Contribution ID: **193** Type: **not specified**

N=4 supersymmetric Yang–Mills on a space-time lattice

Tuesday 25 August 2015 15:00 (30 minutes)

Practical lattice discretizations of supersymmetric gauge theories are notoriously difficult to construct in four dimensions. N=4 supersymmetric Yang–Mills (SYM) is the only known 4d theory for which there exists a lattice formulation that exactly preserves a subset of the supersymmetry algebra. This exact supersymmetry has remarkable consequences that are crucial to the feasibility of non-perturbative lattice calculations from first principles. After reviewing some highlights of the N=4 SYM lattice formulation, I will present a selection of results from our ongoing numerical studies, including comparisons with analytic predictions.

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Session Classification: Fundamental/String Theory

Track Classification: Fundamental and String Theory