

Antiquark distribution in nucleon and nuclei

Flavor structure of parton distribution in nuclei is practically unknown.

Nuclear shadowing of antiquark sea can be measured at RHIC in pA

Models:

- Enhancement of antiquark in nuclei due to meson cloud
- Leading twist shadowing of antiquark at low- x
- Meson cloud explains the d -bar, u -bar asymmetry in nucleon

Also important for understanding gluon distribution in nuclei

Spin structure of the nucleon is closely connected to the flavor structure of the nucleon

need hard process sensitive to antiquarks

Polarized Drell-Yan can probe seaquark polarization complementary to W -production

Drell-Yan process in pA and pp is ideal for probing antiquarks

High Luminosities needed!

Forward-tagging in p-p Drell-Yan can probe the pion cloud directly

Roman pot and forward neutron tagging are required