LABORATORY FOR ELEMENTARY-PARTICLE PHYSICS (LEPP)

Theory Seminar

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Pre-ADS superpotential from multi-monopoles

4D ADS superpotential for SUSY QCD with $F<N$ flavors can be obtained explicitly from instanton calculations for $F=N-1$ and deduced from symmetries and relevant limits in other cases. In this talk I will consider pre-ADS superpotential in a theory on $R^3 \times S^1$ for a general number of flavors and will show that it arises from the interplay of single monopole and multi-monopole contributions.

Multi-monopole contributions to the pre-ADS superpotential can be obtained both on symmetry grounds and by considering path integral calculation of two point chiral correlation functions for fermions. In the large radius limit pre-ADS superpotential reduces to ADS superpotential. Thus multi-monopoles provide a unified explanation of the origins of ADS superpotential in theories with arbitrary number of flavors.

Wednesday, April 25, 2018
2:00pm
401 Physical Sciences Building