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U.S. DEPARTMENT OF  
**ENERGY**

Office of Science

# EMC Open Questions

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**At the last ECT\* on this topic...  
What were the open questions  
identified?**

# 2018/2019 open questions

- What is the origin of the EMC effect?
- What is the nature of the relationship between the EMC effect and SRCs?
- What is the behavior of super-fast quarks?
- Can we extract more nuclear PDFs?
- Is modification flavor dependent (isovector EMC)?
- Gluon saturation?
- High-x nuclear gluons?
- Is there a spin-dependent EMC effect?
- Sea-quark modification?
- $A \leq 4$  Nuclei
- Tagged DIS
- Final State Interactions
- Generalized Parton Distributions
- A-dependence of  $R_{LT}$

# 2018/2019 open questions

- What is the origin of the EMC effect?
- What is the nature of the relationship between the EMC effect and SRCs?
- What is the behavior of super-fast quarks? **Data is available**
- Can we extract more nuclear PDFs? **More data taken**
- Is modification flavor dependent (isovector EMC)? **Data inconclusive, but suggests yes**
- Gluon saturation?
- High-x nuclear gluons?
- Is there a spin-dependent EMC effect?
- Sea-quark modification? **SeaQuest**
- $A \leq 4$  Nuclei **Hall A Tritium Program**
- Tagged DIS
- Final State Interactions
- Generalized Parton Distributions
- A-dependence of  $R_{LT}$

# Discussed this week

- Flavor dependent EMC effect?
  - XEM2 and PVDIS
  - Talks by Cotton and Reimer
- Light nuclear structure
  - Talks by Cotton, Rinaldi, Fornetti, Nguyen, Dupre
- Isospin dependence of EMC
  - Talk by Sharda
- Final state interactions
  - Talk by Weiss
- Free neutron structure
  - Talks by Weiss and Kutz
- Super fast quarks
  - Talks by Sargsian and Li
- Polarized EMC
  - Talk by Santiesteban
- EMC-SRC Connection
  - Talks by Chen, Duran, and Fomin
- Tagged DIS
  - Talks by Kutz and Tu
- GPDs
  - Talk by Ouillon

# Thank You

