Nucleon Momentum Distributions

Mean field contributions: $k < k_F$

Well understood.

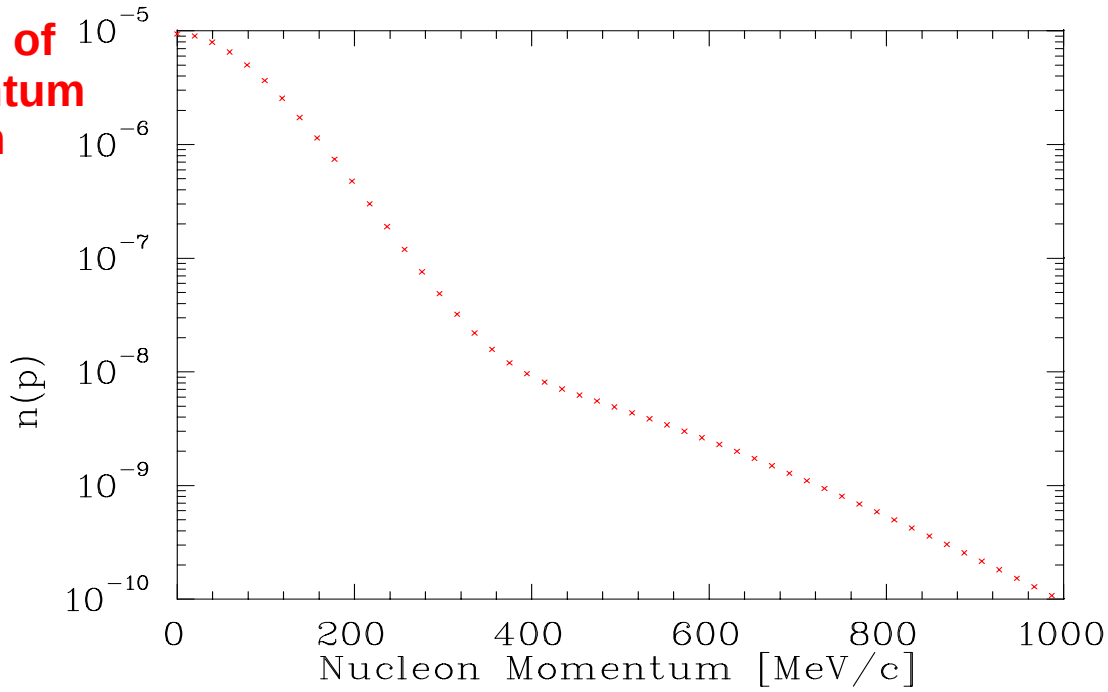
High momentum tails: $k > k_F$

Calculable for few-body nuclei, nuclear matter.

Dominated by two-nucleon short range correlations.

Calculation of ^{4}He momentum distribution

Wiringa, PRC 43 1585 (1991)



Why do we want to measure these momentum distributions?

Want them as universal structure functions.

Study Short Range Correlations (SRCs) in nuclei.

- Strength of 2N SRCs related to short range N-N force.
- Map out A-dependence of SRCs.
- Look for multinucleon SRCs.