

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

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**Mercredi 11 mars 11h15**

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

**Thermal Casimir effect: A mode goes missing**

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Vacuum fluctuations of the electromagnetic field can give rise to a force between mirrors, the so-called Casimir effect, which becomes important at distances of micrometers and below. The Casimir force therefore is relevant in the context of micro- and nanoelectromechanical systems and for tests of the gravitational force in the submicrometer regime. For a quantitative account of the Casimir effect, the properties of real mirrors have to be considered. We will concentrate on the role of the electrical conductivity of metallic mirrors for the thermal corrections to the Casimir force and in particular discuss the fate of the zero-frequency transverse electric mode in the transition from the Drude to the plasma model.

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