

“WG5: Hadron-quark Transition and Nuclear Dynamics at Extreme Conditions” Discussion

**Science at the Luminosity Frontier:
Jefferson Lab at 22 GeV Workshop**

January 25th, 2022

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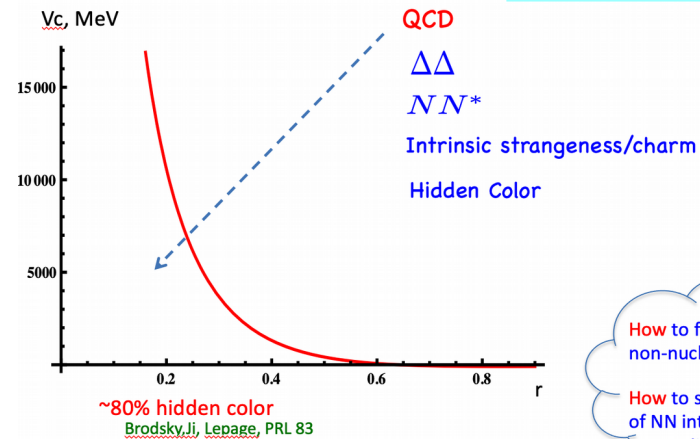
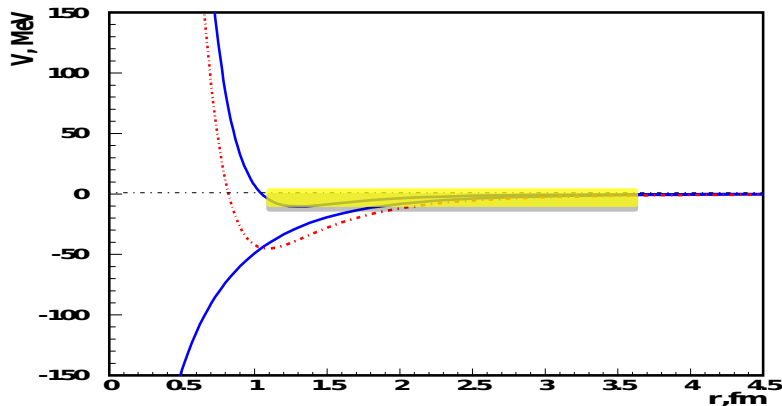


Triggered Questions

- ✓ How the upgrade can help investigating the nuclear repulsive core?

- QCD dynamics of nuclear repulsive core:

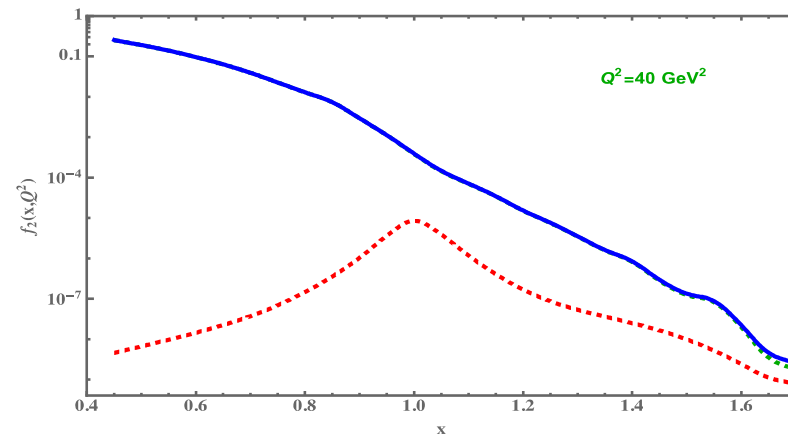
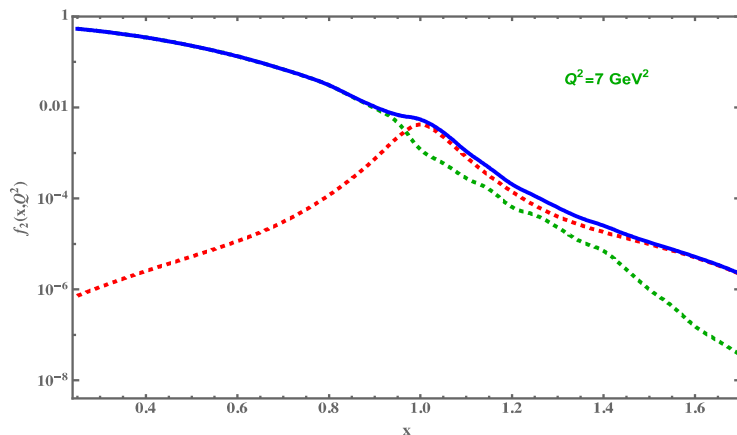
See M. Strikman & Jennifer Rittenhouse-West talks



How to find the presence of non-nucleonic components
How to study the dynamics of NN interaction at these distances

- Superfast quarks in deuteron:

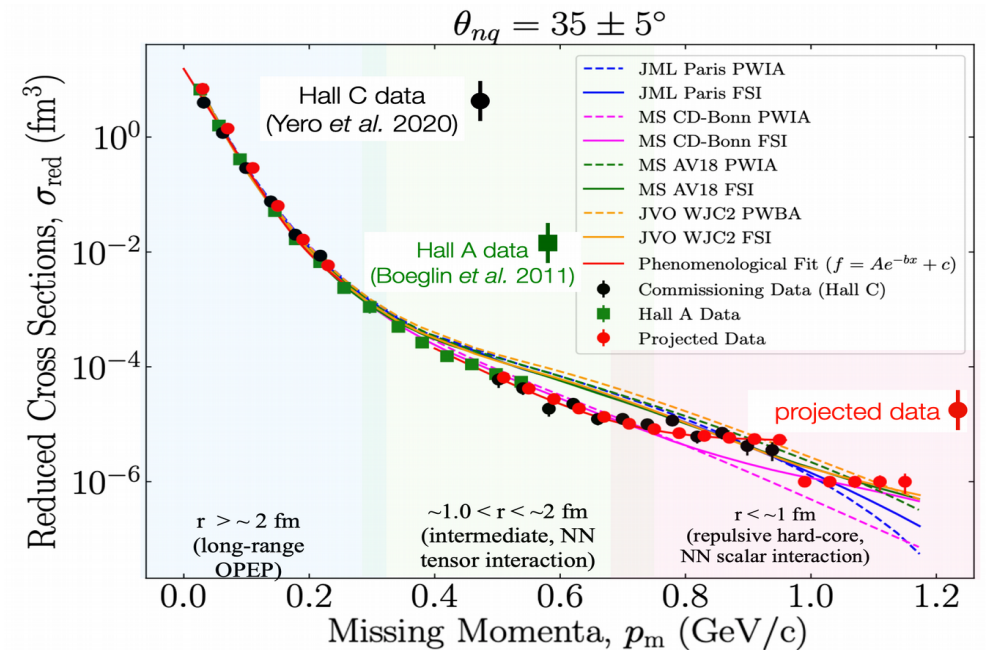
See J. Arrington talk)



Triggered Questions

✓ How the upgrade can help investigating the nuclear repulsive core?

- Deuteron at extremely large internal momenta:



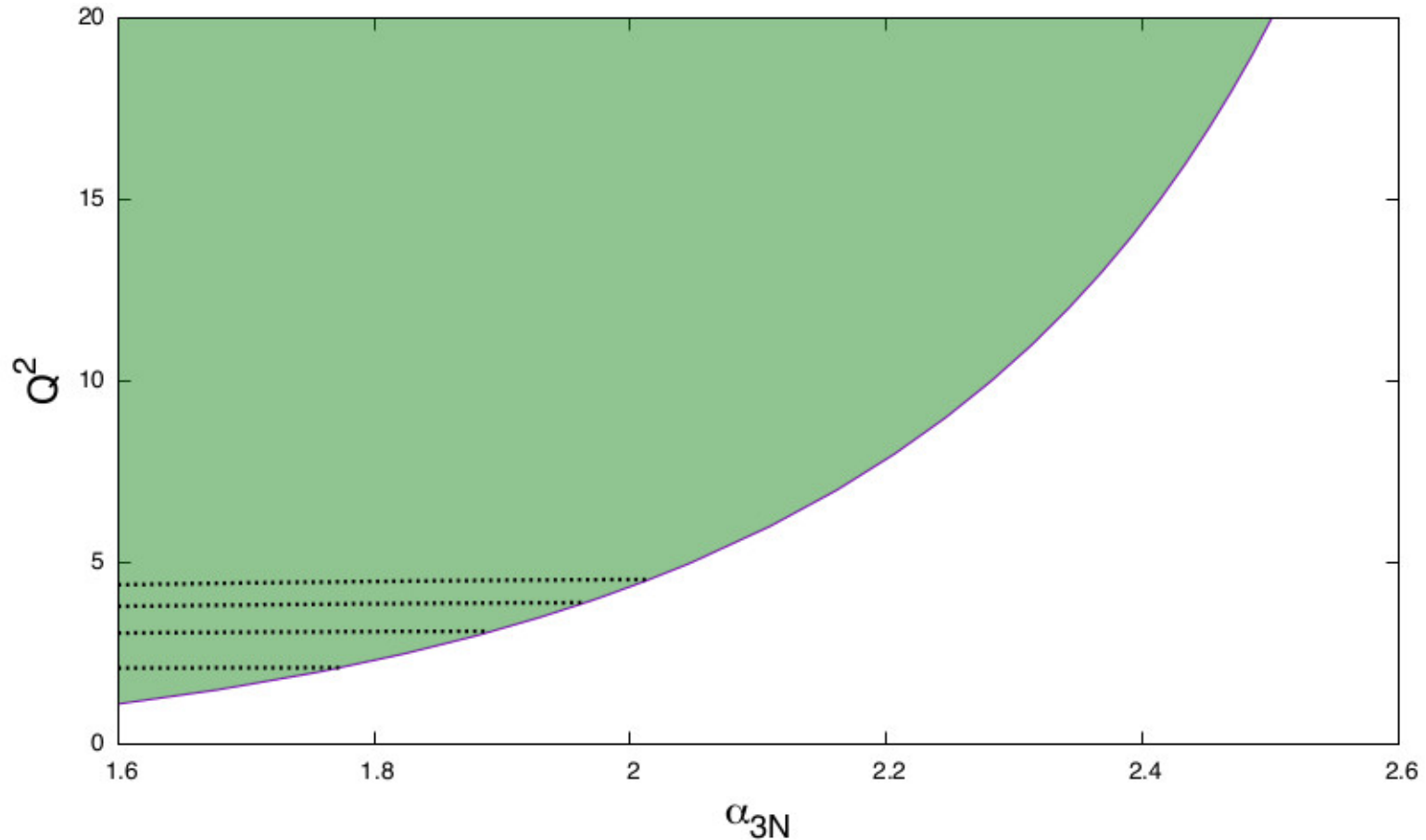
See C. Yero talk

Triggered Questions

✓ How the upgrade can help investigating the nuclear repulsive core?

- $A > 3$ Nuclei: 3N SRCs

See M. Strikman talk



Triggered Questions

- ✓ Which role the upgrade will play in resolving the Color Transparency controversy between meson and baryon sectors?

See G. Miller & H. Vance-Schmilla talks

- ✓ How the spectator tagging in JLab22 can access medium modifications and nuclear effects on quarks and gluons distributions?

See W. Armstrong, T. Kutz, and M. Yurov talks

- ✓ What is the impact of the upgrade on accessing the anti-shadowing region and related medium modifications extended to the EMC region?

See W. Brooks, S. Liuti, G. Miller, and Z. Ye talks

- ✓ How the 22 GeV upgrade would help improve our understanding about SIDIS production in Nuclei?

See S. Paul talk