



ΓΕΝΙΚΟ ΣΕΜΙΝΑΡΙΟ ΤΜΗΜΑΤΟΣ ΦΥΣΙΚΗΣ

PHYSICS COLLOQUIUM

Thursday, 10 April 2008
17:00-18:00

3rd Floor Seminar Room

*“Spin Noise: Heisenberg's Uncertainty Haunting
Modern Quantum Technology”*

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Abstract

We will describe recent experimental and theoretical work towards a better understanding of the concept of spin noise, a form of quantum noise limiting the performance of atomic clocks and atomic magnetometers. We describe the deep link between quantum fluctuations and decoherence in atomic vapors bearing spin degrees of freedom. Under this perspective, we then elaborate on the interplay between decoherence and entanglement in the much sought after route to surpassing the standard quantum limits of precision measurements.