



Physics Colloquium

Thursday, 18 March 2021 | 17:00 – 18:00, Online with BigBlueButton

Casimir Forces

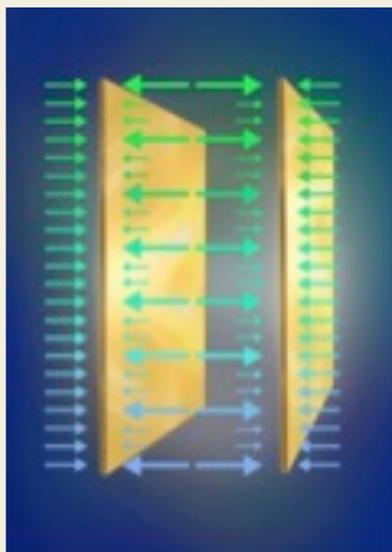
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ABSTRACT

The Casimir effect is a prediction of Quantum Field Theory at the interface with open problems of modern physics such as the puzzle of vacuum energy. The ideal expression written by Hendrik Casimir for perfect mirrors is not sufficient for comparison between theory and experiments. The effects of the optical properties of mirrors, thermal fluctuations and dissipation, geometry, surface irregularities, have to be taken into account. I will discuss the comparison between theoretical predictions and the most precise experiments performed at IUPUI (Purdue) with metallic mirrors in vacuum [1]. I will also evoke ongoing experiments performed at UFRJ (Rio de Janeiro) with spherical dielectric particles in electrolytes [2].



1. “Casimir forces”, Lectures at Les Houches Summer School (OUP, 2017) [arXiv](#)
2. “Screened Casimir interaction in electrolytes” (EPJD, 2019) [arXiv](#)