Quantum fluctuations in the vicinity of this point smear out the sharp transition.

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