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Probing near conformal dynamics with 4+8 and 8 flavors: running coupling and the spectrum

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We investigate an $SU(3)$ gauge theory with four light flavors and eight heavy flavors of variable mass as a model of near conformal dynamics. By continuously varying the mass of the eight heavy flavors we can tune between chirally broken and conformal behavior. We report on recent progress with probing this model deeper in the light flavor chiral regime, including updated measurements of a light 0^{++} isosinglet meson. This will be presented alongside a study of an $SU(3)$ theory with eight light flavors by the LSD collaboration.

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