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## Hidden Conformal Symmetry from the Lattice

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We present an analysis of newly expanded and refined data from lattice studies of the SU(3) gauge theory with  $N_f = 8$  light Dirac fermions, a theory which lies close to the boundary of the conformal window. We first assume that this theory is just outside the conformal window and identify a light unflavored scalar meson in this case as an approximate dilaton. We show fits of the lattice data to a dilaton effective field theory and demonstrate that it yields a good fit even at lowest order. Our fit incorporates new data for a scalar decay constant  $F_S$ . For comparison, we then assume that the theory is inside the conformal window. In this case, the fermion mass provides a deformation, triggering confinement. We employ simple scaling laws to fit the lattice data, but find that it is of lesser quality.

### Topical area

Particle Physics Beyond the Standard Model

**Primary authors:** Dr GASBARRO, Andy; HASENFRATZ, Anna (university of colorado boulder); REBBI, Claudio (Boston University); SCHAICH, David (Liverpool); RINALDI, Enrico (RIKEN BNL Research Center); NEIL, Ethan (University of Colorado, Boulder); WEINBERG, Evan (NVIDIA Corporation); FLEMING, George (Fermilab); INGOLDBY, James (ICTP (Trieste)); OSBORN, James (ANL); CUSHMAN, Kimmy; WITZEL, Oliver (Universität Siegen); VRANAS, Pavlos (Nuclear Science Division, Lawrence Berkeley National Laboratory); BROWER, Richard C. (Boston University); Prof. APPELQUIST, Thomas (Yale U); JIN, Xiaoyong (ANL)

**Presenter:** INGOLDBY, James (ICTP (Trieste))

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