Contribution ID: **275** Type: **Talk**

【361】qBOUNCE: first results of the Ramsey-type GRS experiment

Thursday 29 August 2019 17:00 (15 minutes)

This talk focus on the control and understanding of a gravitationally interacting elementary quantum system using the techniques of gravitational resonance spectroscopy (GRS) and ultracold neutrons (UCN). It offers a new way of looking at gravitation at short distances based on quantum interference.
In the past years, the qBOUNCE collaboration designed and built a new Ramsey-type experiment at the Institute Laue-Langevin (Grenoble). In 2018, we were able to measure gravitational state transition with the complete assembled experiment for the first time. In June 2019, another 200 days of measurements will start. We will present the status of the data analysis and a novel search strategy using GRS to differentiate between Einstein's cosmology constant and dark energy theories.

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Session Classification: Nuclear, Particle- & Astrophysics

Track Classification: Nuclear, Particle- and Astrophysics (TASK)