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Searching for signatures of the $X(3700)/D\bar{D}$ bound state in femtosopic correlations

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The femtosopic $D\bar{D}$ correlations are investigated in order predict the signature of the $X(3700)$ ($D\bar{D}$) bound state in the isoscalar channel. This bound state is generated by solving the coupled-channel Bethe-Salpeter equations with the local hidden-gauge formalism. The momentum correlation functions of the $D^0\bar{D}^0$ and D^+D^- pairs and the low-energy observables are calculated and discussed. I analyze how the features of the $X(3700)$ state might be encoded in the behavior of the correlation functions.

Author: Prof. ABREU, Luciano Melo

Presenter: Prof. ABREU, Luciano Melo

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