

# Service de Physique Nucléaire



## Séminaire

le vendredi 16 septembre 2011 à 11h

CEA Saclay, Orme des Merisiers, Bât. 703, Salle 135

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### The HypHI project at GSI : hypernuclear spectroscopy with heavy ion beams at GSI and recent results

Prof. Dr. Takehito Saito

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Hypernuclear physics addresses the baryon-baryon interaction under flavored-SU(3) with up, down and strange quarks. Hypernuclei have been so far studied mainly by induced reactions of meson or electron beams. In these experiments, an excellent energy resolution has been achieved, however, the isospin of the produced hypernuclei has been limited by the availability of target materials. We, the HypHI collaboration, have proposed precise hypernuclear spectroscopy with heavy ion induced reactions by producing and identifying hypernuclei as a projectile fragment. With this technique, studies of hypernuclei at extreme isospin as well as hypernuclear magnetic moments could be reached. We have already performed the Phase 0 experiment with  ${}^6\text{Li}$  projectiles at 2 AGeV impinging on a carbon target in order to demonstrate the feasibility of the experimental method. We have already succeeded to produce and identify three- and four-body Lambda hypernuclei. In addition, an indication of a possible Lambda-neutron bound state will be also discussed

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*Le café sera servi 10 minutes avant*

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