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Dilaton chiral perturbation theory and applications

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We review dilaton chiral perturbation theory (dChPT), the low-energy theory for the light sector of near-conformal, confining theories. dChPT accounts for the pions and the light scalar,and provides a systematic expansion in both the fermion mass and the distance to the conformal window. Unlike ChPT, dChPT predicts a large-mass regime in which the theory exhibits hyperscaling,while the expansion nevertheless remains systematic. We discuss applications to lattice data, presenting successes as well as directions for future work.

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