

The GRANIT experiment

Tuesday 10 September 2013 18:00 (3 hours)

The GRANIT instrument is designed to study quantum states of Ultra Cold Neutrons (UCNs) bouncing over a mirror in the gravitational field.

The UCNs are produced by a dedicated superthermal helium source installed at the ILL reactor.

The storage time in the source and the velocity spectrum of extracted neutrons have been recently measured, the source is now connected to the GRANIT spectrometer.

Commissioning is underway and the very first results have been obtained.

The next step will consist in inducing resonant transitions between quantum states in a flow through mode using an oscillating magnetic field gradient.

Searching for deviations of the expected resonant frequencies we can test the weak equivalence principle in a quantum context and/or probe the existence of a new force such as the Chameleon field, a candidate to explain the Dark Energy.

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Session Classification: Poster, BBQ & Drinks