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## The hadron spectroscopy program at Jefferson Lab

*Tuesday, 22 September 2015 10:00 (30 minutes)*

Understanding the hadron spectrum is one of the fundamental issues in modern particle physics. We know that existing hadron configurations include baryons, made of three quarks, and mesons, made of quark-antiquark pairs. However most of the mass of the hadrons is not due to the mass of these elementary constituents but to the force that binds them. Studying the hadron spectrum is therefore a tool to explore one of the fundamental forces in nature, the strong force, and Quantum Chromo Dynamics (QCD), the theory that describes it. This investigation can provide an answer to fundamental questions as what is the origin of the mass of hadrons, what is the origin of quark confinement, what are the relevant degrees of freedom to describe these complex systems and how the transition between the elementary constituents, quarks and gluons, and baryons and mesons occurs.

For these reasons, hadron spectroscopy represents a central part of the Jefferson Lab physics program. In this talk I will review selected results from the experiments that were completed during the 6 GeV era of the laboratory life and outline the program planned with the 12 GeV upgrade.

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