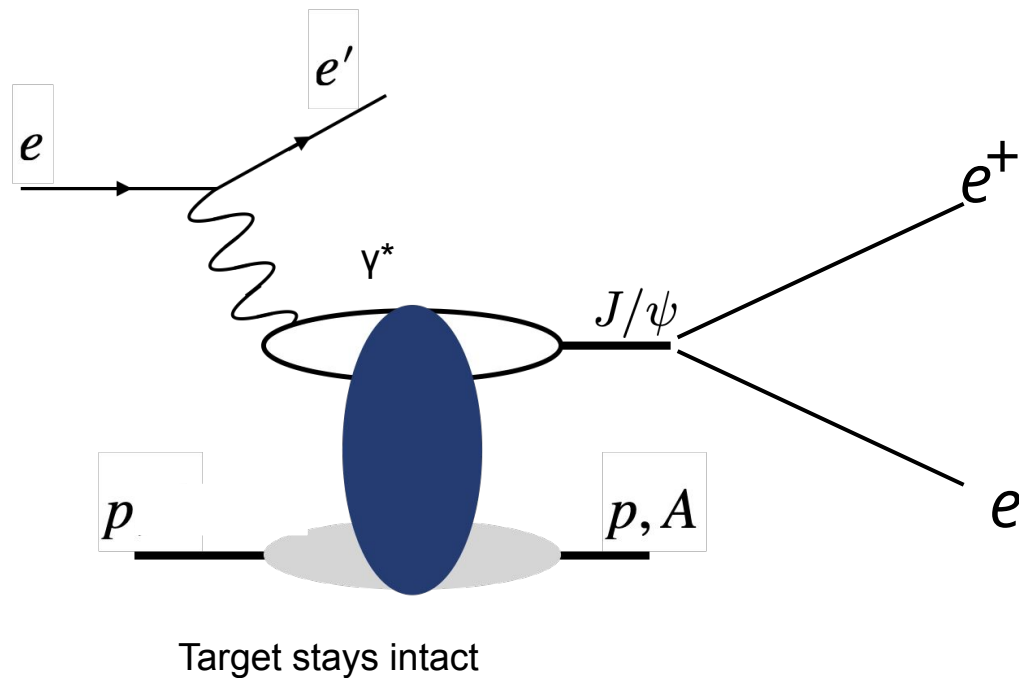

Analysis Progress on DVMP

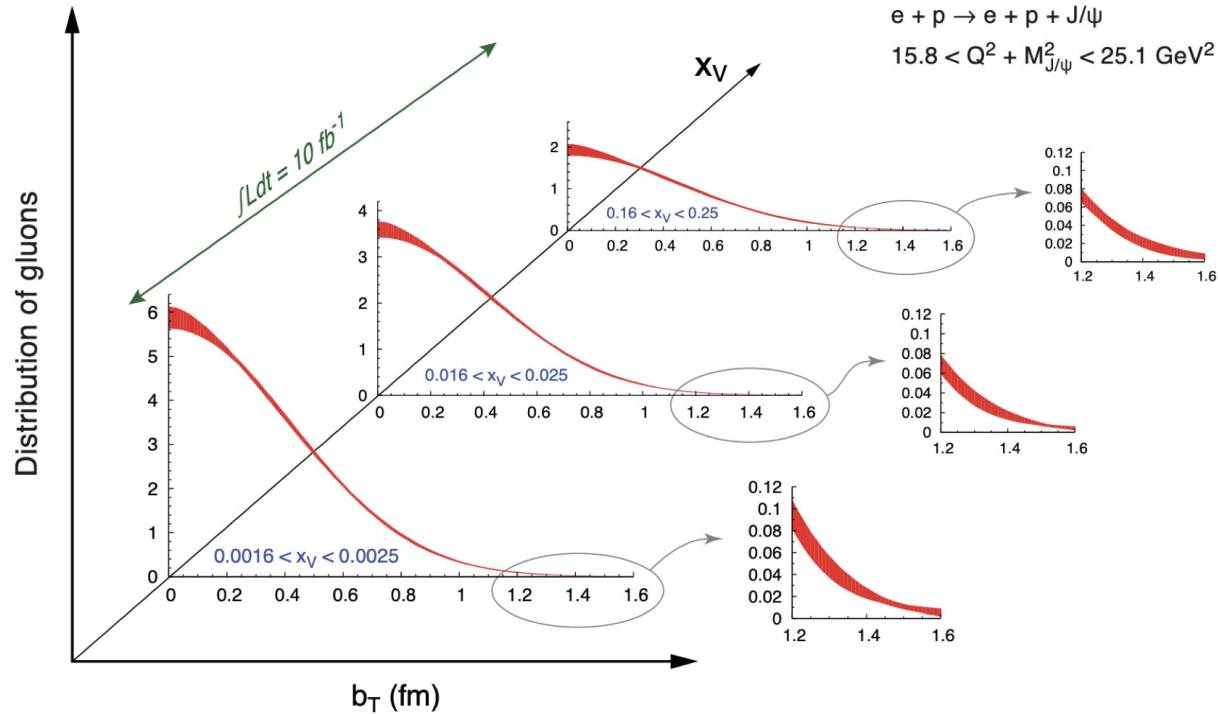
$$ep \rightarrow e'p' J/\psi(e\bar{e}^{\dagger})$$

Olaiya Olokunboyo
UNH

Reaction of Study:



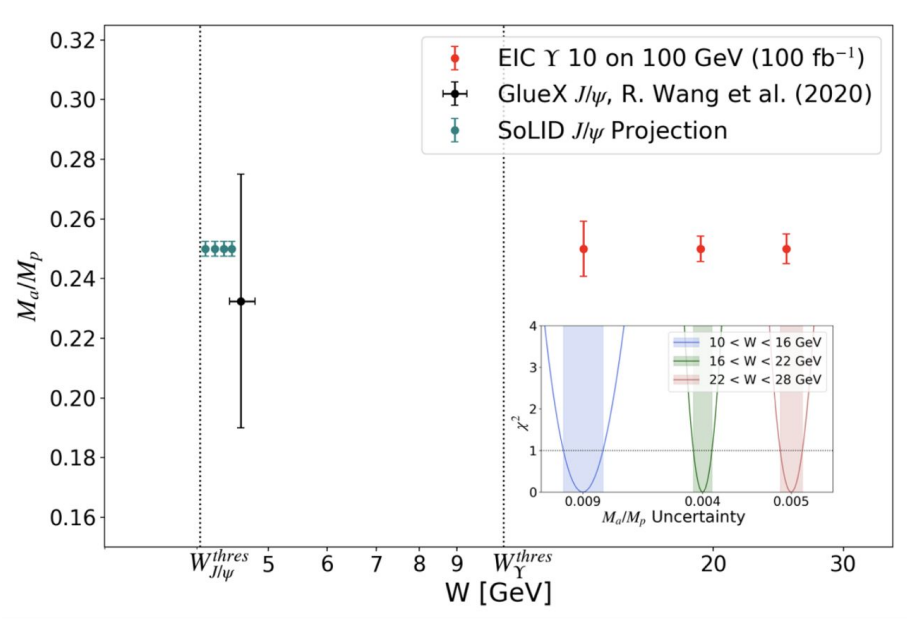
Motivation



J/ψ production: transverse spatial
distribution of gluons

Eur. Phys. J., 6 vol. A52 (2016)

Motivation



$E_e = 10 \text{ GeV}$
 $E_p = 100 \text{ GeV}$

Trace anomaly contribution to the proton mass.

Nucl. Phys. A 1026 (2022)

Generator

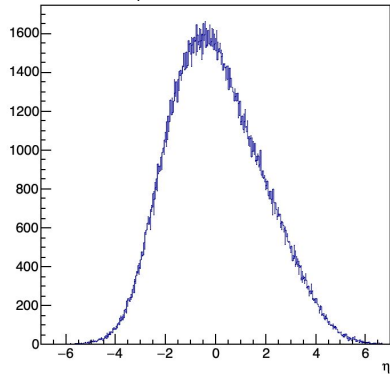
IAger - Argonne generic I/A-event generator (S. Joosten)

The LAGER generator was used to produce event samples for the studies presented.
Modular accept-reject generator, capable of simulating both fixed target and collider kinematics

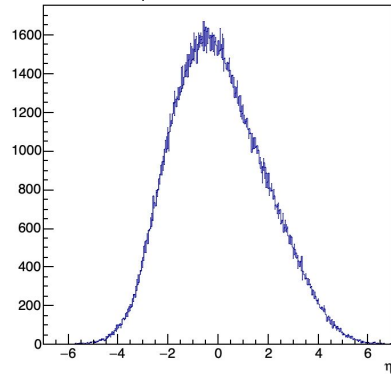
Energy for the electron - 18 GeV

Energy for the proton - 275 GeV

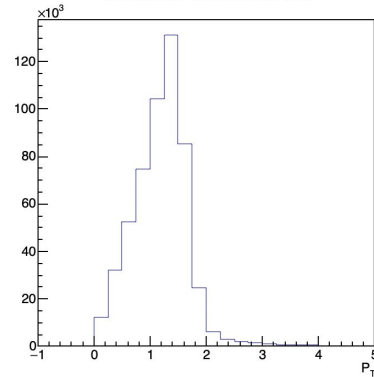
J/ψ e^-



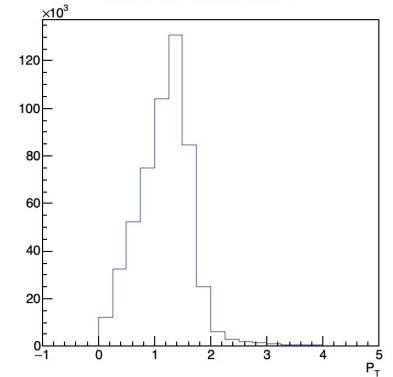
J/ψ e^+



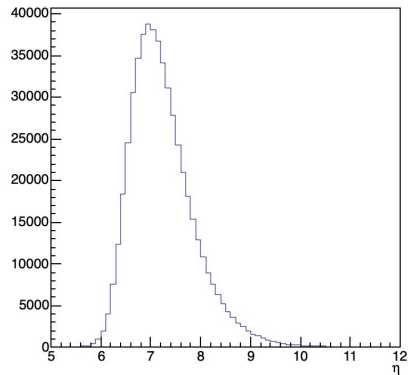
Transverse Momentum of e^-



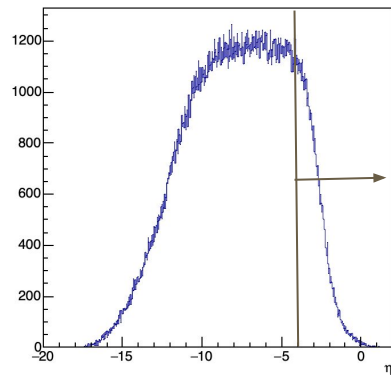
Transverse Momentum of e^+



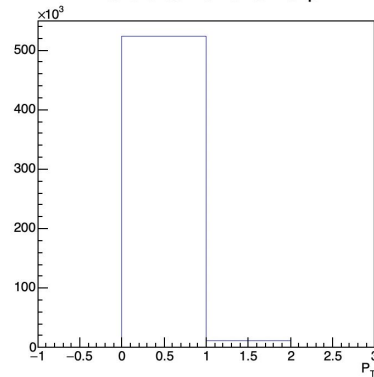
p'



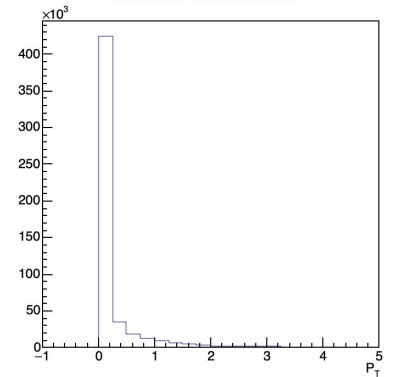
e'



Transverse Momentum of p'

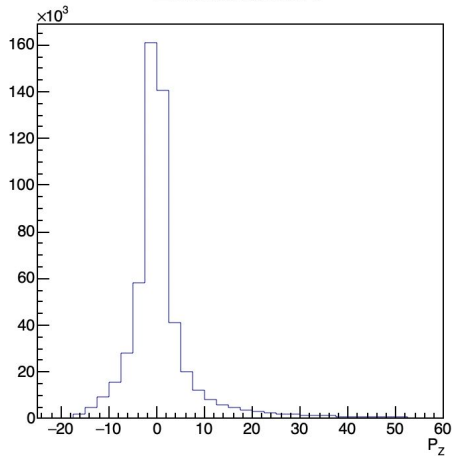
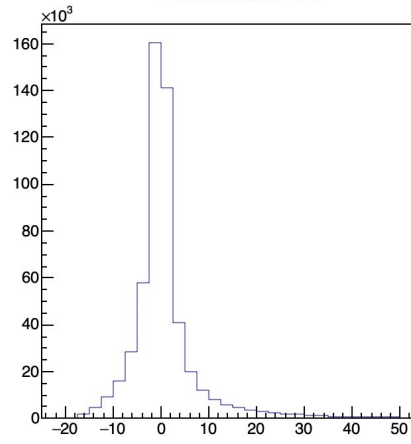


Transverse Momentum of e'

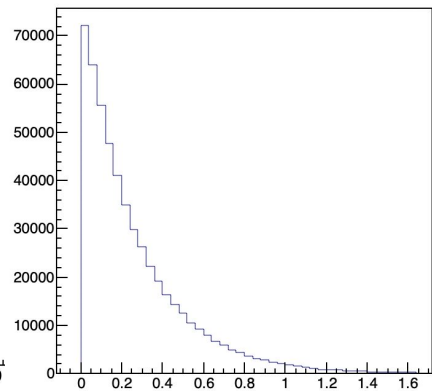
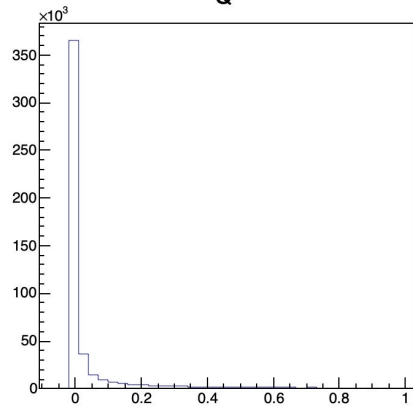


Data for 00mrad lager generator

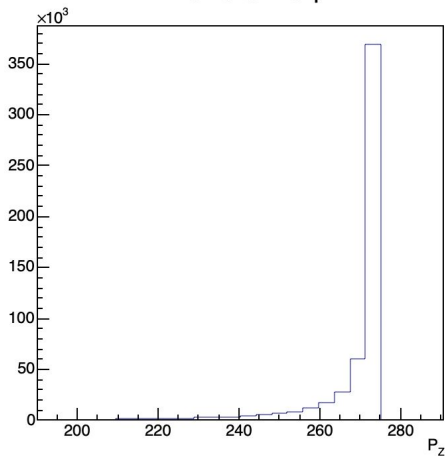
Z Momentum of e

Z Momentum of e⁺

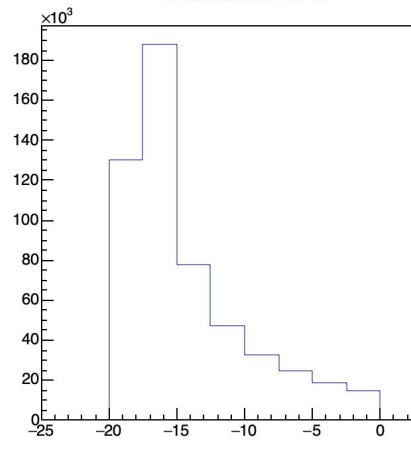
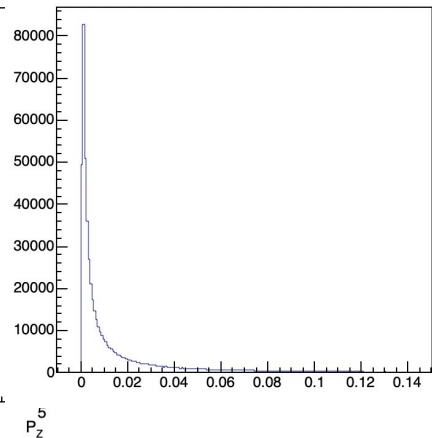
-t

Q²

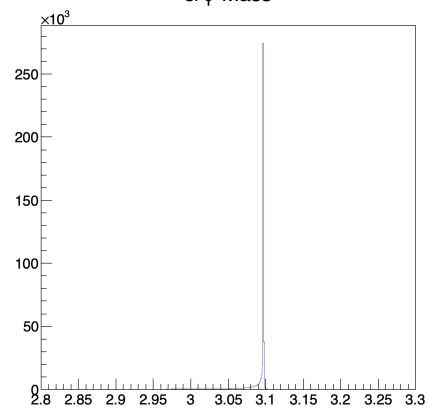
Z Momentum of p'



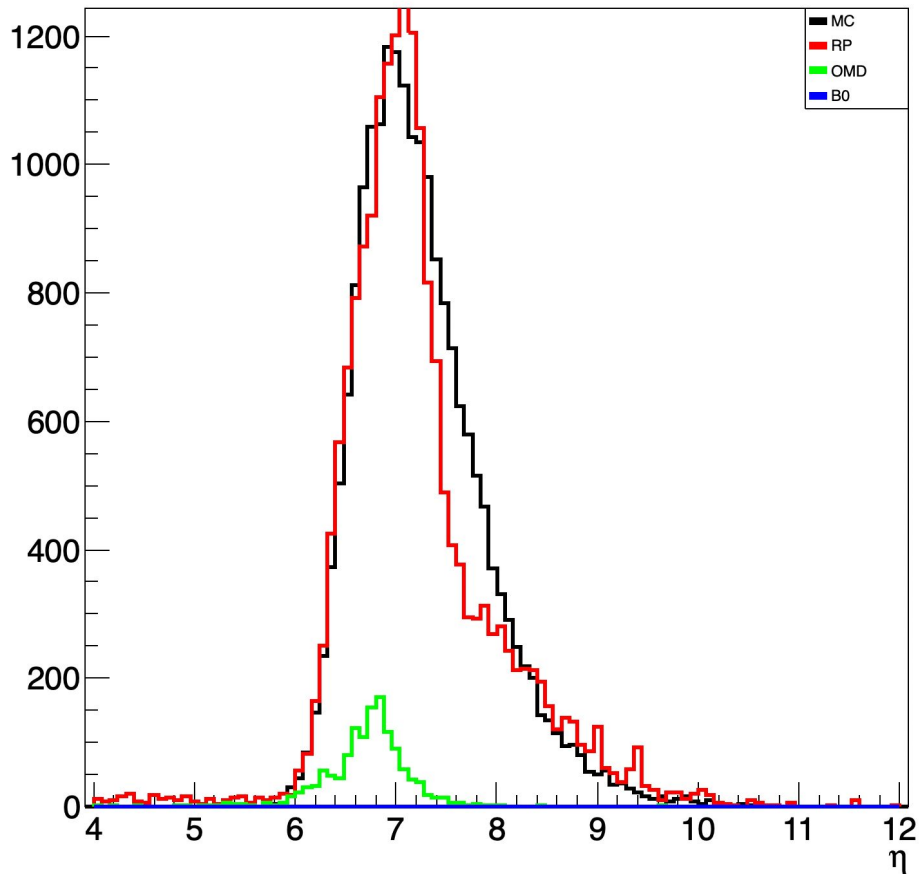
Z Momentum of e'

x_v

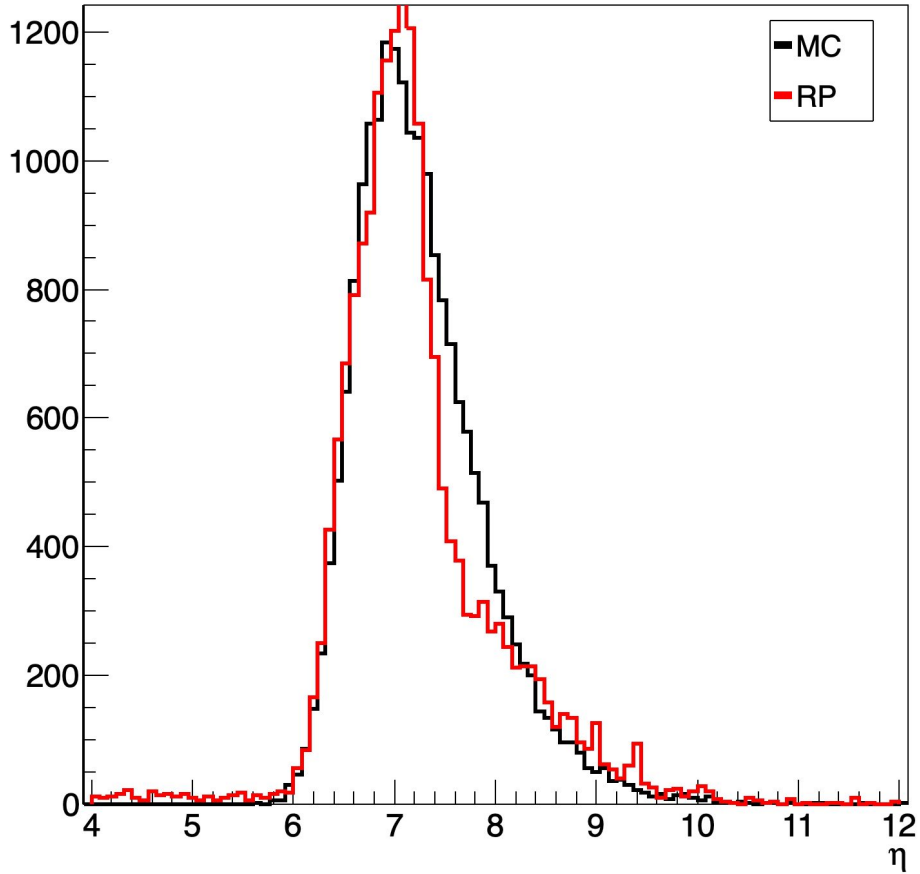
J/ψ-Mass



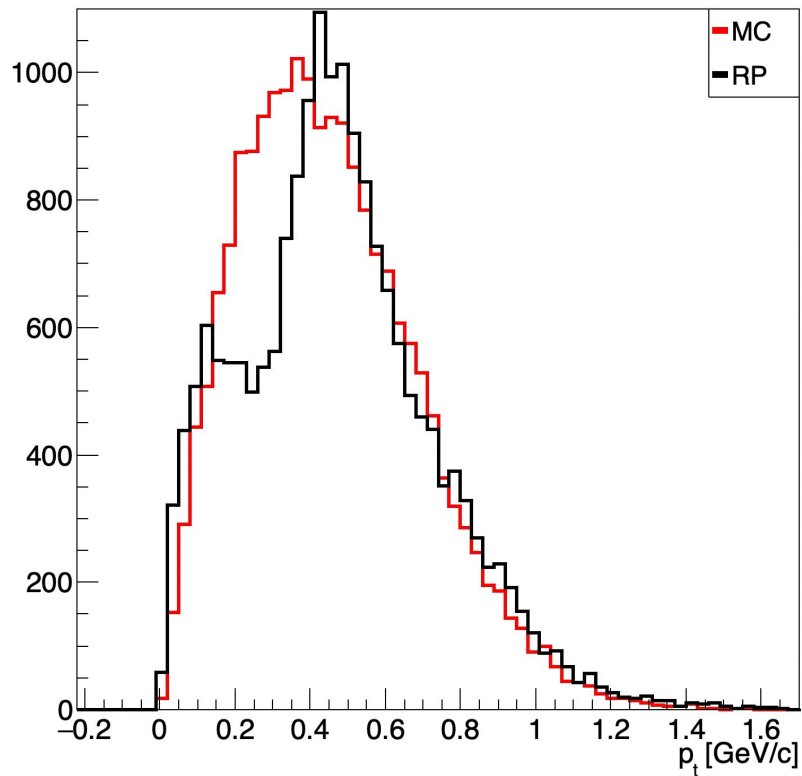
Looking through RP, OMD, and B0



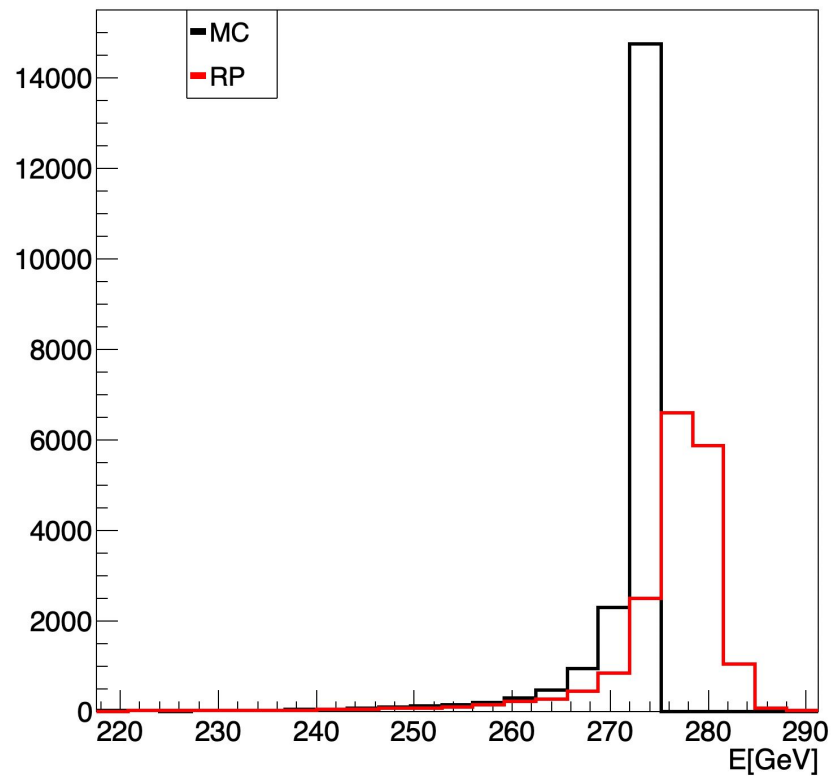
ρ' from - MC and RP

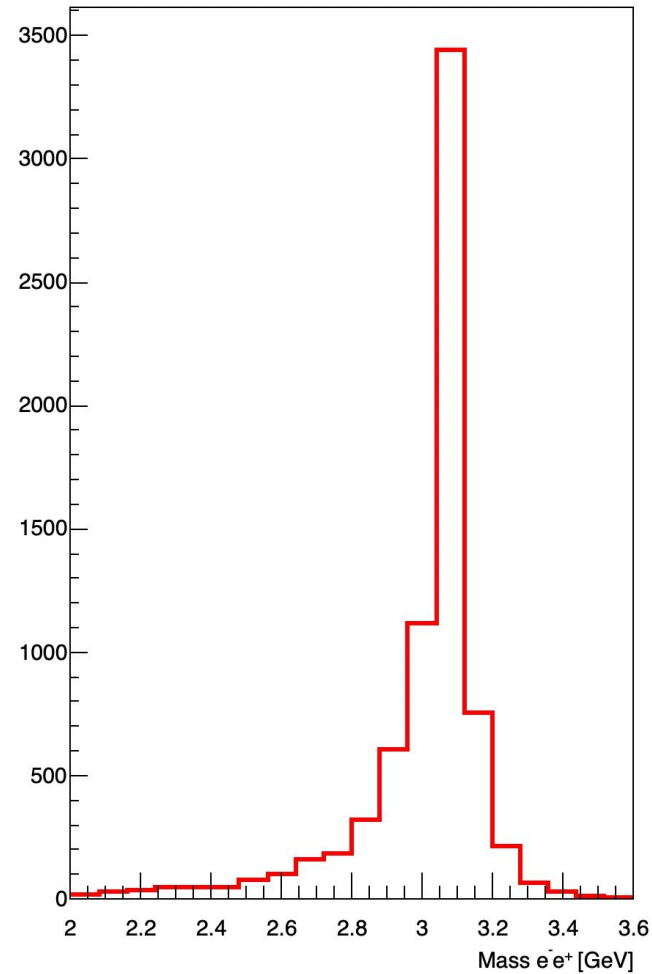
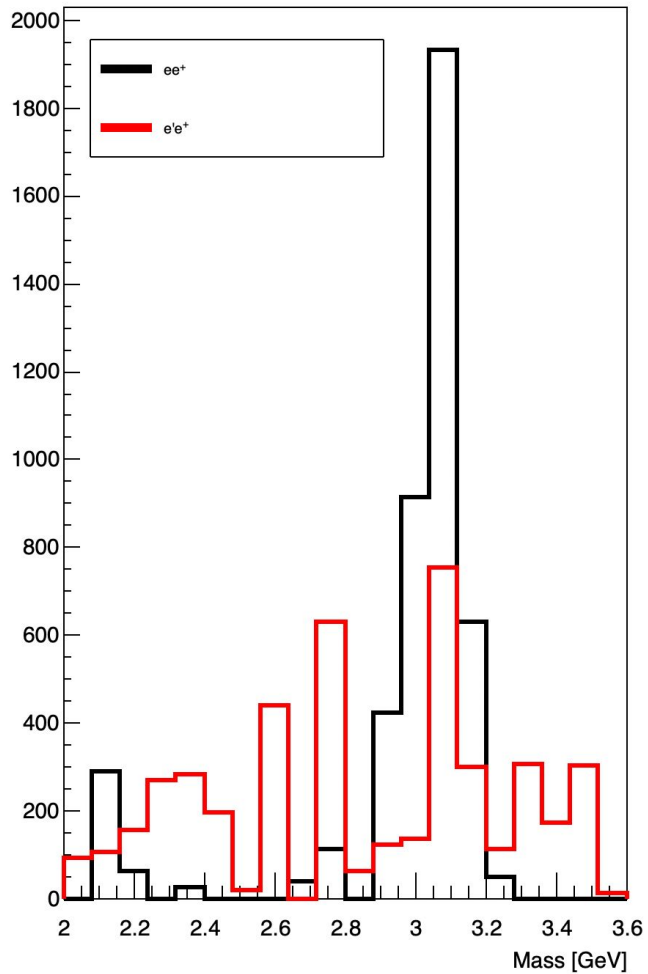


pt from - MC and RP

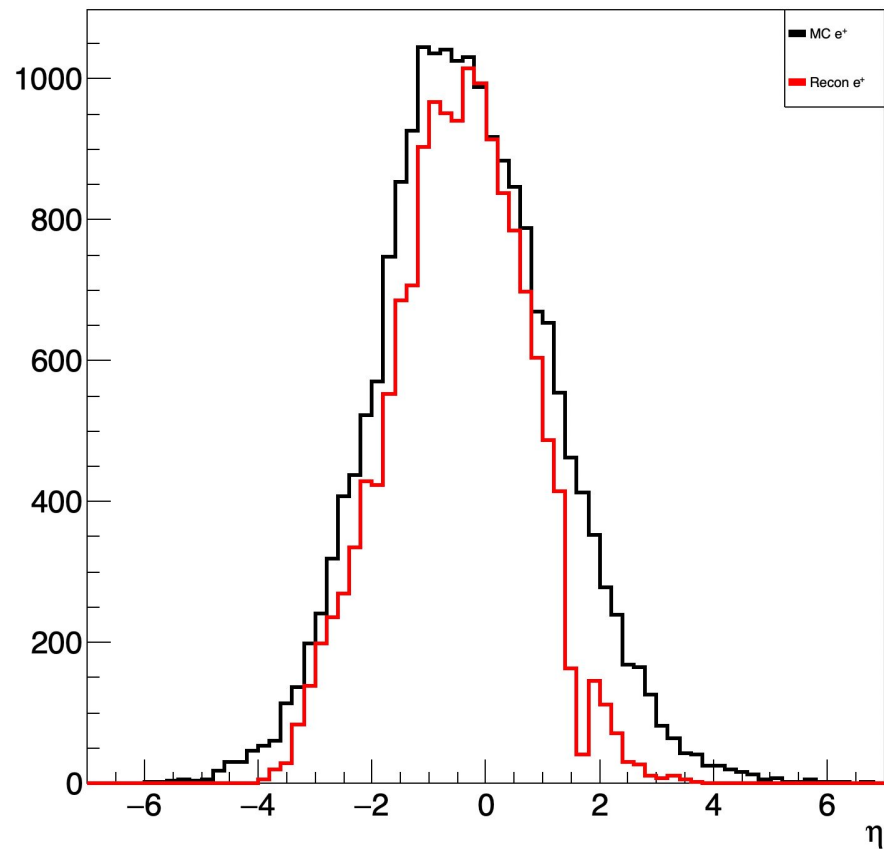
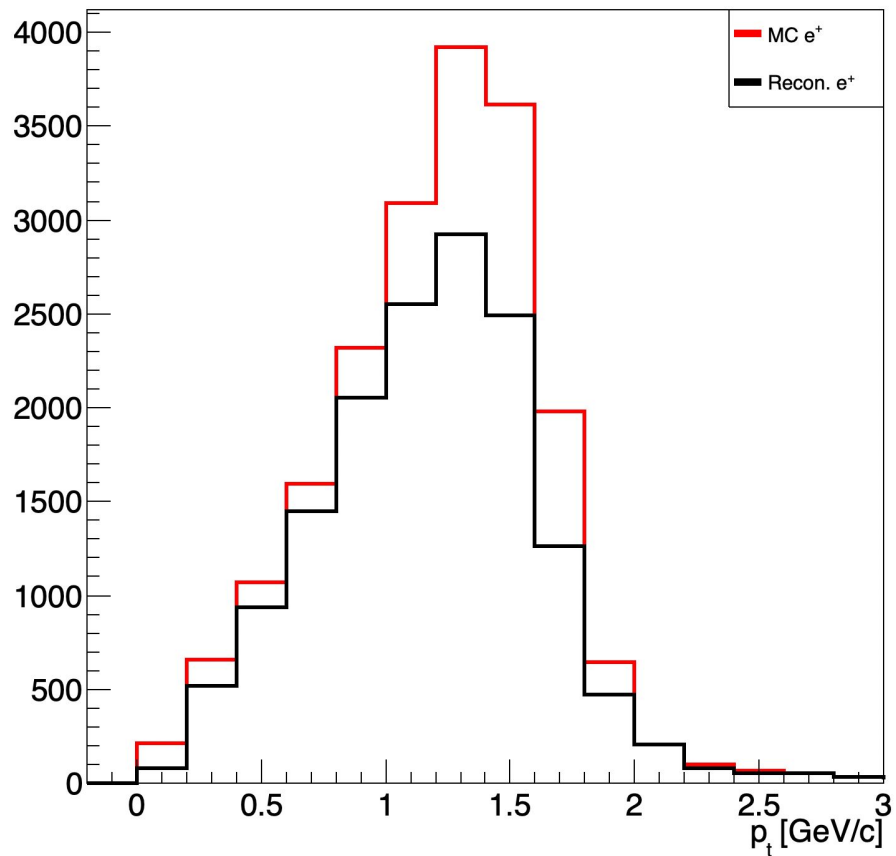


Energy from - MC and RP

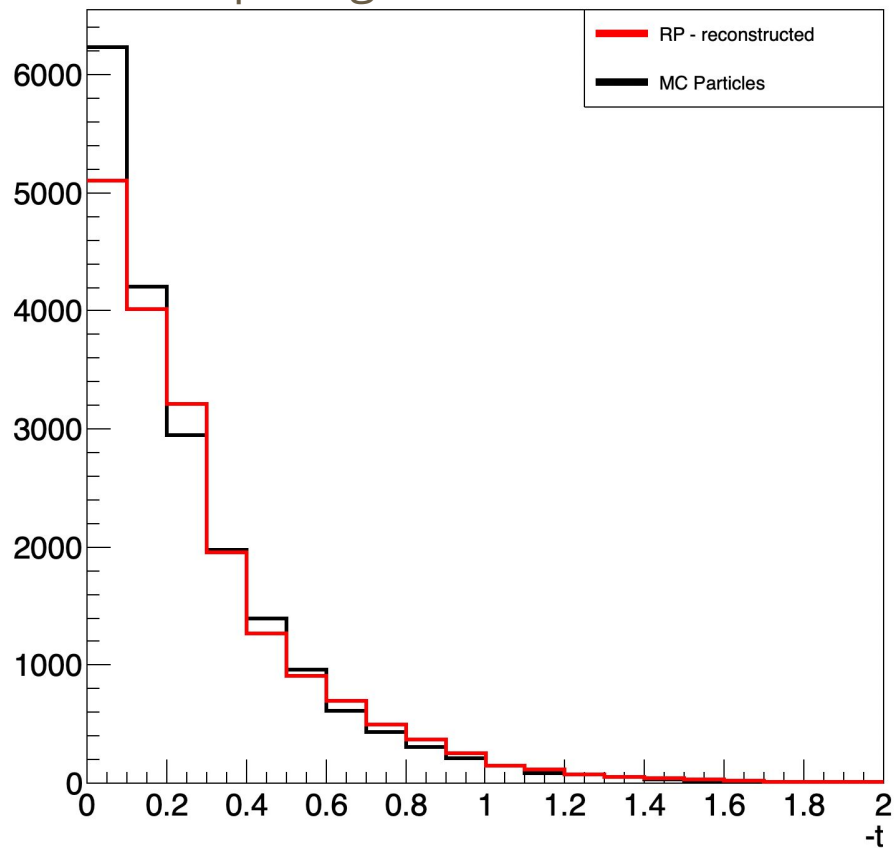




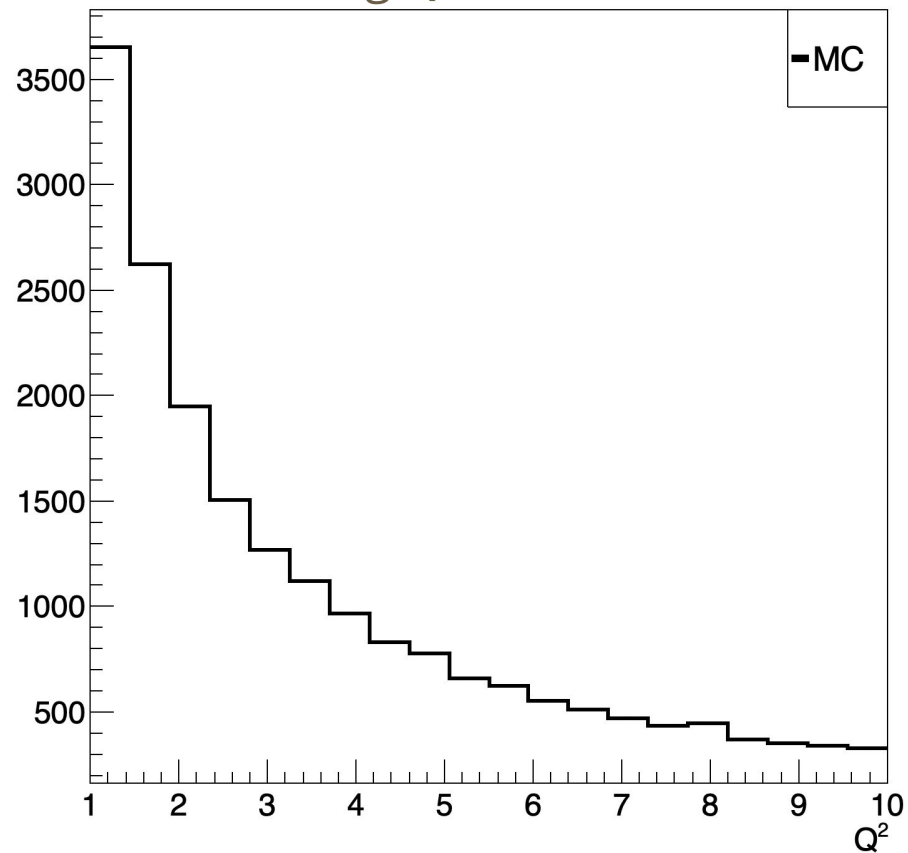
Comparing -t for MC and RP



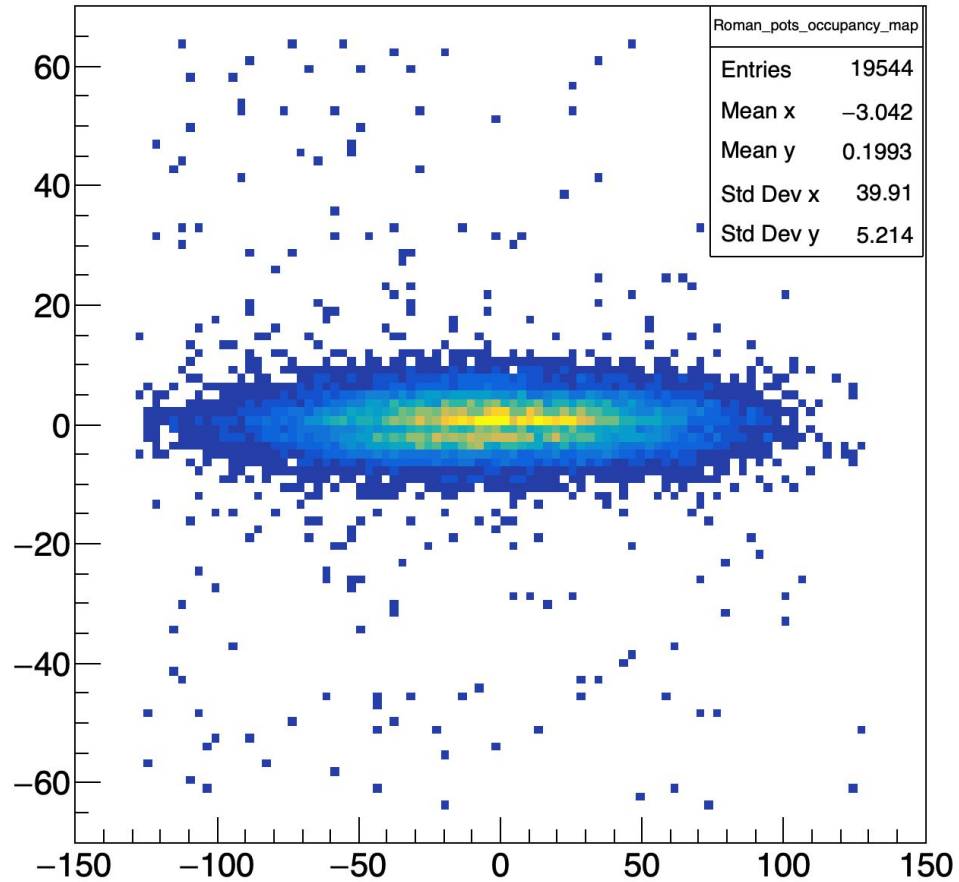
Comparing -t for MC and RP



Constructing Q2



Occupancy plot for RP



Thank you