

25th Accelerator Test Facility Users' Meeting

Report of Contributions

Contribution ID: 1

Type: **not specified**

Welcome

Tuesday, 28 February 2023 09:45 (5 minutes)

Session Classification: Opening Session

Contribution ID: 2

Type: **not specified**

Meeting Logistics and Opening Remarks

Tuesday, 28 February 2023 09:50 (5 minutes)

Presenter: PALMER, Mark (Brookhaven National Laboratory)

Session Classification: Opening Session

Contribution ID: 3

Type: **not specified**

Comments from DOE ARDAP

Tuesday, 28 February 2023 10:15 (25 minutes)

Presenter: COLBY, Eric (U. S. DOE)

Session Classification: Opening Session

Contribution ID: 4

Type: **not specified**

Progress on Laser Upgrades

Tuesday, 28 February 2023 11:00 (25 minutes)

Presenter: BABZIEN, Marcus (BNL)

Session Classification: Opening Session

Contribution ID: 5

Type: **not specified**

Facility Updates and Plans

Thursday, 2 March 2023 11:20 (30 minutes)

Presenter: SIMMONDS, Andrew

Session Classification: Closing Session

Contribution ID: 6

Type: **not specified**

Science Priority Research Directions & Next Science Planning Workshop

Thursday, 2 March 2023 11:50 (30 minutes)

Presenter: VAF AEI-NAJAFABADI, Navid (Stony Brook University)

Session Classification: Closing Session

Contribution ID: 7

Type: **not specified**

Introduction/Opening Remarks

Presenter: PALMER, Mark (Brookhaven National Laboratory)

Session Classification: Opening Session

Contribution ID: 8

Type: **not specified**

Accelerator Readiness Review Update & 2023 Running Plans

Tuesday, 28 February 2023 11:25 (20 minutes)

Presenter: PALMER, Mark (Brookhaven National Laboratory)

Session Classification: Opening Session

Contribution ID: 9

Type: **not specified**

Facility Status

Presenter: POLYANSKIY, Mikhail (Brookhaven National Laboratory)

Session Classification: Opening Session

Contribution ID: **10**

Type: **not specified**

2023 Running Plans

Presenter: PALMER, Mark (Brookhaven National Laboratory)

Session Classification: Opening Session

Contribution ID: 11

Type: **not specified**

ATF Operations Status Report

Tuesday, 28 February 2023 09:55 (20 minutes)

Presenter: FEDURIN, Mikhail (BNL)

Session Classification: Opening Session

Contribution ID: 12

Type: **not specified**

Closeout

Thursday, 2 March 2023 12:20 (15 minutes)

Presenter: PALMER, Mark (Brookhaven National Laboratory)

Session Classification: Closing Session

Contribution ID: 13

Type: **not specified**

AE63 - Stony Brook Accelerator Laboratory Course

Tuesday, 28 February 2023 13:00 (25 minutes)

Closeout

Presenter: FEDURIN, Mikhail (BNL)

Session Classification: Status Reports & New Proposals

Contribution ID: 14

Type: **not specified**

AE85 - Multi atmospheric CO2 Amplifier Optically Pumped by a 4.3 micron FeZnSe Laser

Tuesday, 28 February 2023 13:25 (25 minutes)

Closeout

Presenter: TOCHITSKY, Sergei (UCLA)

Session Classification: Status Reports & New Proposals

Contribution ID: 15

Type: **not specified**

AE87 - Hard X-ray ICS

Closeout

Presenter: SAKAI, Yusuke (UCLA)

Session Classification: Status Reports & New Proposals

Contribution ID: 16

Type: **not specified**

AE89 – Plasma Compression for Terawatt Long Wavelength Lasers

Tuesday, 28 February 2023 13:50 (20 minutes)

Status Report

Presenter: GORDON, Daniel (Naval Research Laboratory)

Session Classification: Status Reports & New Proposals

Contribution ID: 17

Type: **not specified**

AE93 - Direct Measurement of Fields and Radiation in the Self-Modulated Plasma Wakefield Regime

Tuesday, 28 February 2023 14:10 (20 minutes)

Status Report

Presenter: PETRUSHINA, Irina (Stony Brook University)

Session Classification: Status Reports & New Proposals

Contribution ID: **18**

Type: **not specified**

AE95 - Optical Diagnosis of Self-Modulated CO₂-laser Driven Plasma Wakes

Tuesday, 28 February 2023 15:30 (20 minutes)

Status Report

Presenter: ZGADZAJ, Rafal (The University of Texas at Austin)

Session Classification: Status Reports & New Proposals

Contribution ID: 19

Type: **not specified**

AE98 – Probing electron Weibel instability in optical field-ionized plasmas using ultrashort electron bunches

Tuesday, 28 February 2023 15:50 (20 minutes)

Status Report

Presenter: ZHANG, Chaojie (UCLA)

Session Classification: Status Reports & New Proposals

Contribution ID: 20

Type: **not specified**

AE99 – Directional X-ray radiation produced by an ultra-short period plasma magneto-static undulator

Tuesday, 28 February 2023 16:10 (20 minutes)

Status Report

Presenter: WU, Yipeng (UCLA)

Session Classification: Status Reports & New Proposals

Contribution ID: 21

Type: **not specified**

AE101 - Optical Materials for Ultrahigh-Power Long-Wave Infrared Lasers

Tuesday, 28 February 2023 16:30 (20 minutes)

Status Report

Presenter: POLYANSKIY, Mikhail (Brookhaven National Laboratoty)

Session Classification: Status Reports & New Proposals

Contribution ID: 22

Type: **not specified**

AE100 – The Study of High-Intensity Laser Pulse Interactions with Near-Critical Density Plasmas

Wednesday, 1 March 2023 09:05 (20 minutes)

Presenter: DOVER, Nicholas (ICL)

Session Classification: Status Reports & New Proposals

Contribution ID: 23

Type: **not specified**

AE108 – Development of Wavelength Conversion Techniques for Generation of Coherent Radiation at the Mid- to Long-wave Infrared

Wednesday, 1 March 2023 09:25 (20 minutes)

Status Report

Presenter: LI, William (BNL)

Session Classification: Status Reports & New Proposals

Contribution ID: 24

Type: **not specified**

Announcements & Session Intro

Wednesday, 1 March 2023 09:00 (5 minutes)

Presenter: POGORELSKY, Igor (BNL/CAD)

Session Classification: Status Reports & New Proposals

Contribution ID: 25

Type: **not specified**

Advanced Accelerator and Laser Laboratory Course

Wednesday, 1 March 2023 10:45 (30 minutes)

New Proposal - 312804

Co-author: POLYANSKIY, Mikhail (Brookhaven National Laboratoty)

Presenters: FEDURIN, Mikhail (BNL); POLYANSKIY, Mikhail (Brookhaven National Laboratoty)

Session Classification: Status Reports & New Proposals

Contribution ID: 26

Type: **not specified**

Two Color Injection of Bright Electron Beams

Wednesday, 1 March 2023 11:15 (30 minutes)

New Proposal - 312796

Primary author: LI, William (BNL)

Presenters: VAF AEI-NAJAFABADI, Navid (Stony Brook University); LI, William (BNL)

Session Classification: Status Reports & New Proposals

Contribution ID: 27

Type: **not specified**

AE119 – Radiofrequency Emission from 10 Micron Short Pulse Laser Ionized Gases and Solids

Wednesday, 1 March 2023 09:45 (20 minutes)

Status Report

Presenter: ERIN, Thornton (AFRL)

Session Classification: Status Reports & New Proposals

Contribution ID: 28

Type: **not specified**

AE122 – Remote Detection of Radioactive Materials Using Long Wave Infrared Laser-driven Avalance Breakdown

Wednesday, 1 March 2023 10:05 (20 minutes)

Status Report

Presenter: ZINGALE, Anthony (@lanl.gov)

Session Classification: Status Reports & New Proposals

Contribution ID: 29

Type: **not specified**

AE124 – Simulation-aided Instrument Optimization using Artificial Intelligence and Machine Learning Methods

Wednesday, 1 March 2023 14:45 (20 minutes)

Presenter: RAKITIN, Maksim (BNL)

Session Classification: Status Reports & New Proposals

Contribution ID: **30**

Type: **not specified**

Generation of fast neutrons with ions accelerated by a far-infrared laser

Wednesday, 1 March 2023 11:45 (30 minutes)

Proposal 312792

Presenter: KAROLY, Osvay (University of Szeged)

Session Classification: Status Reports & New Proposals

Contribution ID: 31

Type: **not specified**

UE104 – Structure phase transition on Weyl semimetal MoTe₂

Wednesday, 1 March 2023 13:15 (25 minutes)

Closeout

Presenter: LI, Junjie (Brookhaven national Lab)

Session Classification: Status Reports & New Proposals

Contribution ID: 32

Type: **not specified**

UE111 – Ultrafast Electron Microscopy with Flux Concentrator Objective Lens

Wednesday, 1 March 2023 13:40 (25 minutes)

Closeout

Presenter: JING, Chunguang (Euclid)

Session Classification: Status Reports & New Proposals

Contribution ID: 33

Type: **not specified**

UE109 – Study of ultrafast Light Induced Structural Phase Transition (SPT) and ultrafast modulation of domains in Weyl Semimetal, MoTe₂,

Thursday, 2 March 2023 10:45 (20 minutes)

Status Report

Presenter: FREELON, Byron (University of Houston)

Session Classification: Status Reports & New Proposals

Contribution ID: 34

Type: **not specified**

**UE110 – Baseline materials for characterizing the
MUED configuration, their role verifying daily
alignment and in operation and implementation of a
non-destructive real-time machine learning
diagnostic for ensuring beam stability**

Wednesday, 1 March 2023 14:05 (20 minutes)

Status Report

Presenter: BOLIN, Trudy (University of New Mexico)

Session Classification: Status Reports & New Proposals

Contribution ID: **36**

Type: **not specified**

Remote detection of radioactive materials using long wave infrared laser-driven avalanche breakdown

New Proposal: 312793

Session Classification: Status Reports & New Proposals

Contribution ID: 37

Type: **not specified**

Ionization Currents and Secondary Radiation from Two-Color Pulses at Long Laser Wavelengths

Wednesday, 1 March 2023 16:30 (30 minutes)

New Proposal: 312798

Presenter: ENGLSBE, Alexander (Naval Research Laboratory)

Session Classification: Status Reports & New Proposals

Contribution ID: **38**

Type: **not specified**

Broadband microwave emissions from LWIR picosecond laser ablation with pre-ionization

Wednesday, 1 March 2023 16:00 (30 minutes)

New Proposal: 312114

Presenter: GOERS, Andy (Johns Hopkins University Applied Physics Labs)

Session Classification: Status Reports & New Proposals

Contribution ID: 39

Type: **not specified**

UE117 – Advanced Control of the ATF MUED Electron Beam Using Automation, Artificial Intelligence, and High-Performance Computing

Wednesday, 1 March 2023 14:25 (20 minutes)

Status Report

Presenter: BOLIN, Trudy (UNM)

Session Classification: Status Reports & New Proposals

Contribution ID: 40

Type: **not specified**

Tunable positron source: trapping ATF electron beam driven shower positrons

Thursday, 2 March 2023 09:10 (30 minutes)

New Proposal: 312795

Presenter: SAHAI, Aakash (Univ of Colorado)

Session Classification: Status Reports & New Proposals

Contribution ID: 41

Type: **not specified**

Announcements & Session Intro

Thursday, 2 March 2023 09:00 (10 minutes)

Session Classification: Status Reports & New Proposals

Contribution ID: 42

Type: **not specified**

Novel Application of a Pulsed Electron Linear Accelerator as a Single Event Effects Simulator

Thursday, 2 March 2023 09:40 (30 minutes)

New Proposal: 312807

Presenter: ALLEN, Greg (NASA Jet Propulsion Laboratory (JPL))

Session Classification: Status Reports & New Proposals

Contribution ID: 43

Type: **not specified**

AE87 (Hard X-Ray ICS) and New ICS Proposal

Thursday, 2 March 2023 10:10 (35 minutes)

Combined Closeout & New Proposal

Presenter: SAKAI, Yusuke (UCLA)

Session Classification: Status Reports & New Proposals

Contribution ID: 44

Type: **not specified**

Benchmarking the radiation dose simulator around the CO2 laser IP

Wednesday, 1 March 2023 15:30 (30 minutes)

New Proposal

Presenter: ROSENSTROM, Andrew (SLAC)

Session Classification: Status Reports & New Proposals