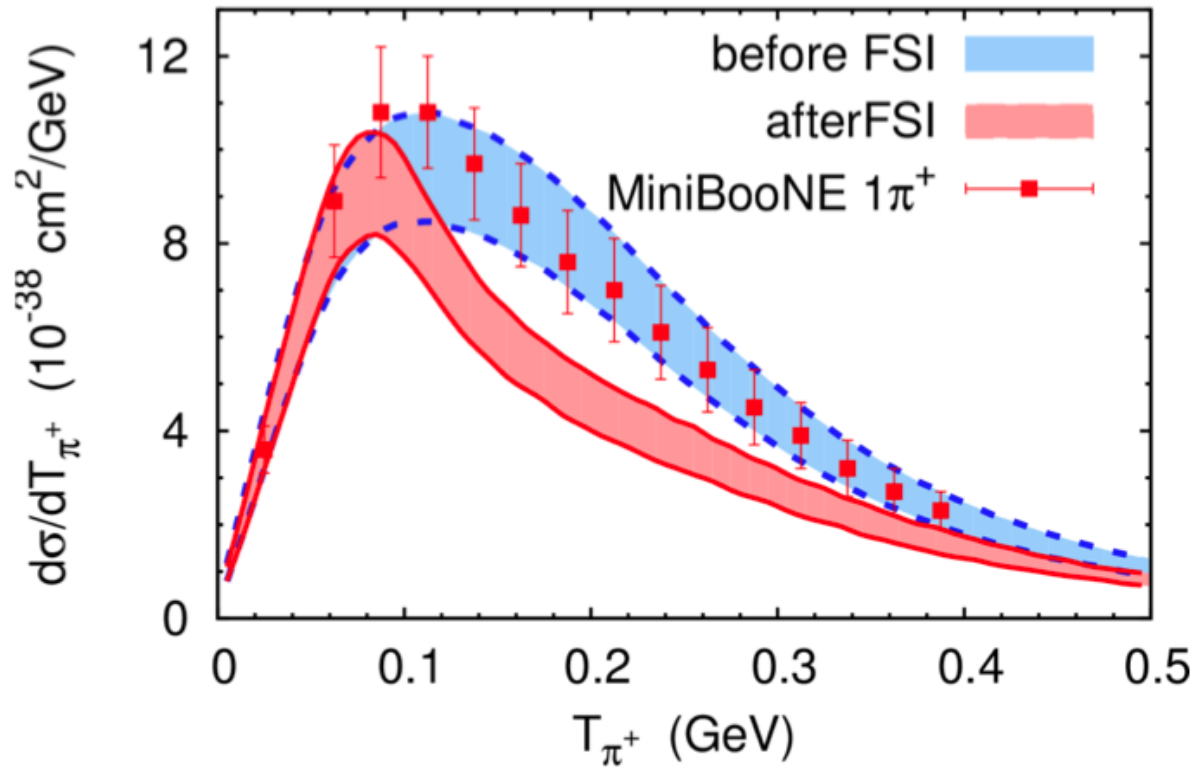


## GiBUU



statement: because the MiniBooNE CC  $\pi^+$  data agrees better with a model (in this case GiBUU) without FSI, something must be wrong with the data and its reporting, but ...

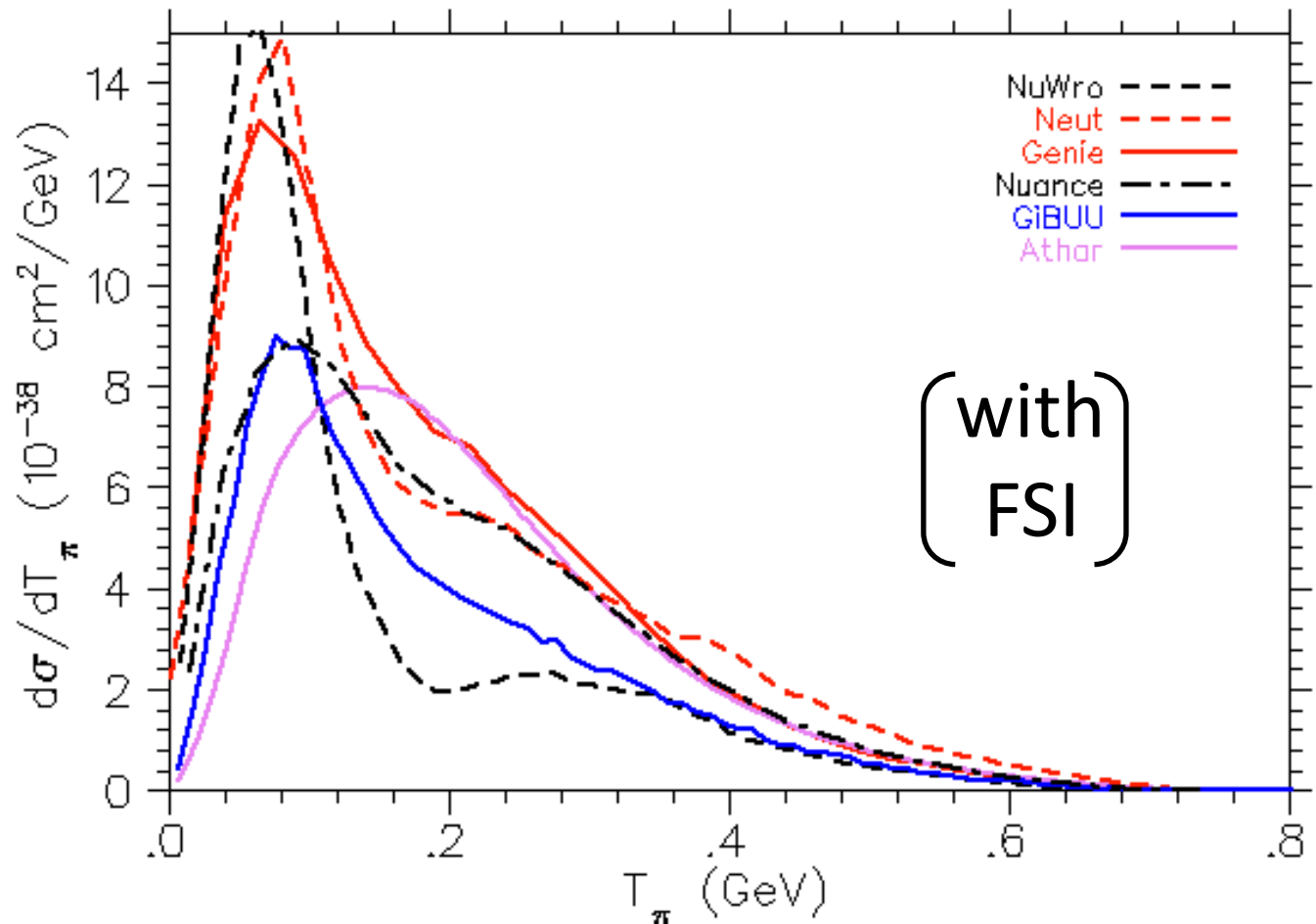
... the generators vary greatly on what they predict the spectrum of  $\pi^+$  should be coming out of a carbon nucleus  
 (note: with exception of NUANCE, the other generators predict higher rates at 0.1-0.2 GeV than GiBUU)

*so because the MB data agrees better with one model before FSI means the data is suspect?*

*these shapes are really different, no?*

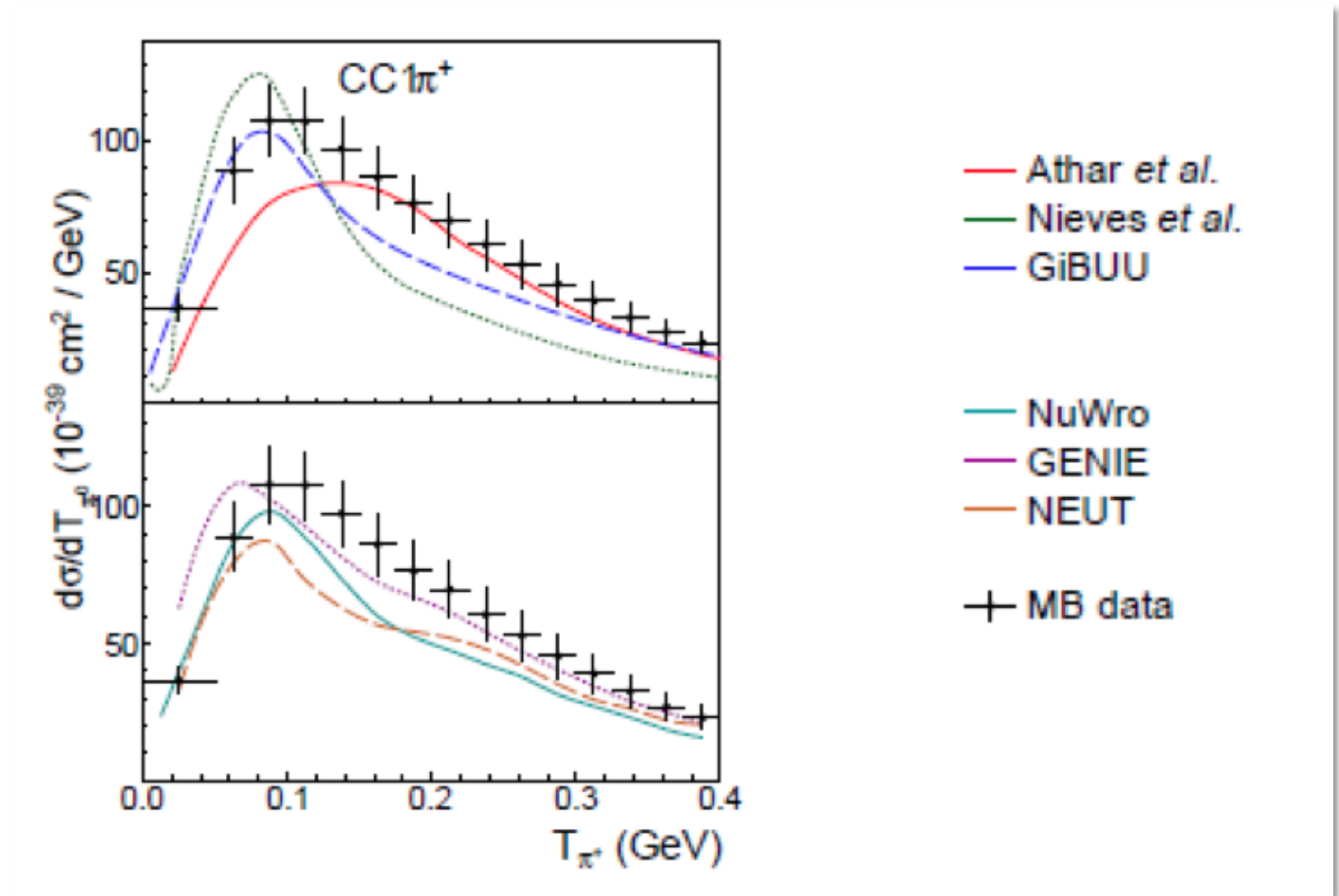
*(MB uses NUANCE)*

CC incoherent  $\pi^+$  KE distribution at  $E_\nu=1.0$  GeV  $\nu_\mu^{12}\text{C} \rightarrow \mu^- \pi^+ X$  (with FSI)

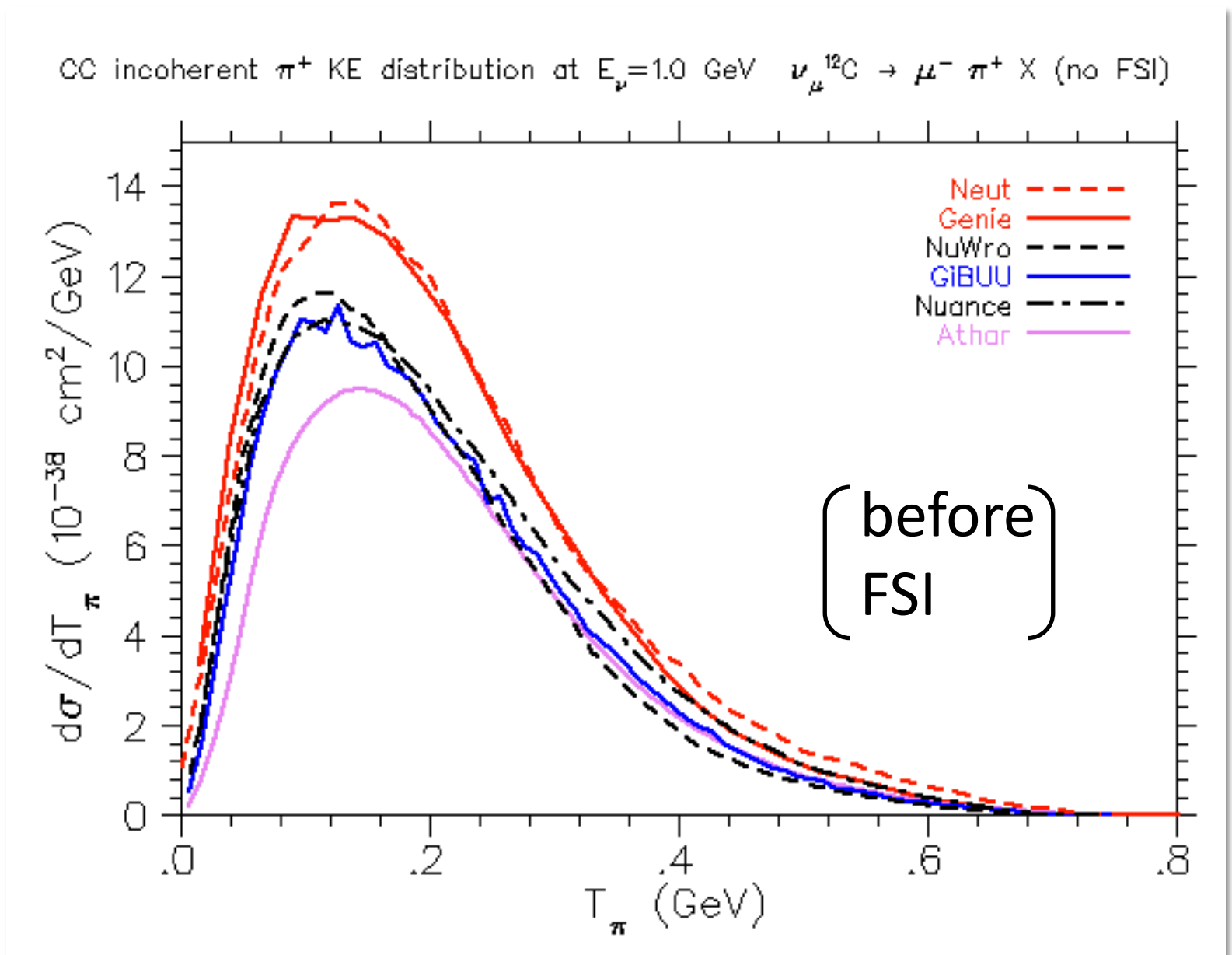


(these are transport models tuned on external data, not MB  $\nu$  data)

GiBUU is blue,  
GENIE is purple



Steve Dytman's talk at this workshop



R. Tacik NuInt comparisons, <http://regie2.phys.uregina.ca/neutrino/piproduct.html>