Abstract Submitted
for the APR21 Meeting of
The American Physical Society

Computing the mass of flavor singlet uuddss with QCD sum rules
ZIHUI WANG, GLENNYS FARRAR, New York Univ NYU — It is recently argued that a deeply-bound six-quark uuddss state could have evaded all experimental searches and is a dark matter candidate. In the past, the QCD sum rules have been applied to compute the mass of weakly-bound H-dibaryons. However, the traditional perception of the H-dibaryon as di-Lambda or triple-diquark does not fully account for the color-flavor-spin structure of the total singlet uuddss. The complete wavefunction of the singlet uuddss is highly entangled in color-spin-flavor, and we discuss the consequence to predicting its mass using QCD sum rules.

Zihui Wang
New York Univ NYU

Date submitted: 08 Jan 2021 Electronic form version 1.4