

CM / AMO Seminar

Condensed Matter & Atomic Molecular Optical

Tuesday, March 6, 2018

705 Pupin Hall

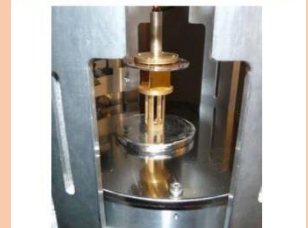
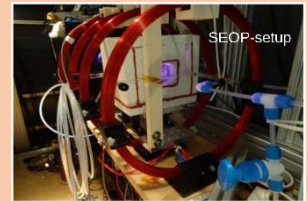
12:15 PM

William Terrano, Technical University Munich

"Exploring New Physics with Fermionic Spins"



Precision measurements of large, coherent ensembles of aligned fermionic spins are powerful probes of many fundamental physics question, such as tests of Lorentz violation, one of the pillars of general relativity; searches for new sources of CP-violation to explain the baryon asymmetry of the universe; and probes of high energy symmetries via their relic goldstone bosons. In this talk I will cover some recent developments in experimental techniques that have greatly improved the sensitivity of these measurements, and avenues for further improvements. I will also discuss some new ideas about ultra-low-mass axions and fuzzy dark matter candidates, and the prospects for using polarized-spin systems as dark matter detectors.



*** lunch will be available ***