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LATTICE 21

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Determination of the masses of hybrid charmonium mesons

Wednesday, July 28, 2021 7:00 AM (15 minutes)

There are several unexplained resonances in the charmonium sector. To this end we present a study of the masses and decay constants of the lightest multiplet of charmonium-like hybrid mesons. We obtain precise measurements through the use of a variational basis and a large number of configurations at three lattice spacings. We use staggered fermion operators and our configurations are generated using the HISQ action with 2+1+1 dynamical flavours. The mixing of the vector hybrid with the J/Ψ is examined and bounds on the vector hybrid decay constant are presented.

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