

The hunt for exotic particles at Jefferson Lab and EIC

Tuesday, 2 November 2021 09:30 (30 minutes)

Quantum Chromo Dynamics (QCD), the theory describing the strong force, predicts how quarks and gluons form into hadrons. Although all established meson and baryon states are either quark-anti quark pairs or three (anti)quark states, QCD also allows for combinations of four or more quarks. In addition, states in which gluons are excited and contribute to the quantum numbers of the hadrons are also possible. Jefferson Lab, with its GlueX experiment, is one of the prime facilities to hunt for these exotic particles.

In this talk I will introduce the open questions around exotic hadrons and present some of the ongoing efforts at Jefferson Lab. In addition, I will present how a future Electron-Ion Collider, currently in its planning stage, will provide us with opportunities to study these states in unprecedented detail.

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Session Classification: Contributions