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(I) Beyond-Standard-Model Physics using Rare Eta and Eta-prime Neutral Decays

Thursday 9 June 2022 09:15 (30 minutes)

Precision measurements of several eta and eta′ decay channels, with emphasis on rare neutral modes, will be carried out at the Jefferson Lab Eta Factory (JEF) in 2024 using an upgraded GlueX detector in Hall D. The combination of highly-boosted eta/eta′ production, recoil proton detection, and a new fine-granularity high-resolution 1600-crystal lead-tungstate insert in the forward calorimeter confers uniqueness to JEF compared to other similar experiments worldwide. JEF will search for new gauge bosons in portals coupling the SM sector to the dark sector in the invariant mass region below 1 GeV and will provide constraints on C-violating, P-conserving reactions.

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