Session Program

10–15 Aug 2025

NAPAC25 - North American Particle Accelerator Conference 2025

SUP: Sunday Student Poster Session

SAFE Credit Union Convention Center
1401 K St, Sacramento, CA 95814

Sunday 10 August

15:00

SUP: Sunday Student Poster Session

Poster Session | **Location:** SAFE Credit Union Convention Center, Ballroom A

Development of a Density Functional Theory Approach for Calculating Electronic Band Structure Parameters in Support of Monte Carlo Simulations of Photoemission

Speaker
Joniel Mendez

DESIGN OF AN OPTICAL AMPLIFIER FOR AMPLIFIED OSC IN IOTA FACILITY AT FERMILAB

Speaker
Abhishek Mondal

Flat beam PWFA theory and experiment at AWA

Speaker
Pratik Manwani

A W-band corrugated waveguide for high-efficiency high-gradient wakefield acceleration

Speaker
Brendan Leung

Investigation of Wakefields in Dielectric Structures with Different Cross Sections

Speaker
Calcifer Phillips

IOTA Experiment for Proton Pulse Compression at Extreme Space-Charge

Speaker
Benjamin Simons

Multi-objective optimization of strong hadron cooler Energy Recovery Linac injector

Speaker
Ningdong Wang

Matching the Beam from AGS to the EIC Hadron Storage Ring with Excellent Emittance Preservation

Speaker
Anbang Jiang

Rapidly pulsed synchrotron acceleration chain for a Fermilab sited muon collider

Speaker
Kyle Capobianco-Hogan

Measurements of single-shot attosecond X-ray pulses at high repetition rate

Speaker
Veronica Guo

Visualization Tools for EGUN Simulations

Speaker
Katie Casey

Single-shot longitudinal phase-space measurement of thermionic gun beam at the Advanced Photon Source linac*

Speaker
Timothy Suzuki

Advanced Growth and Characterization of Alkali Antimonide Photocathodes for Bright Beam Applications

Speaker
Tariqul Hasan

Single spike hard x-ray free-electron laser pulses generated by photocathode laser shaping

Speaker
River Robles

Physics Model to Study Resonant Compton Scattering

Speaker
William Delooze

Effects of Beam Conditions on Achieving Compact Longitudinal De-chirping Using Transverse Deflecting Cavities

Speaker
Alex DeSimone

Leveraging the capabilities of LCLS-II: linking adaptable photoinjector laser shaping to tailored X-ray production

Speaker
Jack Hirschman

3D Theory of the Ion Channel Laser

Speaker
Claire Hansel

Tunable Terawatt Attosecond Soft-X-Ray Pulse Pair from a Plasma Wakefield Driven Free Electron Laser

Speaker
Xuan Zhang

RF breakdown and dark current studies in short-pulse acceleration

Speaker
Gaurab Rijal

Investigating Dirac semimetal cadmium arsenide as a potential low-MTE photocathode

Speaker
Truman Idso

Picometer-scale emittance and space charge effects in nanostructured photocathodes.

Speaker
Anagha Ullattuparambil

Preliminary study of space charge and beam-beam interplay in a collider ring

Speaker
Helena Alamprese

Recent Progresses Regarding Enclosed RF Cavities for Future Muon Collider Cooling Channel

Speaker
Dillon Merenich

Laser-Ionized Plasma Sources for Plasma Wakefield Accelerators: Alignment Technique, Tolerance, and Applications

Speaker
Valentina Lee

Design and cold test of a novel waveguide power splitter for distributed power coupling in short-pulse acceleration

Speaker
Salih Colmekci

Passive plasma lens experiments at FACET-II

Speaker
Mr Shutang Meng

THz Detection and Investigation of Vacuum-Compatible Optical Components

Speaker
Calcifer Phillips

An electrostatic fusion collider for interstellar propulsion

Speaker
Ms Grace Bittlingmaier

A finite element study of stress reduction techniques in REBCO HTS conductor on a round cable (CORC) cable

Speaker
Scott Mueller

Integral Field Probe for Mapping of Curved Magnets

Speaker
Alexander Jakopin

One-to-one mapping between the electromagnetic modes of Cylindrical and Coaxial Half-wave cavities

Speaker
Fariha Ahmed

External controller for the SRFK thyratron heaters

Speaker
Benjamin Laurel

Sputter coating of Nb_3Sn into SRF cavity using stoichiometric target

Speaker
Md Sharifuzzaman Shakel

Design of a shipping fixture for a compact cryomodule hermetic assembly

Speaker
Jacob Lewis

Design study of an RF-Kicker module for bunch cleaning at the ATLAS Positive-Ion Injector.

Speaker
Deeksha Sinha

The Pulsed Ion Reflex Klystron: A New Accelerator for High Efficiency Voltage Conversion

Speaker
David Mengel

Unlocking SRF Performance: How Nitrogen and Oxygen Shape Cavity Performance

Speaker
Hannah Hu

Study of uncorrelated resonance crossing in a controlled environment

Speaker
Jack Kelley

Co-sputter deposition of Nb_3Sn layer into SRF cavity using Nb-Sn composite target

Speaker
Md Sharifuzzaman Shakel

Automation of sample identificaiton for neutron beamlines

Speaker
Amelia Chen

Machine Learning-Enhanced Deterministic Controls in Lasers and Accelerators

Speaker
Dan Wang

Nested Extremum Seeking for Virtual Diagnostics and Control

Speaker
Brad Ratto

Fast Beam Probe Development for Longitudinal Bunch Measurements at UC Davis Crocker Nuclear Laboratory Cyclotron

Speaker
Logan Knudson

Bi-Filar Coil Winding for Fast Quench Protection

Speaker
Rehan Jayathilaka

Surrogate Model for Third-integer Resonance Extraction at the Fermilab Delivery Ring

Speaker
Aakaash Narayanan

Bayesian Calibration of the AWA Photocathode Gun Using YAG Screen Diagnostics and OPAL Simulations

Speaker
Sebastian Heinekamp

Extinction Monitoring of Pulsed Proton Beams Using FPGA-Based Peak Detection

Speaker
Ryan Hensley

Automation of sample alignment for neutron beamlines

Speaker
Amelia Chen

Design of phase diversity Electro-Optic Sampling of THz Coherent Transition Radiation

Speaker
Spencer Kelham

Ultrafast Switching Utilizing an IVA Topology for Chopper Applications

Speaker
Kyle Hansz

Phase space reconstruction of beams affected by coherent synchrotron radiation

Speaker
Juan Pablo Gonzalez-Aguilera

Phase Space Tomography at FACET-II

Speaker
Yiheng Ye

Experimental longitudinal emittance manipulation using laser-based photoionization in the Fermilab Linac

Speaker
Parker Landon

Towards Real-Time Calibration of CBPMs Using Synchronous RF Injection

Speaker
Mark McCallum

Accelerator Drift Compensation via a Modified MG-GPO Algorithm

Speaker
Ryan Yeung

Electro-Optic Sampling Beam Positioning Monitor for Relativistic Electron Beams

Speaker
Elena Ros

Preliminary study of Auto-differentiation algorithm in Beam Dynamics with Stochastic process

Speaker
Christian Ratcliff

A Self-Supervied Transformer For RF Cavity Signal Denoising

Speaker
Vikshar Rajesh

Data-Driven Modeling for Collider Luminosity Prediction

Speaker
Rasim Mamutov

Efficient phase space density construction via transfer operators

Speaker
Vincent Tembo

The implementation of adaptive step size Runge Kutta integrator in Zgoubi

Speaker
Bhawin Dhital

Optimizing 4D emittance measurements using the pinhole scan technique

Speaker
Peter Owusu

Computing spin-polarization in electron storage rings by machine learning via randomized Fourier neural networks

Speaker
Jose Agudelo

Instability Threshold Measurements in the IOTA Ring at Fermilab

Speaker
Mary Duncan

Plasma Waves in Accelerators

Speaker
Hannah McCright

Mu2e Resonant Extraction Regulation System Simulation in Delivery Ring

Speaker
Aakaash Narayanan

Evolution of Realistic Beam Distributions in Space-Charge-Dominated Electron Beams

Speaker
Shiyi Wang

Minimizing dispersion through resonant extraction for BNL's NSRL

Speaker
Eiad Hamwi

Benchmarking COMSOL and OPAL at Crocker Nuclear Lab

Speaker
SHUCHENG PAI

Lattice refinements for nonlinear integrable optics in IOTA

Speaker
John Wieland

Halo Formation in High-Intensity Linacs: Modeling and Advanced Phase Space Diagnostics

Speaker
Trent Thompson

Third Integer Resonant Extraction Transit Time Simulation Studies

Speaker
Aakaash Narayanan

Transverse beam dynamics studies in the FRIB accelerating cryomodules

Speaker
Alec Gonzalez

Start-to-end simulations of nanometer-emittance beam transport through an emittance exchange beamline

Speaker
Buse Naz Temizel Ozdemir

Simulations of CSR and LSC induced microbunching in the presence of a laser heater

Speaker
Sergei Kladov

Simulations of IBS through electric field fluctuations

Speaker
Sergei Kladov

2D Phase Space Tomography with SciBmad Tracking

Speaker
Ningdong Wang

Extracting symplectic maps for space charge dominated beams

Speaker
Nikhil Bachhawat

Light-Induced Enhancement of Quantum Efficiency in III-Nitride Photocathodes

Speaker
Mansoure Moeini Rizi

Preliminary computational study on minimizing longitudinal emittance in photoinjector

Speaker
MinKyu Seo

Developments in Lume-ACE3P Including S-Parameter Optimization for S3P

Speaker
Lila Fowler

18:00