

SEMINARIO
Departamentos de Física Teórica I y II
Universidad Complutense de Madrid

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TITULO: Status of the $g-2$ of the muon:
trouble for the standard model or theorists' overconfidence?

LUGAR: FACULTAD DE CIENCIAS FÍSICAS UCM

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ABSTRACT

A several year old discrepancy at the 2-3 sigma level between precision Standard Model computations of the muon's magnetic moment and experimental measurement defies theory. I quickly review the last measurements, the various contributions to the theory estimate that include a mind-boggling 5-loop QED calculation as well as high-order QCD and electroweak corrections, and concentrate especially on the hadronic contributions.

I will show how progress in the Dyson-Schwinger formulation of Chromodynamics provides a cross-check, extension and improvement over future lattice and existing quark model and effective Lagrangian estimates, highlighting the strengths and weaknesses of the various approaches.