Contribution ID: **23** Type: **Oral presentation**

Tetraquark Production by Intrinsic Charm

Tuesday 24 September 2024 15:55 (20 minutes)

A number of new four-quark states containing from one to four c or $\bar{c}$ quarks have been observed recently. Many of these new states have been discovered at the LHC. The production of these states via intrinsic charm in the proton is investigated. The tetraquark masses obtained in this approach, agree well with the measured masses. These calculations can provide some insight into the nature of the tetraquark candidates, whether as a bound meson pair or as a looser configuration of four individual partons which can influence their interactions in nuclear medium, such as in heavy-ion collisions. The kinematic distributions
of these states as a function of y and pT are also studied. The possible cross sections for these states are also considered.

This work was performed under the auspices of the U.S. DoE by LLNL under Contract DE-AC52-07NA27344 and supported by LDRD projects 21-LW-034 and 23-LW-036 and the HEFTY Topical Collaboration.

Category

Theory

Collaboration

HEFTY

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Session Classification: Parallel 23: heavy quarkonia production

Track Classification: 3. Heavy quarks and quarkonia