Contribution ID: **7** Type: **not specified**

Universality in RMC for Mu2e

Tuesday, 21 July 2020 13:15 (15 minutes)

Radiatiave muon capture (RMC) is a key background in searches for charge-changing lepton number violation at Mu2e ($\mu^- \to e^+$). In particular there are concerns that high energy positrons, whose progenitor is either a real- or virtual-photon, can bleed into the signal region for the charge-changing search.

In this work I show positrons produced from off-shell photons can be related to the on-shell photon rate via a universal probability. This universal result is independent of the details of the virtual-photon amplitude and emerges as one approaches the end-point of the positron spectrum.

I will briefly comment on a possible asymmetry between electrons and positrons from internal conversion due to the Coulomb field of the target nucleus.

Summary

Fermilab report number

Primary author: PLESTID, Ryan (University of Kentucky)

Presenter: PLESTID, Ryan (University of Kentucky)

Session Classification: Tuesday Afternoon 1