SEMPARIS – Séminaires en région parisienne

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Astronomy and Cosmology at ENS

Mercredi 4 Mars 2020, 14 :00
LPENS, L369
Domaines : astro-ph

Titre : *A New Concept for the Detection of Axion Dark Matter*

Orateur : **Raffaele Tito D'agnolo (IPhT/Sacaly)**

Résumé : *I will discuss an approach to search for axion dark matter with an especially desigend superconducting radio frequency cavity. Our approach exploits axion-induced transitions between nearly degenerate resonant modes of frequency close to a GHz. Compared to traditional detection strategies this allows for parametrically enhanced signal power for axions lighter than a GHz (micro-eV). The projected sensitivity covers unexplored parameter space for QCD axion dark matter for axion masses between a GHz and 10 MHz. It is also sensitive to about eight orders of magnitude in axion-like dark matter coupling to photons for axion masses between GHz and Hz.*
