

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

LEPP, the Cornell University Laboratory for Elementary-Particle Physics, and CHESS resources have merged and a new lab, (CLASSE), has formed. LEPP's primary source of support is the National Science Foundation. Visit us at www.lepp.cornell.edu