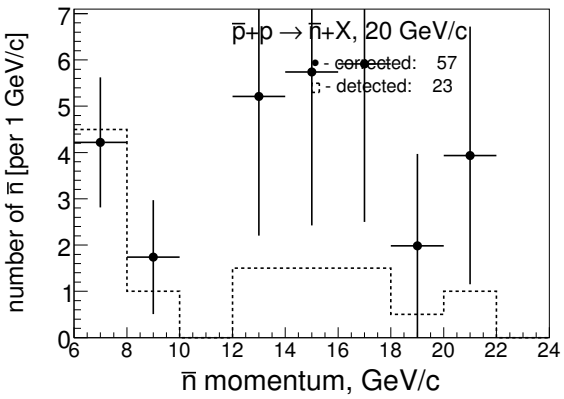
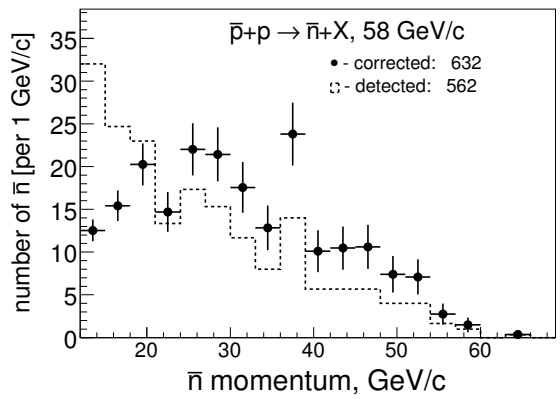
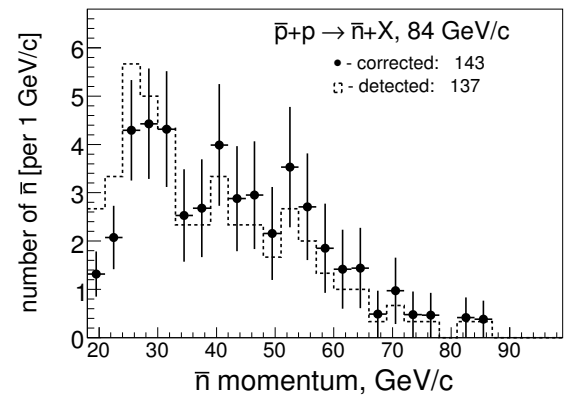
reminder: corrected $\bar{n}$ spectra in data

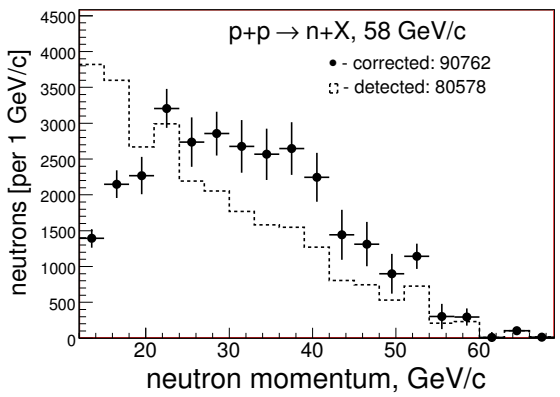
top plots: $\bar{n}$ production

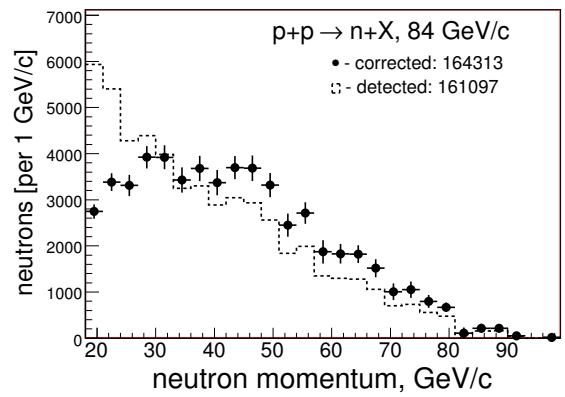






bottom plots: n production





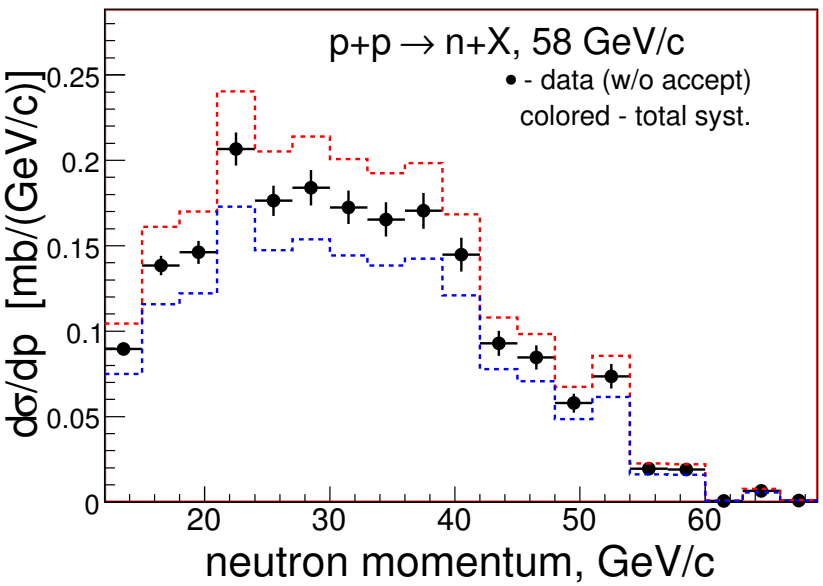
$\bar{n}$ cross section calculation without HCAL acceptance app

$$\frac{d\sigma_{\bar{n}}}{dp} = \frac{N_{\bar{n}}(t-in)}{N_{\bar{p}} \cdot \epsilon_{scf} \cdot \Delta p} \times \frac{1}{n_t} \times 10^4, \text{ mb/(GeV/c)},$$

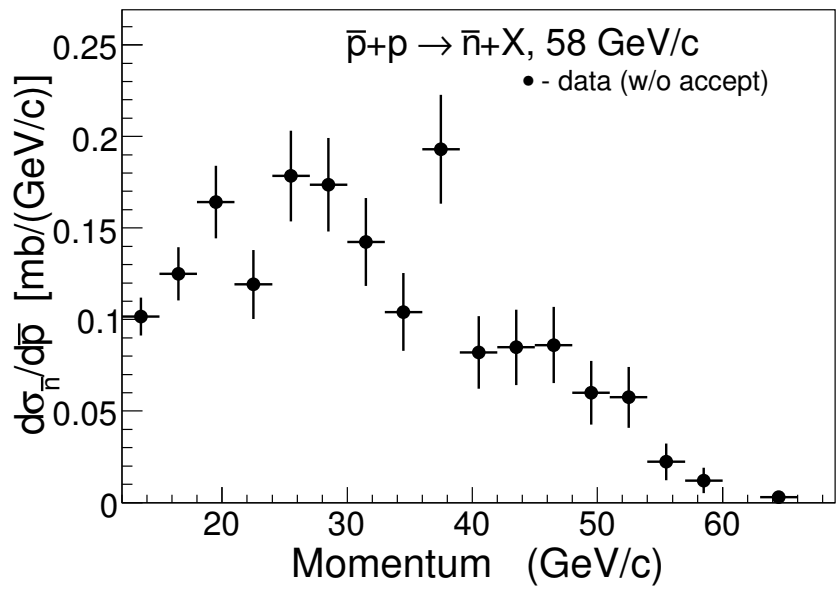
where $N_n(t-in)$ is the number of neutron candidates for target-in (note: target-out cases were cut-out using the tight Z_{vtx}). N_{beam} - incident $\bar{p}$, ϵ_{scf}(p) - the single correction function depending on p and Δp - momentum bin width, n_t is a number of nucleus per cm^2, factor 10^4 is to bring the results in mb units.

$\bar{n}$ cross section results at 58 GeV/c (w/o HCAL)

p+p$\longrightarrow$n+X, σ_n=5.8$\pm$0.2(stat) mb

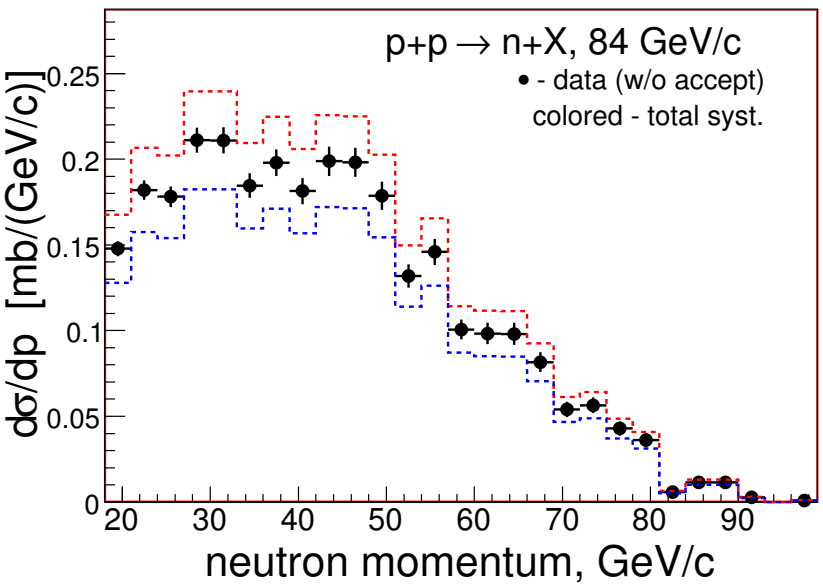


$\bar{p} + p \longrightarrow \bar{n}$+X, $\sigma_{\bar{n}}$=5.1$\pm$0.2(stat) mb

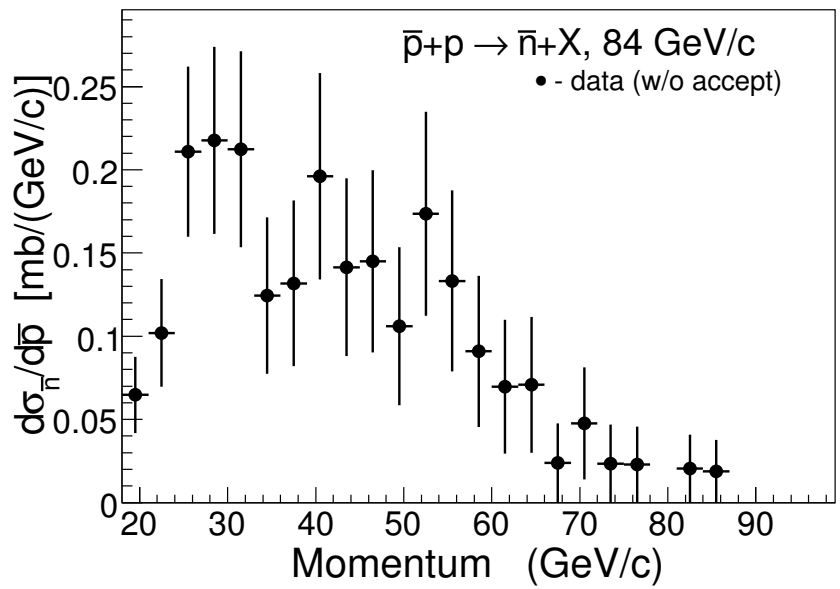
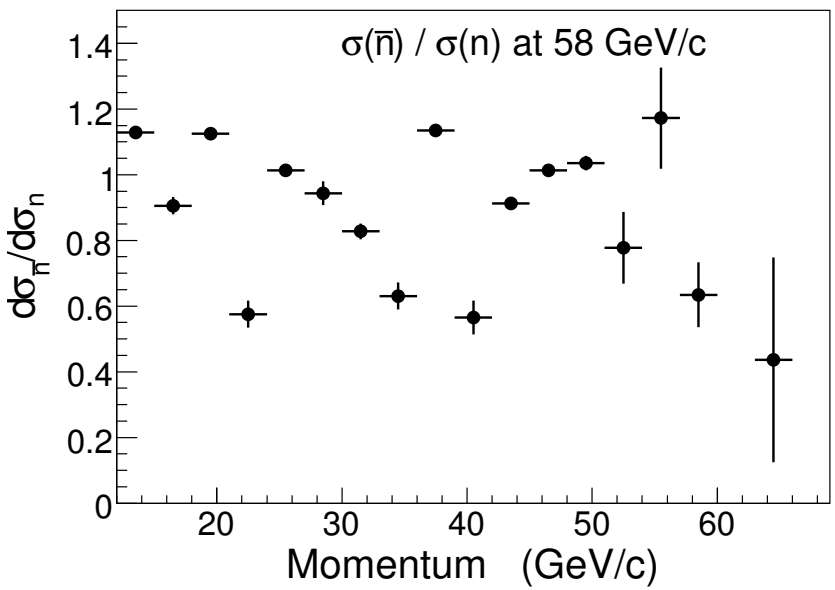
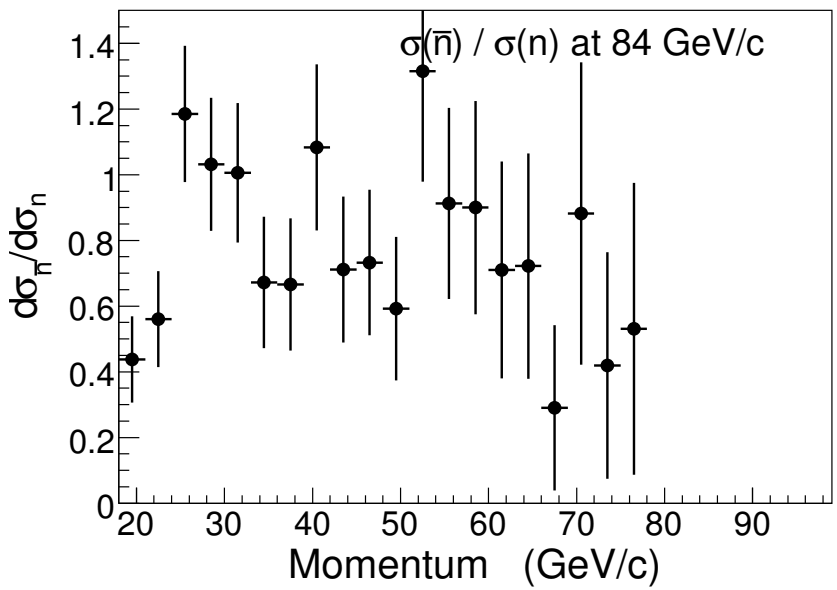


$\bar{n}$ cross section results at 84 GeV/c (w/o HCAL)

p+p$\longrightarrow$n+X, σ_n=8.8$\pm$0.2(stat) mb



$\bar{p} + p \longrightarrow \bar{n}$+X, $\sigma_{\bar{n}}$=7.0$\pm$0.6(stat) mb



$d\sigma(\bar{n})/d\sigma(n)$ ratio (w/o HCAL)