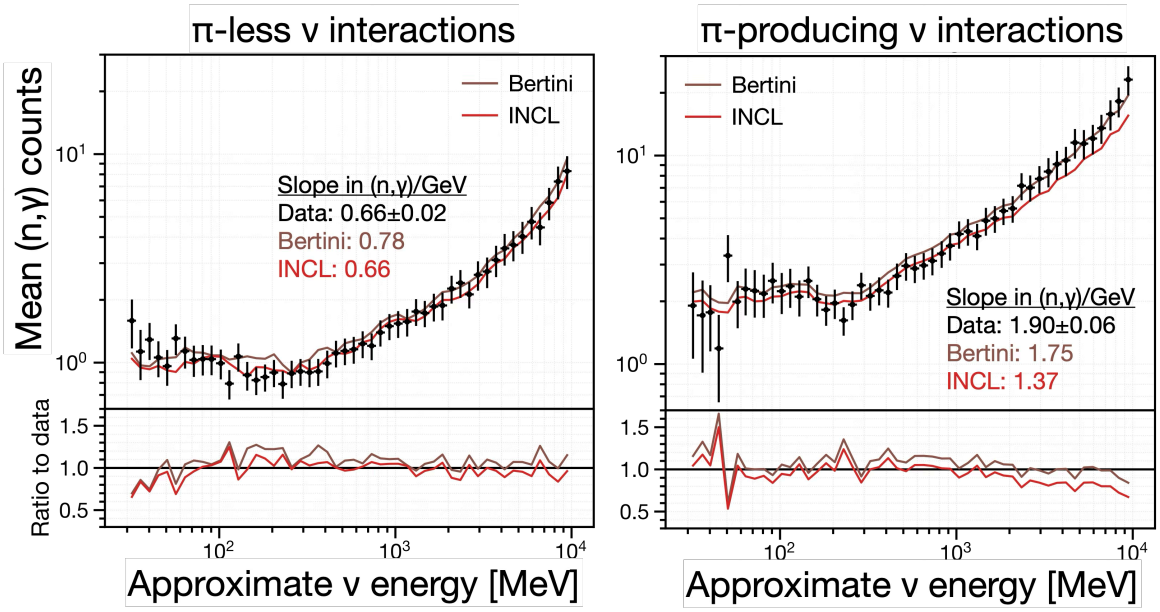

Fig 1. Mean neutron capture (n,γ) counts following neutrino-water interactions vs. Approximated neutrino energy.

(Left) π-less neutrino interactions (nucleons dominate neutron production)
(Right) π-producing neutrino interactions (pions dominate neutron production)

Slope: the linear increase of mean (n,γ) counts per ν energy
(fitted in the ν energy range of [0.3, 10] GeV)

- Black crosses are data (stat+syst).
- Colored lines are Geant4 predictions using the same projectiles, (i.e., final-states from ν int.) but with different spallation models.
- Both models are coupled with Geant4 Precompound model.

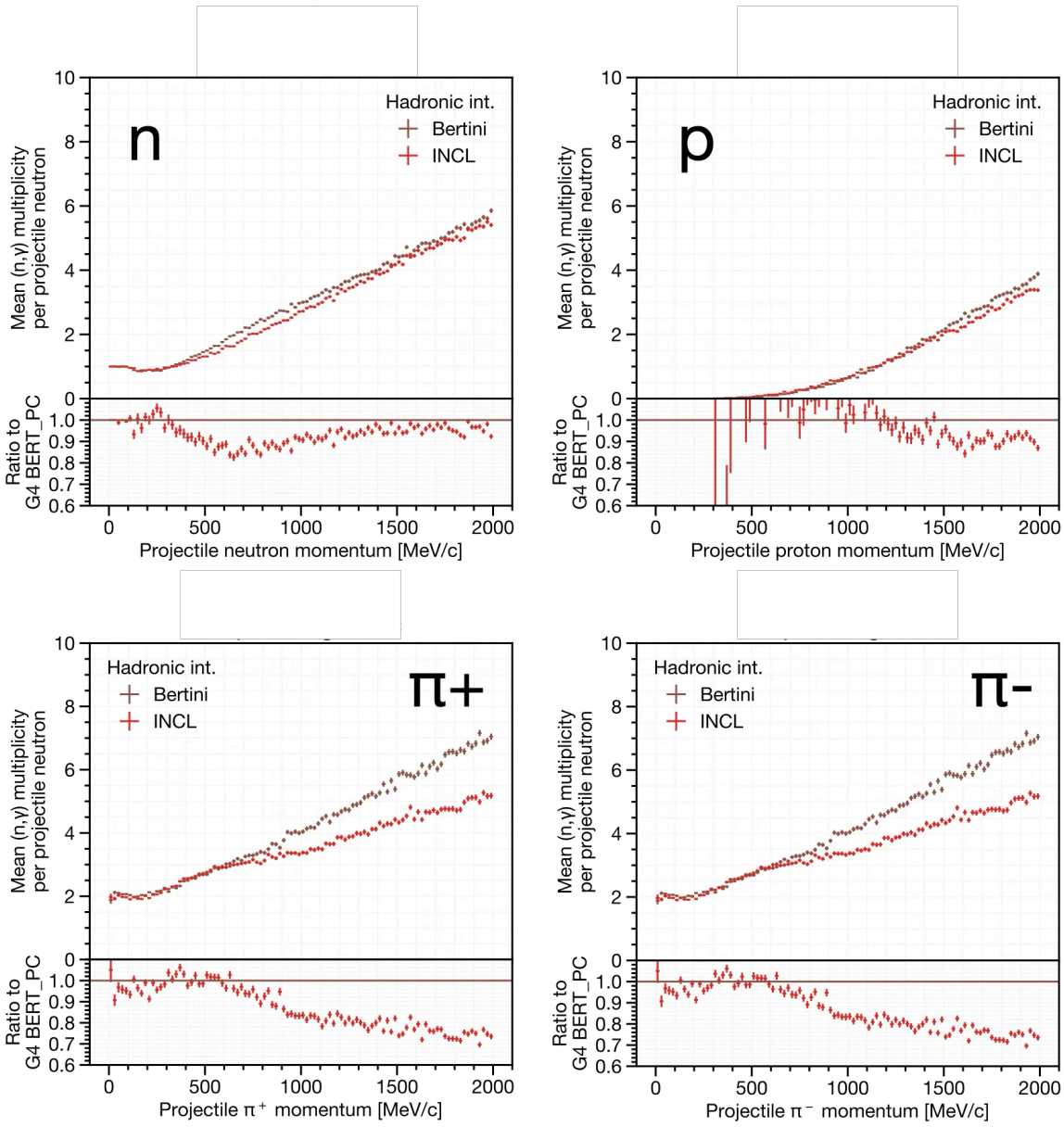

Fig 2. Mean neutron capture (n,γ) counts following hadron propagation in water vs. Projectile hadron momentum (tested n, p, π+, and π- projectiles with Geant4)

For nucleons, Bertini and INCL agrees within ~10% for < 2 GeV/c.
For pions, Bertini and INCL shows ~30% difference in “slope”.