a. ICARUS MC BNB  $\nu$ -only / true  $\nu_{\mu}$ CC QE  $1\mu N$ p selection Injected vertex (muon) Injected vertex selection (muon) Injected vertex (proton) 1000 -Injected vertex selection (proton) Nominal reconstruction (muon) Nominal reconstruction (proton) 100 -Entries / 5.00 10 = 100 200 300 400 500  $\chi_{\rm p}^2$  (proton hypothesis)