MesonEx:meson spectroscopy with quasi-real photons in CLAS12

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gow, CLAS COLLABORATION — A broad program to study meson spectroscopy
in the light quark sector with the CLAS12 experiment in Hall B at Jefferson Labo-
ratory has been proposed with the goal of searching for exotic mesons and studying
poorly known and rare states, such as scalars and strange mesons. For this purpose,
the experiment uses quasi-real photons produced by 10.6 GeV electrons scattering
off a proton target and detected at small angles (2.5-4.5 deg) in the CLAS12 Forward
Tagger. In these kinematics the virtual photon that is produced has very low four-
momentum transfer, Q2, and can be considered as quasi-real. This photon has a
significant degree of linear polarization that can be determined event-by-event from
the electron scattering kinematics and exploited in the study of the hadronic final
states via Partial Wave Analyses (PWA) to extract the contribution of individual
resonances. After completing the commissioning in February 2018, the experiment
started the production phase, completing an extensive period of data taking between
2018 and 2019, collecting about 300 mC of charge corresponding to an integrated
luminosity of 0.4/pb. In this talk first results from a selection of final states will be
presented

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