Contribution ID : **57** Type : **parallel talk**

Threshold π^- photoproduction

Monday, 6 June 2016 15:45 (0:20)

Collaboration

MAX-Tagg

Abstract content

The last Nuclear Physics experiment at Maxlab in Lund, Sweden was performed in April 2015. The experiment probes the π^- photoproduction on the neutron through measuring the total cross-section of the reaction $\gamma + {}^2\mathrm{H} \to ß^- + 2\mathrm{p}$ from threshold up to ~ 165 MeV incident photon energy.
Pion photoproduction on the nucleus is described by various theoretical frameworks (e.g Dispersion Theory, Heavy Baryon Chiral Perturbation Theory) and experimental data is vital to test the accuracy of the models. Numerous experiments have been performed to study the π^0 channel, but data on the charged channels is scarce. To the best of the authors knowledge no data exists for π^- photoproduction below incident photon energy of 158 MeV.
The presentation will provide an overview of the $\gamma + {}^2\mathrm{H} \to ß^- + 2\mathrm{p}$ experiment performed at Maxlab in Lund, Sweden. The author will explain the key aspects of the analysis, present the latest results and outline the data points that should become available within the next year. In addition to the π^- production channel the Compton scattering data $\gamma + {}^2\mathrm{H} \to fl' + {}^2\mathrm{H}'$ that can be extracted from the same experiment will be briefly discussed.

Primary author(s) : STRANDBERG, Bruno (The University Of Glasgow)

Co-author(s) : FELDMAN, Gerald (The George Washington University); FISSUM, Kevin (Lund University); MYERS, Luke (Bluffton University); O'RIELLY, Grant V. (University of Massachusetts Dartmouth); ANNAND, John R.M. (The University Of Glasgow); BRISCOE, William (The George Washington University)

Presenter(s) : STRANDBERG, Bruno (The University Of Glasgow)

Session Classification : Parallel Session C5