

# Nick's Inelastic Generator

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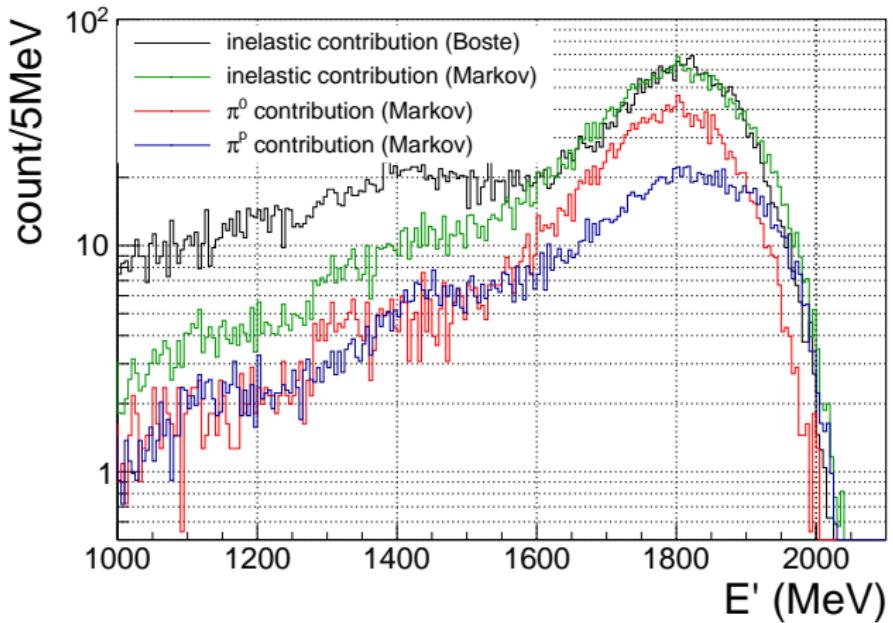
## Parameters

- ▶ Use MAID2007 parameterisation
- ▶ Two choices of outgoing mesons:  $\pi^0$  and  $\pi^+$
- ▶ Beam energy choice: 2.142 GeV
- ▶  $Q^2$  range choice:  $10^{-4} - 10^{-1}$  GeV $^2$  (can go to  $Q^2 = 0$  with more CPU time)
- ▶  $E'$  range choice 0.5 - 2.142 GeV (going lower require more CPU time and we want to focus on the peak)
- ▶  $E_{\gamma \min} = 1$  MeV

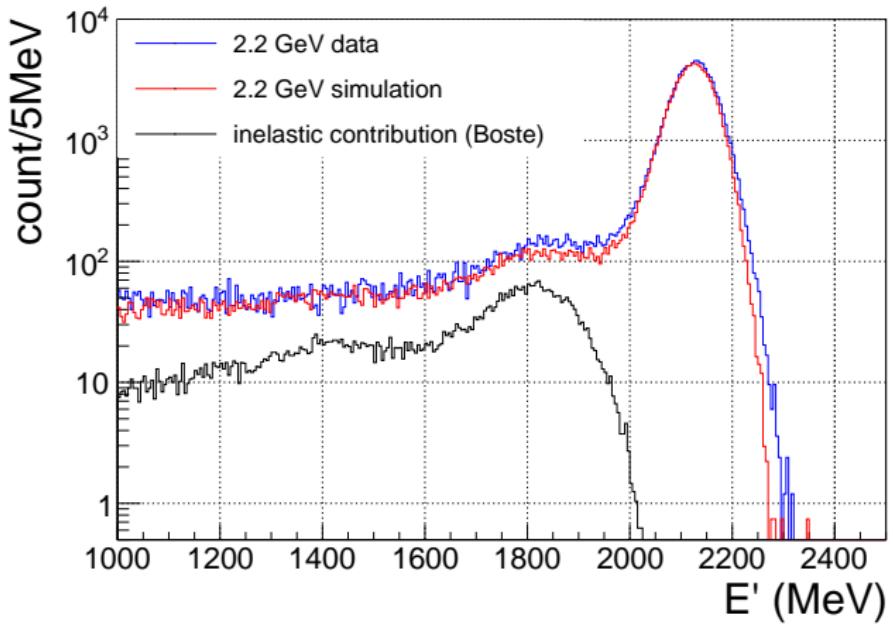
## Acceptances:

- ▶ Decay of pions taken into account in geant4

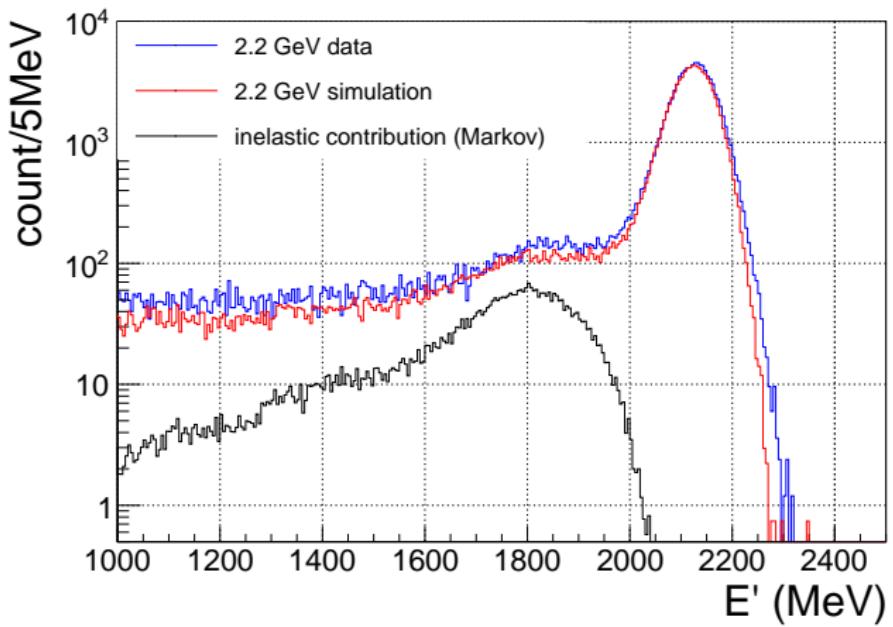
# Inelastic Contributions 3.3-3.4 degree



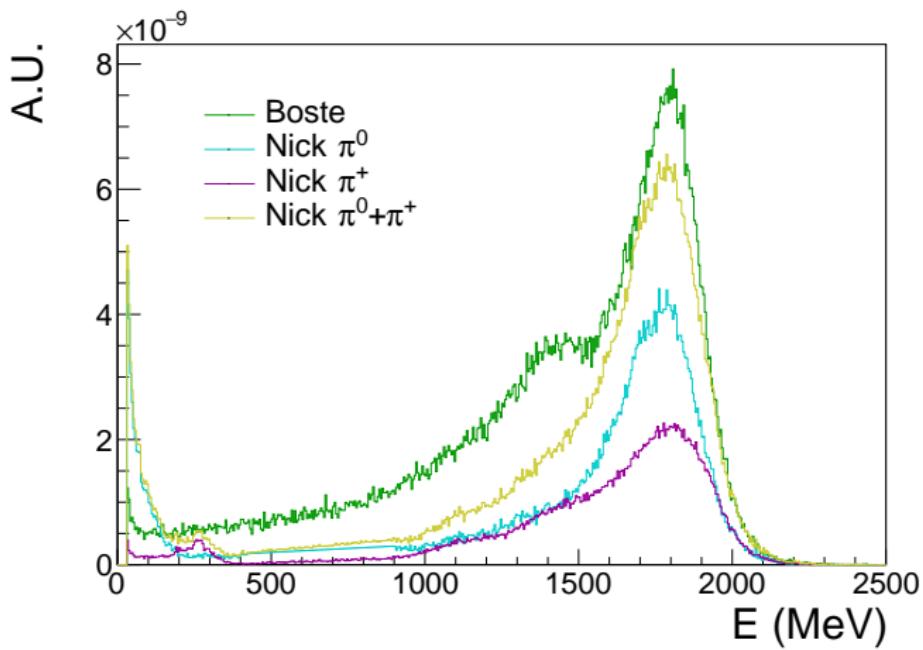
# Impact on Spectrum (Bosted)



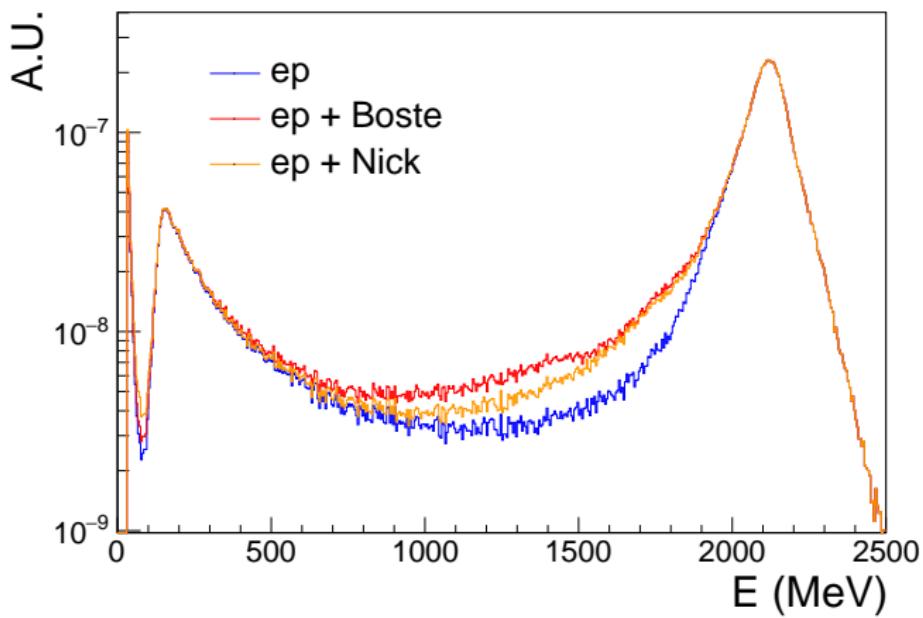
# Impact on Spectrum (Markov)



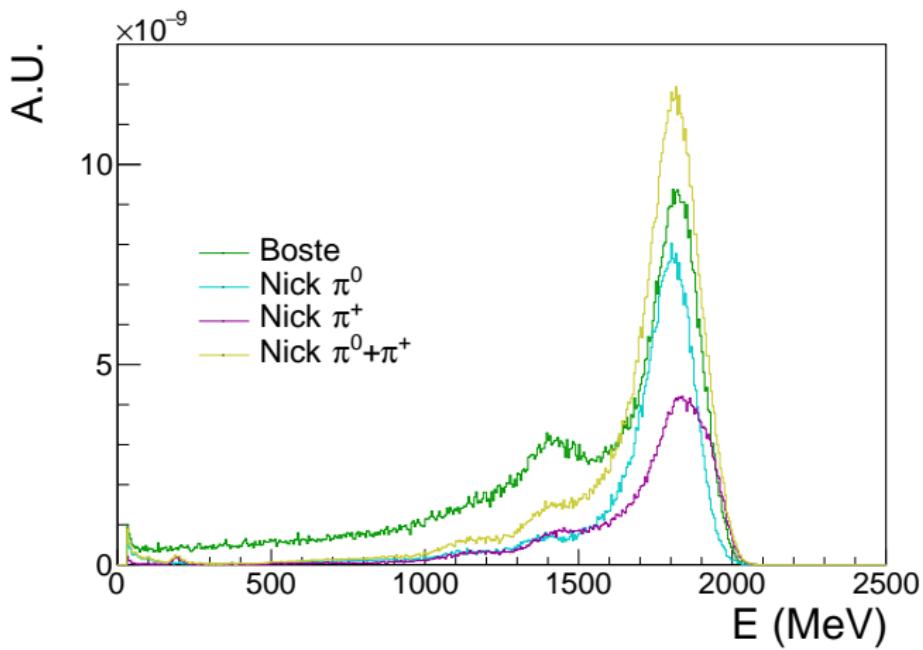
# $\theta$ Dependency, $\leq 3.5$ degree



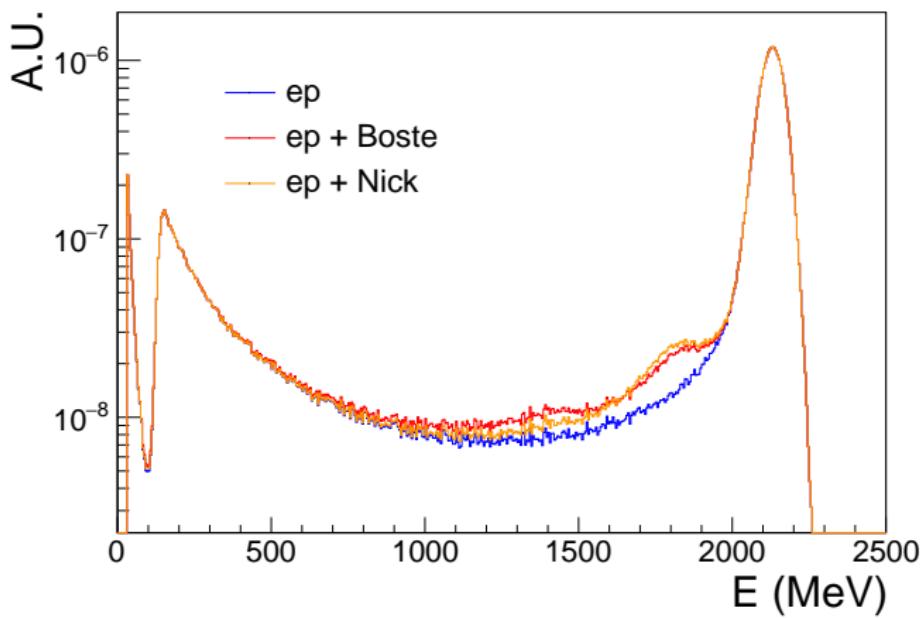
# $\theta$ Dependency, $\leq 3.5$ degree



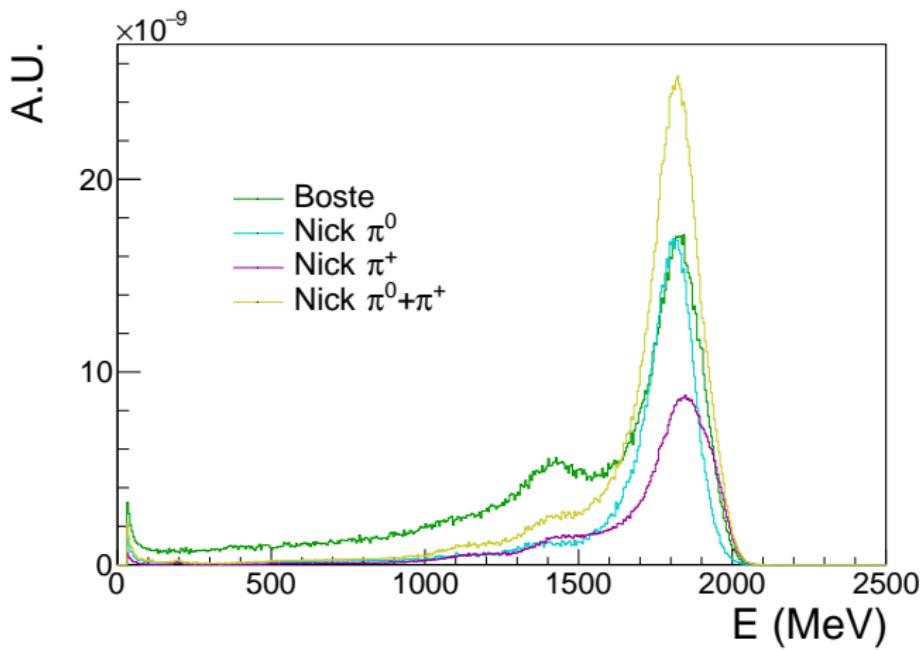
# $\theta$ Dependency, $2 \leq \theta \leq 3$ degree



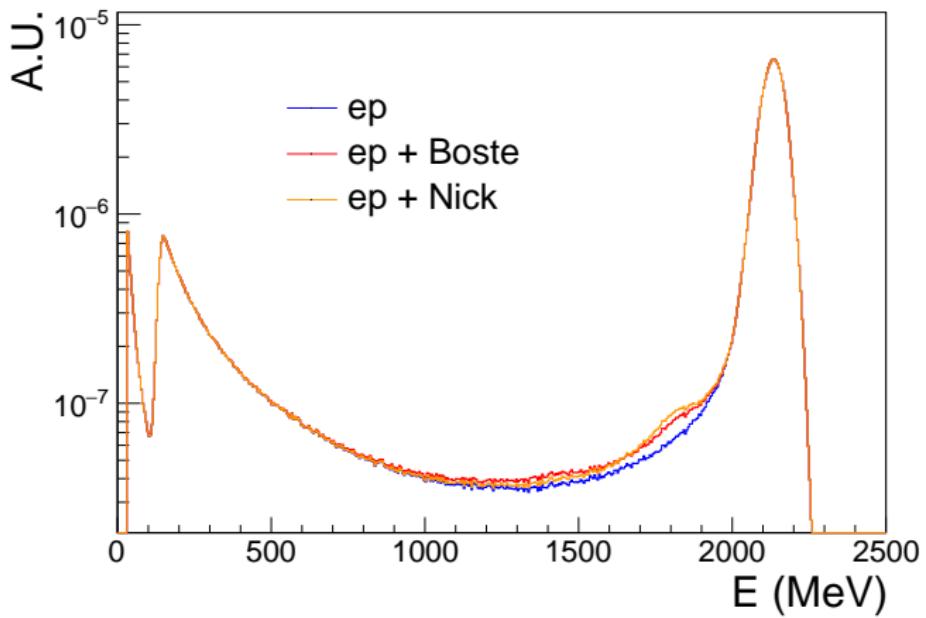
# $\theta$ Dependency, $2 \leq \theta \leq 3$ degree



# $\theta$ Dependency, $1 \leq \theta \leq 2$ degree



# $\theta$ Dependency, $1 \leq \theta \leq 2$ degree



- ▶ Contribution more important for Bosted than Markov at high angle
- But no real different effect on  $ep$  spectrum
- ▶ Bigger contribution of Markov at lower angle