



*Organisé conjointement par
CPHT-École Polytechnique et Groupe Théorie IPN Orsay*

SÉMINAIRE de PHYSIQUE des PARTICULES

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The nucleon axial charge from Lattice QCD

Résumé :

The axial coupling of the nucleon, g_A , is a simple but fundamental quantity in particle physics. While g_A is very well-measured experimentally, its theoretical prediction has been a long-standing puzzle: the lattice determinations being systematically below the experimental value. If we want to understand nuclear physics from first principle, it is crucial to solve this puzzle. I will present our recent computation performed with CalLat (California Lattice) based on a Feynman-Hellmann approach. Our result is in perfect agreement with the experimental value with an uncertainty of less than 2%. I will discuss the various sources of systematic errors and I will give the several ingredients that allow our determination to be significantly more precise than the previous lattice computations.

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11:00

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