



LABORATORY FOR ELEMENTARY-PARTICLE
PHYSICS (LEPP)

Theory Seminar

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Implications of the ANEC in four dimensional SCFTs

The averaged null energy condition (ANEC) can be used to put bounds on the scaling dimensions of operators in a local CFTs. In some cases these are stronger than the unitarity bounds. I will consider four dimensional $N=1$ superconformal field theories (SCFTs) and discuss bounds on generic long and protected multiplets with spin $(j,0)$. Some of the bounds can be obtained analytically and others can be studied by means of a simple semidefinite programming problem. I will also briefly mention the consequences for $N=2,4$ SCFTs and improvements on recent results for the non-supersymmetric case.

Based on [1905.09293].

Wednesday, Sept. 4, 2019

2:00pm

401 Physical Sciences Building