

# **23rd ATF Users' Meeting**

## **Report of Contributions**

Contribution ID: 1

Type: **not specified**

## Opening Session

Contribution ID: 2

Type: **not specified**

## Welcome

*Monday, 7 December 2020 11:00 (10 minutes)*

**Presenter:** TRIBBLE, Robert (BNL)

**Session Classification:** Opening Session

Contribution ID: 3

Type: **not specified**

## ATF Status

*Monday, 7 December 2020 11:10 (30 minutes)*

**Presenter:** PALMER, Mark (Brookhaven National Laboratory)

**Session Classification:** Opening Session

Contribution ID: 4

Type: **not specified**

## Comments from DOE

*Monday, 7 December 2020 11:40 (20 minutes)*

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

**Session Classification:** Opening Session

Contribution ID: 5

Type: **not specified**

## **Introduction of Presentations**

*Monday, 7 December 2020 12:00 (10 minutes)*

**Session Classification:** Status Reports/Proposals

Contribution ID: 6

Type: **not specified**

## **AE63 - Stony Brook Accelerator Laboratory Course, CASE@ATF**

*Monday, 7 December 2020 12:10 (15 minutes)*

**Presenter:** FEDURIN, Mikhail (BNL)

**Session Classification:** Status Reports/Proposals

Contribution ID: 7

Type: **not specified**

## **UE82 - Thermal Transport in Thermoelectric Materials**

*Monday, 7 December 2020 12:25 (20 minutes)*

**Presenter:** LI, Junjie (Brookhaven national Lab)

**Session Classification:** Status Reports/Proposals



Contribution ID: **8**

Type: **not specified**

## **New Proposal**

**Session Classification:** Opening Session

Contribution ID: 9

Type: **not specified**

## **New Proposal**

**Session Classification:** Opening Session

Contribution ID: **10**

Type: **not specified**

## **New Proposal**

**Session Classification:** Opening Session

Contribution ID: 11

Type: **not specified**

## ATF Science Planning Report Overview

*Friday, 11 December 2020 14:10 (40 minutes)*

**Presenter:** VAFAEI-NAJAFABADI, Navid (Stony Brook University)

**Session Classification:** Closing Session:

Contribution ID: 12

Type: **not specified**

## **Electron Beam and UED Plans**

*Friday, 11 December 2020 14:50 (20 minutes)*

**Presenter:** FEDURIN, Mikhail (BNL)

**Session Classification:** Closing Session:

Contribution ID: 13

Type: **not specified**

## NIR Laser Plans

*Friday, 11 December 2020 15:10 (20 minutes)*

**Presenter:** KUPFER, Rotem (Brookhaven National Laboratory)

**Session Classification:** Closing Session:

Contribution ID: 14

Type: **not specified**

## **LWIR Laser Plans**

*Friday, 11 December 2020 15:30 (20 minutes)*

**Presenter:** POLYANSKIY, Mikhail (Brookhaven National Laboratoty)

**Session Classification:** Closing Session:

Contribution ID: 15

Type: **not specified**

## 2021 Facility Upgrade Plans

*Friday, 11 December 2020 15:50 (30 minutes)*

**Presenter:** CULLEN, Christian (BNL)

**Session Classification:** Closing Session:



Contribution ID: **16**

Type: **not specified**

## **User Discussion**

*Friday, 11 December 2020 16:20 (30 minutes)*

**Session Classification:** Closing Session:

Contribution ID: 17

Type: **not specified**

## **AE85 - A Multiatmosphere CO2 Amplifier Optically Pumped by a 4.3 mm Fe:ZnSe Laser**

*Monday, 7 December 2020 12:45 (15 minutes)*

**Presenter:** TOCHITSKY, Sergei (UCLA)

**Session Classification:** Status Reports/Proposals

Contribution ID: **18**

Type: **not specified**

## **AE87 - Hard X-ray ICS**

*Monday, 7 December 2020 13:30 (15 minutes)*

**Presenter:** SAKAI, Yusuke (UCLA)

**Session Classification:** Status Reports/Proposals

Contribution ID: 19

Type: **not specified**

## **AE88 - Electron Beam Formation via Ionization Injection Seeding Next Generation Accelerator R&D**

*Monday, 7 December 2020 13:45 (15 minutes)*

**Presenter:** KUPFER, Rotem (Brookhaven National Laboratory)

**Session Classification:** Status Reports/Proposals

Contribution ID: 20

Type: **not specified**

## **AE89 - Plasma compression of terawatt long wavelength laser pulses**

*Monday, 7 December 2020 14:00 (15 minutes)*

**Presenter:** GORDON, Daniel (Naval Research Laboratory)

**Session Classification:** Status Reports/Proposals

Contribution ID: 21

Type: **not specified**

## **308049 - Suppression of microbunch instability by laser modulated microbunching compression**

*Friday, 11 December 2020 12:10 (20 minutes)*

**Presenter:** MARKSTEINER, Quinn (Los Alamos National Laboratory)

**Session Classification:** Status Reports/Proposals

Contribution ID: 22

Type: **not specified**

## **308054 - Study of ultrafast Light Induced Structural Phase Transition (SPT) and ultrafast modulation of domains in Weyl Semimetal, MoTe<sub>2</sub>**

*Wednesday, 9 December 2020 16:05 (20 minutes)*

**Presenter:** FREELON, Byron (University of Houston, State of Texas)

**Session Classification:** Status Reports/Proposals

Contribution ID: **23**

Type: **not specified**

## **308072 - TBD**

**Presenter:** YADAV, Gyanendra

**Session Classification:** Status Reports/Proposals



Contribution ID: 24

Type: **not specified**

**308073 - 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**

*Monday, 7 December 2020 14:55 (20 minutes)*

**Presenter:** FAZIO, Mariana (University of New Mexico)

**Session Classification:** Status Reports/Proposals

Contribution ID: 25

Type: **not specified**

## **AE100 - Ion Acceleration with the upgraded ATF laser**

*Wednesday, 9 December 2020 11:05 (15 minutes)*

**Presenter:** ETTLINGER, Oliver (Imperial College London)

**Session Classification:** Status Reports/Proposals

Contribution ID: 26

Type: **not specified**

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

*Wednesday, 9 December 2020 11:20 (15 minutes)*

**Presenter:** PETRUSHINA, Irina (SUNY @ Stony Brook)

**Session Classification:** Status Reports/Proposals

Contribution ID: 27

Type: **not specified**

## **AE95 - Optical diagnosis of self-modulated CO<sub>2</sub>-laser-driven plasma wakes**

*Wednesday, 9 December 2020 11:35 (15 minutes)*

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

**Session Classification:** Status Reports/Proposals

Contribution ID: 28

Type: **not specified**

## **308079 - Ultrafast Electron Microscopy with Flux Concentrator Objective Lens**

*Wednesday, 9 December 2020 11:50 (20 minutes)*

**Presenter:** MONTGOMERY, Eric (Euclid TechLabs, LLC)

**Session Classification:** Status Reports/Proposals

Contribution ID: 29

Type: **not specified**

## **308081 - Conduction Cooled SRF gun for UED/UEM**

*Wednesday, 9 December 2020 12:10 (20 minutes)*

**Presenter:** KOSTIN, Roman (Euclid TechLabs, LLC)

**Session Classification:** Status Reports/Proposals

Contribution ID: **30**

Type: **not specified**

## **308089 - Permanent Magnet Quadrupoles for Microscopy Systems**

*Wednesday, 9 December 2020 12:30 (20 minutes)*

**Presenter:** ANDONIAN, Gerard (UCLA & RadiaBeam)

**Session Classification:** Status Reports/Proposals

Contribution ID: 31

Type: **not specified**

## **UE97 - Demonstration of feasibility of sub-nm, picosecond electron microscope for the life sciences**

*Friday, 11 December 2020 11:25 (15 minutes)*

**Presenter:** YANG, Xi (Brookhaven National Laboratory)

**Session Classification:** Status Reports/Proposals



Contribution ID: 32

Type: **not specified**

## **Status - Optical Materials for Ultrahigh-Power Long-Wave Infrared Lasers**

**Presenter:** POLYANSKIY, Mikhail (Brookhaven National Laboratory)

**Session Classification:** Status Reports/Proposals

Contribution ID: 33

Type: **not specified**

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

*Friday, 11 December 2020 11:40 (15 minutes)*

**Presenter:** ZHANG, Chaojie (UCLA)

**Session Classification:** Status Reports/Proposals

Contribution ID: 34

Type: **not specified**

## **AE102 - Collinear wakefield accelerator based on corrugated waveguide**

*Wednesday, 9 December 2020 13:45 (15 minutes)*

**Presenter:** ZHOLENTS, Alexander (Argonne National Laboratory)

**Session Classification:** Status Reports/Proposals

Contribution ID: 35

Type: **not specified**

## **AE99 - Directional X-ray Radiation Produced by a Magnetostatic Undulatory**

*Friday, 11 December 2020 11:55 (15 minutes)*

**Presenter:** JOSHI, Chan (UCLA)

**Session Classification:** Status Reports/Proposals

Contribution ID: 36

Type: **not specified**

## **UE103 - Structural phase transition and phonon excitation in non-equilibrium Cu<sub>2</sub>S**

*Wednesday, 9 December 2020 14:00 (15 minutes)*

**Presenter:** TAO, Jing (Brookhaven National Laboratory)

**Session Classification:** Status Reports/Proposals

Contribution ID: 37

Type: **not specified**

## **UE104 - Photoinduced Structure phase transition in Weyl semimetal MoTe<sub>2</sub>**

*Wednesday, 9 December 2020 14:15 (15 minutes)*

**Presenter:** LI, Junjie (Brookhaven national Lab)

**Session Classification:** Status Reports/Proposals

Contribution ID: **38**

Type: **not specified**

## **UE105 - Charge order and lattice dynamics in photoexcited cuprates and iridates**

*Wednesday, 9 December 2020 14:30 (15 minutes)*

**Presenter:** TAO, Jing (Brookhaven National Laboratory)

**Session Classification:** Status Reports/Proposals

Contribution ID: 39

Type: **not specified**

## **308090 - Unraveling the origin of helicity-dependent coherent phonon oscillations in the van der Waals ferromagnet CrI<sub>3</sub>**

*Wednesday, 9 December 2020 14:45 (20 minutes)*

**Presenter:** PRASANKUMAR, Rohit (Los Alamos National Laboratory)

**Session Classification:** Status Reports/Proposals



Contribution ID: 40

Type: **not specified**

## **308091 - Development and testing of biological sample environments for ultrafast electron diffraction and imaging at the MUED beamline at BNL**

*Wednesday, 9 December 2020 15:05 (20 minutes)*

**Presenter:** CHEN, Julian

**Session Classification:** Status Reports/Proposals

Contribution ID: 41

Type: **not specified**

## **308093 - Tunable Positron Source: CO<sub>2</sub>-Laser driven plasma to post-process positron-electron jets**

*Wednesday, 9 December 2020 15:25 (20 minutes)*

**Presenter:** SAHAI, Aakash (University of Colorado Denver)

**Session Classification:** Status Reports/Proposals

Contribution ID: 42

Type: **not specified**

## **308053 - Development of wavelength conversion techniques for generation of coherent radiation at the mid to long wave infrared**

*Monday, 7 December 2020 14:15 (20 minutes)*

**Presenter:** KUPFER, Rotem (Brookhaven National Laboratory)

**Session Classification:** Status Reports/Proposals

Contribution ID: 43

Type: **not specified**

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

*Wednesday, 9 December 2020 13:30 (15 minutes)*

**Presenter:** POLYANSKIY, Mikhail (Brookhaven National Laboratoty)

**Session Classification:** Status Reports/Proposals

Contribution ID: 44

Type: **not specified**

## **308095 - Intelligent laser control with uncertainty quantification for electron beam generation**

*Wednesday, 9 December 2020 15:45 (20 minutes)*

**Presenter:** ASLAM, Aasma (University of New Mexico)

**Session Classification:** Status Reports/Proposals

Contribution ID: 45

Type: **not specified**

## **AF106 - Detector with Adjustable Aperture for Electron Beam Monitoring**

*Friday, 11 December 2020 11:05 (20 minutes)*

**Presenter:** KONOVALOV, Valeriy (Delaware Diamond Knives)

**Session Classification:** Status Reports/Proposals

Contribution ID: 46

Type: **not specified**

## **308096 - Advanced control of the ATF MUED electron beam using automation, artificial intelligence, and high-performance computing**

*Monday, 7 December 2020 14:35 (20 minutes)*

**Presenter:** GUITRON, Salvador Sosa (University of New Mexico)

**Session Classification:** Status Reports/Proposals

Contribution ID: 47

Type: **not specified**

## **308094 - Study of the dynamics of electron–lattice coupling in cuprates and $\text{UO}_{2+x}$ to unravel the role of coherent tunneling polaron quantum phases**

*Friday, 11 December 2020 12:50 (20 minutes)*

**Presenter:** CONRADSON, Steven (University of New Mexico)

**Session Classification:** Status Reports/Proposals



Contribution ID: 48

Type: **not specified**

## **Proposal - TBD**

**Session Classification:** Status Reports/Proposals

Contribution ID: 49

Type: **not specified**

## **Proposal - TBD**

**Session Classification:** Status Reports/Proposals

Contribution ID: 50

Type: **not specified**

## Daily Introduction

*Wednesday, 9 December 2020 11:00 (5 minutes)*

**Session Classification:** Status Reports/Proposals

Contribution ID: 51

Type: **not specified**

## Daily Introduction

*Friday, 11 December 2020 11:00 (5 minutes)*

**Session Classification:** Status Reports/Proposals

Contribution ID: 52

Type: **not specified**

## Introduction

*Friday, 11 December 2020 13:40 (15 minutes)*

**Session Classification:** Closing Session:

Contribution ID: 53

Type: **not specified**

## **308101 - Crystal structure dynamics of graphite and graphene coated alkali photocathodes**

*Friday, 11 December 2020 12:30 (20 minutes)*

**Presenter:** MOODY, Nathan Andrew (Los Alamos National Laboratory)

**Session Classification:** Status Reports/Proposals

Contribution ID: 54

Type: **not specified**

## **Proposal - TBD**

**Session Classification:** Status Reports/Proposals

Contribution ID: 55

Type: **not specified**

## **BNL User Access during COVID**

*Friday, 11 December 2020 13:55 (15 minutes)*

**Presenter:** EMRICK, Ann (Brookhaven National Laboratory)

**Session Classification:** Closing Session: