



SoLID Opportunities and Challenges of Nuclear Physics at the Luminosity Frontier

Argonne National Laboratory, Lemont, Illinois, USA. June 17-20, 2024

June 17, 2024 (Monday) – Proton Mass and Gravitational Form Factors

Building 402, Lower Gallery Room E0100

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| 09:00 – 09:20 | Welcome
Zein-Eddine Meziani, Argonne National Laboratory |
| 09:20 – 09:50 | Mass Decomposition and Gravitational Form Factors: Overview
Xiangdong Ji, University of Maryland |
| 09:50 – 10:20 | Gravitational Form Factors in Holographic QCD
Ismail Zahed, Stonybrook University |
| 10:20 – 10:40 | Coffee Break |
| 10:40 – 11:10 | J/ψ-007 Muon Decay Channel
Sylvester Joosten, Argonne National Laboratory |
| 11:10 – 11:40 | Gravitational Form Factors of the Proton from Lattice QCD
Daniel Hackett, Fermilab |
| 11:40 – 13:30 | Discussion and Working Lunch |
| 13:30 – 14:00 | Trace Anomaly and the C_{bar} Gravitational Form Factors
Yoshitaka Hatta, Brookhaven National Laboratory |
| 14:00 – 14:30 | Light Cone Formalism
Adam Freese, Jefferson Lab |
| 14:30 – 15:00 | Pion and Kaon Gluon Distributions through Charmonium Production Data
Jen-Chieh Peng, University of Illinois, Urbana-Champaign |
| 15:00 – 15:30 | Coffee Break |
| 15:30 – 16:00 | Extraction of the Cross-section of the Photoproduction of J/ψ Near-threshold with the CLAS12 Experiment
Pierre Chatagnon, Jefferson Lab |
| 16:00 – 16:30 | Charmonium Near-threshold Production with GlueX
Lubomir Pentchev, Jefferson Lab |
| 16:30 – 17:00 | Discussion |



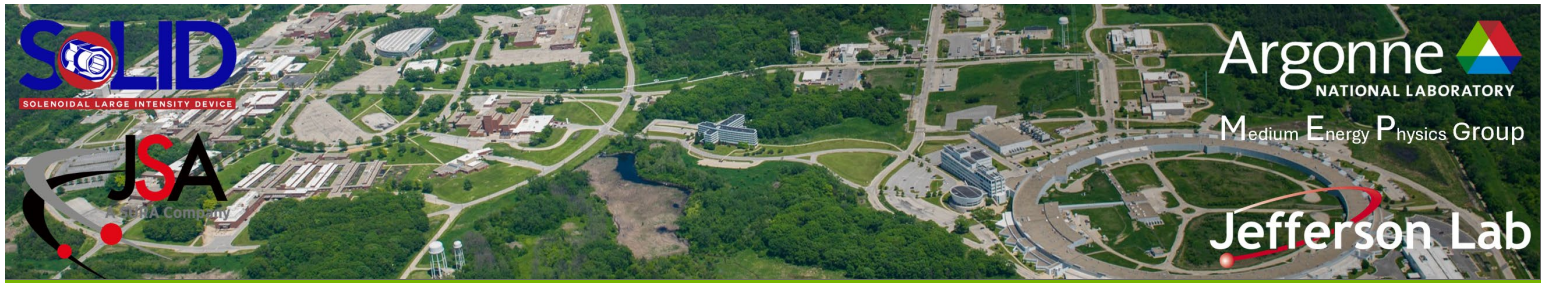
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June 18, 2024 (Tuesday) – Transverse Momentum Distributions

Building 402, Lower Gallery Room E0100

- 09:00 – 09:10** **Welcome**
Kawtar Hafidi, Argonne National Laboratory
- 09:10 – 09:40** **TMDs and the MAPTMD24 Global Fit**
Marco Radici, INFN - Sezione di Pavia
- 09:40 – 10:10** **Tensor TMDs**
Jiwan Poudel, Jefferson Lab
- 10:10 – 10:30** **Coffee Break**
- 10:30 – 11:00** **TMD Lattice QCD**
Yong Zhao, Argonne National Laboratory
- 11:00 – 11:30** **Inclusive Hadron Production and Relation to TMDs**
Jianwei Qiu, Jefferson Lab
- 11:30 – 13:30** **Discussion and Working Lunch**
- 13:30 – 14:00** **TMD: from CLAS12 to EIC**
Anselm Vossen, Duke University
- 14:00 – 14:30** **SIDIS Program @ Hall C**
Ed Kinney, University of Colorado Boulder
- 14:30 – 15:00** **TMD Program at COMPASS**
Riccardo Longo, University of Illinois, Urbana-Champaign
- 15:00 – 15:30** **Coffee Break**
- 15:30 – 16:00** **TMDs at Twist 3**
Leonard Gamberg, Penn State University Berks
- 16:00 – 16:30** **Global Analysis of TSSAs: Transversity, Nucleon Tensor Charges, and Opportunities for SoLID**
Daniel Pitonyak, Lebanon Valley College
- 16:30 – 17:00** **Discussion**
- 18:00** **Workshop Dinner (Argonne Guest House)**



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June 19, 2024 (Wednesday) – Parity Violating Processes

Building 402, Lower Gallery Room E0100

- 09:00 – 09:30** **TMD Program with SoLID**
Zhiwen Zhao, Duke University
- 09:30 – 10:00** **Combined Study of QED and QCD for Lepton-Hadron Scattering including DIS, SIDIS, and Parity Violating Processes**
Jia-Yue Zhang, Jefferson lab
- 10:00 – 10:30** **Coffee Break**
- 10:30 – 11:00** **Precision Low-energy PV Physics Overview**
Sonny Mantry, University of North Georgia
- 11:00 – 11:30** **Strong PV in the Nucleon**
Matteo Cerutti, Jefferson Lab / Hampton University
- 12:00 – 13:30** **Discussion and Working Lunch**
- 13:30 – 14:00** **Global SMEFT Analysis including Low-energy and LHC Data**
Francis John Petriello, Northwestern University
- 14:00 – 14:30** **PDF Uncertainties**
Paul Reimer, Argonne National Laboratory
- 14:30 – 15:00** **Uncertainties in Determining PDF at Large x**
Matteo Cerutti, Jefferson Lab / Hampton University
- 15:00 – 15:30** **Coffee Break**
- 15:30 – 16:00** **Impact of SoLID on EIC: Heavy Quark at Large x**
Ciprian Gal, Jefferson Lab
- 16:00 – 16:30** **Impact of PVDIS with 22 GeV Electrons at JLab on the Nucleon Strangeness**
Richard Whitehill, Old Dominion University
- 16:30 – 17:00** **Discussion**



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June 20, 2024 (Thursday) – Future Opportunities with SoLID

Building 402, Lower Gallery Room E0100

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| 09:00 – 09:30 | JLab 20+ GeV Energy Upgrade
Cynthia Kappel, Jefferson Lab |
| 09:30 – 10:00 | JLab Positron Beam Upgrade
Eric Voutier, IJCLab Orsay |
| 10:00 – 10:30 | Coffee Break |
| 10:30 – 11:00 | Future Experiments of J/ψ Production on Nuclear Targets with SoLID
Sangbaek Lee, Argonne National Laboratory |
| 11:00 – 11:30 | GPD Measurements with SoLID
Marie Boer, Virginia Tech. |
| 11:30 – 12:00 | The Strange Mechanical Structure of the Proton
Henry Klest, Argonne National Laboratory |
| 12:00 – 14:00 | Discussion and Working Lunch |