



ΓΕΝΙΚΟ ΣΕΜΙΝΑΡΙΟ ΤΜΗΜΑΤΟΣ ΦΥΣΙΚΗΣ

**PHYSICS COLLOQUIUM**

**Thursday, 29 March 2012**

**17:00 -18:00**

**3<sup>rd</sup> Floor Seminar Room**

**"Atomic parity violation in ytterbium: Towards the nuclear anapole moment"**

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**Abstract**

Measurements of parity violation in atoms provide stringent tests of the Standard Model at low energies ( $\sim$ MeV), complimenting results from high-energy particle physics experiments. Despite the low momentum transfer involved in atomic parity violation experiments, the most precise results constrain "new physics" at the TeV level. Moreover, atomic parity violation is also sensitive to nuclear properties, such as the neutron distribution and the nuclear anapole moment. We discuss the history of atomic parity violation, give an overview of present status of the field, and report on our recent measurement of a large parity-violating effect in ytterbium.