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Targeting the Conformal Window: Determining the Running Coupling

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In order to study the transition from conformal to confining behavior of an $SU(3)$ gauge theory, we present the novel idea to simulate a theory with four light and eight heavy flavors. Varying the mass of the heavy flavors, the theory changes from conformal to confining allowing us to demonstrate the walking nature of the running coupling as a function of the mass of the eight heavier flavors.

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