

Meson Spectroscopy with GlueX

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The GlueX experiment at Jefferson Lab was specifically designed for precision studies of the light-meson spectrum. For this purpose, a photon beam with energies up to 12 GeV is directed onto a liquid hydrogen target contained within a hermetic detector with near-complete neutral and charged particle coverage. Linear polarization of the photon beam with a maximum around 9 GeV provides additional information about the production process. In 2018, the experiment completed its first phase, recording data with a total integrated luminosity above 400 pb^{-1} . We will highlight a selection of results from this world-leading data set with emphasis on the search for light hybrid mesons. In the mean time, the detector underwent significant upgrades and is currently recording data with an even higher luminosity. The future plans of the GlueX experiment to explore the meson spectrum with unprecedented precision will be summarized.

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