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Towards a novel description of flavor dynamics in holographic QCD

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D-branes with a U-shaped geometry, like the D8 flavor branes in the Sakai-Sugimoto model of QCD, are encountered frequently in holographic backgrounds. We argue that the commonly used DBI action is inadequate as an effective field theory description of these branes, and discuss an effective action that incorporates naturally the non-local physics of a complex scalar mode. Our results are relevant for the holographic description of chiral symmetry breaking and bare quark mass in QCD and open string tachyon condensation in curved backgrounds.

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