

## **In Search of the Elusive Glue of Quantum Chromodynamics**

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The \$338M 12 GeV Upgrade of Jefferson Laboratory is nearing completion, and the GlueX experiment in the new Hall D will search for the presence of exotic mesons. These states of matter are suggested by the underlying fundamental theory of the strong nuclear force, Quantum Chromodynamics (QCD), but the existence of these exotic states remains elusive. In this project, we will capitalize our ALCC awards which resulted in the creation of quark propagators suitable for the determination of the spectrum of QCD. We will use these quark propagators to determine if exotic meson resonances exist in QCD. These calculations are timely, as the GlueX experiment will commence measurements in 2016. We intend to make these calculations in advance of the first experimental results at JLab, and they will guide future experimental searches.