



Canadian Association
of Physicists

Association canadienne
des physiciens et physiciennes

Contribution ID: 291 Type: **Oral Competition (Graduate Student) / Compétition orale (Étudiant(e) du 2e ou 3e cycle)**

(G*) The charged kaon electromagnetic form factor at Jefferson Lab

Wednesday 9 June 2021 16:20 (10 minutes)

The Kaon LT experiment (E12-09-011) at Jefferson Lab, USA was designed to study the LT separated cross-section of the reaction $^1H(e, e'K^+)/^0$ and to attempt to extract the K^+ electromagnetic form factor. The measurements for the K^+ electromagnetic form factor are important, as they allow us to better understand the role of the strange quark (s) in the K^+ structure. This experiment ran over fall 2018 and spring 2019 in the Hall-C at Jefferson Lab. The scattered electron (e') and the produced K^+ were measured in the two magnetic spectrometers called High Momentum Spectrometer (HMS) and Super High Momentum Spectrometer (SHMS), while the e or the 0 are identified on the basis of their masses in the missing mass spectrum. The high precision nature of the experiment is required an in depth understanding of the behaviour of the detectors that are utilised in the experiment. In this talk, I will briefly outline the experiment, the experimental facility and the preliminary results of the studies that have been completed.

Author: Mr VIJAY KUMAR (University of Regina)

Co-authors: Prof. GARTH HUBER (University of Regina); Dr STEPHEN KAY (University of Regina); Prof. TANJA HORN (Catholic University of America, Washington DC, USA); Prof. P. MARKOWITZ (Florida International University, Miami, FL, USA)

Presenter: Mr VIJAY KUMAR (University of Regina)

Session Classification: W3-7 Mesons I (DNP) / Mésons I (DPN)

Track Classification: Nuclear Physics / Physique nucléaire (DNP-DPN)