

Exotic and higher spin mesons in charmonium region

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Abstract: Exotic and higher spin (>1) mesons are still not thoroughly investigated in lattice QCD. Using a set of derivative based operators we report our exploratory study of these mesons in charmonium region. We use a $12^3 \times 48$ anisotropic ($\xi = 3$) quenched clover lattice with lattice spacing 6.05 GeV^{-1} . Techniques developed in this exploratory study will be utilized in our future comprehensive study of light hybrid mesons that are to be explored in the 12 GeV GlueX experiment at Jefferson Lab.