

An Application for ePIC Membership

ePIC Collaboration Meeting

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- ECTP founded in 2011, [UNESCO-TWAS](#) as "[Center of Excellence in the South](#)" currently collaborating with [MPD@NICA](#).
- Affiliation to [ACU](#) and federation with various research teams associated with partner institutions.



The Abdus Salam
 International Centre
 for Theoretical Physics



THE WORLD ACADEMY OF SCIENCES
 for the advancement of science in developing countries

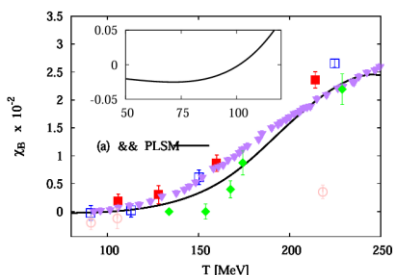
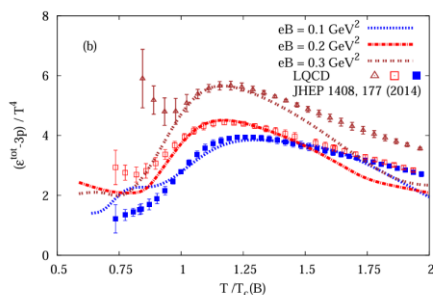
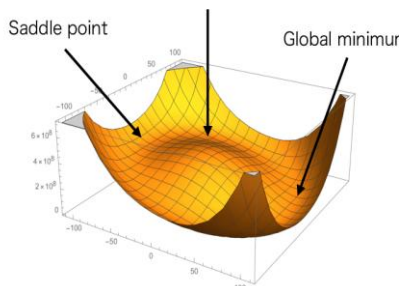
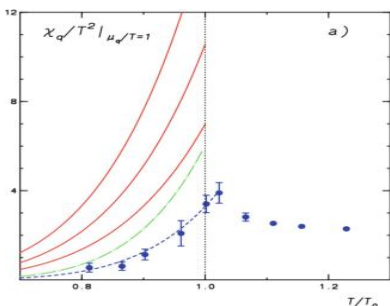


FIAS Frankfurt Institute
 for Advanced Studies



- LHC at CERN (2013-2016)
- NICA JINR (2012 - ...)

Expertise



ePIC

Physics Problem

What ePIC Measures

Physical Problem

Strong force dynamics

Confinement & hadronization

Explain origin of visible mass

Precision QCD

Exclusive processes

Validate and refine QCD theory

Hadronization

Fragmentation

Connect partons to observed particles

Statistical Thermal Models

Effective dof and Hadronization at vanishing chemical potential

QCD-like Effective Models

Color Deconfinement, Hadronization, and Nuclear modifications of parton distributions including perturbative and nonperturbative QCD predictions.

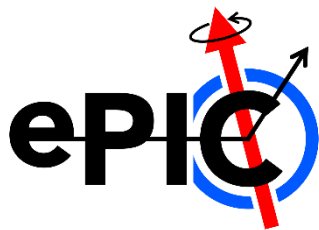
Studies of exclusive processes of vector meson production

Hadronization & Jet Physics WG

Fragmentation functions,
Jet substructure in e+p and e+A,
Cold nuclear matter effects

Diffraction & Exclusive Processes WG

DVCS, vector meson production
Imaging via generalized parton distributions (GPDs)
Coherent vs. incoherent diffraction in nuclei



EIC Papers Signed

White Paper on EIC Theory Alliance

The case for an EIC Theory Alliance: Theoretical Challenges of the EIC

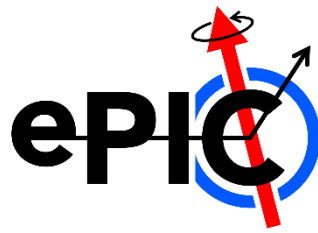
e-Print: [2305.14572](https://arxiv.org/abs/2305.14572) [hep-ph]

Precision studies of QCD in the low energy domain of the EIC

Prog.Part.Nucl.Phys. 131 (2023) 104032

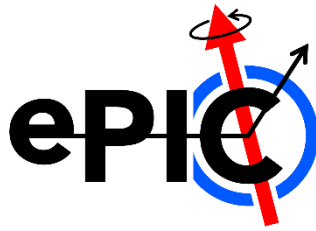
e-Print: [2211.15746](https://arxiv.org/abs/2211.15746) [nucl-ex]

Thank You



Team Members

| | | | |
|-----------------|---------------------|-------------|-----------|
| PI: | Abdel Nasser Tawfik | (ACU) | |
| Members: | Ashraf Al-Sherif | (ACU) | Professor |
| | Nourhan Mahmoud | (Assiut U.) | Student |
| | Maha Maher | (Sohag U.) | Student |



Funds to be Allocated

U.S.-Egypt Science and Technology Joint Fund

Collaborative Research Grants

Grants intended to foster research collaboration between Egyptian and U.S. scientists

Up to \$200,000 USD maximum for each country's research team

Up to 2-3 years in duration

Junior Scientist Development Visit Grants

Short-term, research training visits for Egyptian researchers to U.S. institutions

Up to a maximum of \$25,500 USD

Up to nine months in duration



EGYPT-US COOPERATION GRANT : COLLABORATIVE RESEARCH

US-EGYPT EARLY CAREER VISITOR PROGRAM