



Contribution ID: 28

Type: Oral Presentation

Studies of baryon form factors at BESIII

Tuesday, 30 July 2019 16:40 (20 minutes)

Electromagnetic form factors of baryons provide fundamental information about their structure and dynamics and provide rigorous tests of non-perturbative QCD as well as phenomenological models. However, results in the time-like region have large uncertainties. Production cross sections and form factors of hyperons have only barely been explored. Based on 500 pb^{-1} of data collected with the BESIII detector between 2.0 GeV and 3.08 GeV, and data collected at the peak of the $\psi(3770)$ resonance and higher energies, we report measurements of the proton form factor in the time-like region using both the energy scan method and the initial state radiation technique. In addition, the line-shape of the Born cross sections of hyperon pairs for Λ and Λ_c baryons will be reported, where a non-zero cross section at threshold is observed. Observation of a non-zero relative phase angle between the Λ hyperon's time-like G_E and G_M electromagnetic form factors is also reported.

Primary authors: AHMED, Samer (Helmholtz-Institut Mainz); GARZIA, Isabella (INFN); GARZIA, Isabella (Universita di Ferrara & INFN (IT))

Presenters: GARZIA, Isabella (INFN); GARZIA, Isabella (Universita di Ferrara & INFN (IT))

Session Classification: QCD & Heavy Ions

Track Classification: QCD & Heavy Ions