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N=1 "Lagrangians" for N=2 "non-Lagrangian" theories

Wednesday, 12 July 2017 10:00 (1 hour)

Argyres-Douglas (AD) theory is an N=2 superconformal field theory (SCFT) which has no weak-coupling limit. Nevertheless, AD theory is believed to be the simplest interacting N=2 SCFT. In this talk, I will present N=1 gauge theories that flow to the AD theory and its generalizations in the IR. This high-energy description of the AD theory makes it possible to compute supersymmetric partition functions. This gauge theory is obtained from certain N=1 preserving deformation of an N=2 SCFT. I will discuss special cases where N=1 deformation of the N=2 theory leads to an enhanced N=2 supersymmetry in the IR.

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