



SECTION DE PHYSIQUE

COLLOQUE DE PHYSIQUE

24, QUAI ERNEST-ANSERMET, CH-1211 GENÈVE 4

Lundi 15 avril 2019, 12h30

Ecole de Physique, Auditoire Stueckelberg

«Experimental search for new gravity-like interactions
and for a violation of the weak equivalence principle
using slow neutrons»

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Abstract:

General relativity has been well verified by cosmological observation, as seen in the observation of gravitational waves and the measurements of the drag effect of inertial systems by the Gravity Probe B satellite. However, in contrast, the experimental tests of gravity on a microscopic scale is not very common. It is because gravity tests are technically difficult due to its weakness. In the colloquium, I'll talk about our series of short-scale experiments, a search for new gravity-like interactions with the intermediate strength using cold neutron beams [1] and a measurement of gravitationally bound quantum system of ultra-cold neutrons [2]. I'll also discuss about our plans of testing the weak equivalence principle using this quantum system.
[1] Y. Kamiya, K. Itagaki, M. Tani et al., PRL 114, 161101 (2015)
[2] G. Ichikawa, S. Komamiya, Y. Kamiya et al., PRL 112, 071101 (2014).

Une collation en compagnie du conférencier sera offerte après le colloque.

Prof. Dmitry Abanin

Genève, le 9 avril 2019/nc

Secrétariat de la Section de Physique - N. Chaduiron – 022 379.63.83