



**ILLINOIS STATE
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2024 UNIVERSITY RESEARCH SYMPOSIUM
April 13, 2024
DEPARTMENT OF PHYSICS ORAL PRESENTATIONS



(D7) Moulton Hall: Department of Physics Oral Presentations 9:30 a.m. - 12:00 p.m. Room 309

The oral presentations for the Department of Physics will take place on Saturday, April 13, 2024.

DEPARTMENT OF PHYSICS

Oral Presentations (April 13, 2024)

Moulton Hall 309

Faculty mentors: Dr. N. Christensen, Dr. A. Harris, Dr. M. Caplan, Dr. R. Grobe, and Dr. Q. Su

9:30-9:45

Brendan Czajka

INHERITED LEARNING NEURAL NETWORK FOR QUANTUM FIELD THEORY

9:45-10:00

Eyan James

EFFICIENT DETERMINATION OF DIRAC SEA STATES

10:00-10:15

Chris Achammer and Harrison Smith

SOLVING DIFFERENTIAL EQUATIONS WITH NEURAL NETWORKS

10:15-10:30

James Aygun

EFFECTS OF SPECTRAL PHASE PULSE SHAPING ON ATTOSECOND PROCESSES

10:30-10:45

Gabe Minney

COMPUTING 5-POINT CONSTRUCTIVE AMPLITUDES

10:45-11:00

Chris Achammer and Harrison Smith

MINIMA HOPING FOR REDUNDANTLY LARGE NEURAL NETWORKS

11:00-11:15

Nevin Smith

MOLECULAR DYNAMICS OF O-Ne-Fe COULOMB CRYSTALS

11:15-11:30

Claire Campbell

EMPIRICAL MODELS FOR DIFFUSION IN ONE-COMPONENT PLASMAS

11:30-11:45

Dany Yaacoub

TOWARDS A UNIVERSAL SCALING LAW FOR DIFFUSION IN COMPLEX PLASMAS

11:45-12:00

Andy Santarelli

STELLAR EVOLUTION MODELING OF SOLAR AND SUBSOLAR MASS HAWKING STARS