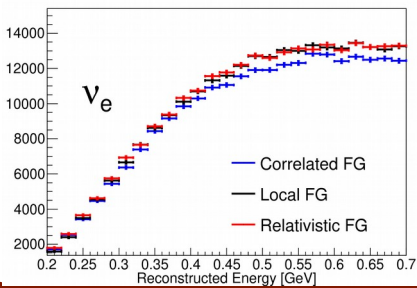
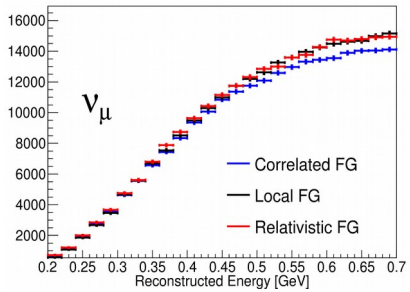


## Nuclear Model Dependence $^{12}\text{C}$



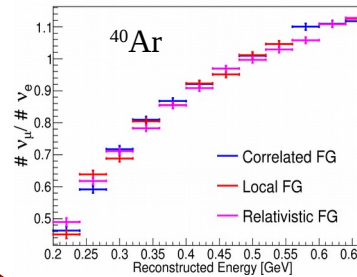
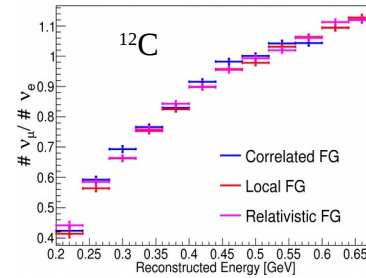
Focus on Charged Current Quasi Elastic Events

Cross-section plots as a function of the energy for  $^{12}\text{C}$

Significant differences between nuclear models

Analysis on  $^{12}\text{C}$  for Cherenkov detectors

## Ratio Plots



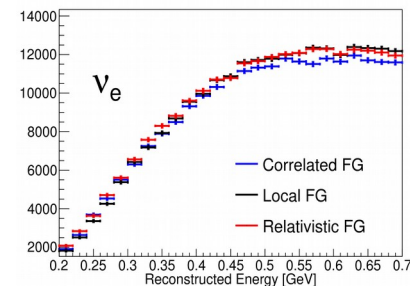
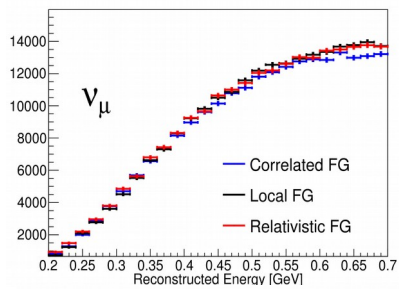
Construction of cross-section ratios

Division of  $\nu_\mu$  over  $\nu_e$  plots both for  $^{12}\text{C}$  and for  $^{40}\text{Ar}$

Ratio plots reduce the model sensitivity

- Perfect agreement for  $^{12}\text{C}$  within error bars
- Significant reduction in the model dependence for  $^{40}\text{Ar}$

## Nuclear Model Dependence $^{40}\text{Ar}$



Cross-section plots as a function of the energy for  $^{40}\text{Ar}$

Analysis on  $^{40}\text{Ar}$  for Liquid Argon Time Projection Chamber (LArTPC) detectors

Once again significant differences between nuclear models

## Double Ratio Plots of Cross-Section

Almost model independent

Almost energy independent

