



SÉMINAIRE DE PHYSIQUE CORPUSCULAIRE

SUJET: **Weighting antimatter: The AEgIS experiment.**

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LIEU: Science III, Auditoire 1S081
Boulevard d'Yvoy, 1211 Genève 4

RÉSUMÉ:

The AEgIS experiment at the CERN Antiproton Decelerator aims at testing the weak equivalence principle by directly measuring gravitational acceleration exerted by Earth on antihydrogen atoms.

The experiment will for the first time create a pulsed beam of antihydrogen atoms that will then be selected through a moiré deflectometer. Downstream detection of the vertical acceleration is then performed through a position sensitive detector, combining silicon strips emulsions and scintillating fiber detectors. We provide here an overview of the working principles of the experiment, with an insight on the antihydrogen production and detection system.

Norway, with the University of Bergen and Oslo, is developing one of the components of an hybrid annihilation detector. The sub-detector, based on silicon microstrip sensors, will be the first application of the technology to the detection of antihydrogen. In addition to the challenges defined by this new type of measurement, the detector will have to address technical constraints like cryogenic operation and a reduced physical thickness (50 μm). This seminar will cover the aims and principles of the AEgIS experiment, with a final focus on the development of the silicon annihilation detector at Bergen and Oslo.

INFORMATION : <http://dpnc.unige.ch/seminaire/annonce.html>

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