

Photocathode Physics for Photoinjectors 2018

Report of Contributions

Contribution ID: 1

Type: **not specified**

Welcome

Monday, 15 October 2018 08:30 (10 minutes)

Presenter: Dr MOODY, Nathan (LANL)

Session Classification: Welcome and Overview

Contribution ID: 2

Type: **not specified**

Overview of Photocathode Physics

Monday, 15 October 2018 08:40 (50 minutes)

Ivan Bazarov

Presenter: Dr BAZAROV, Ivan (Cornell University)

Session Classification: Welcome and Overview

Contribution ID: 3

Type: **not specified**

Overview of Photocathode Applications

Monday, 15 October 2018 09:30 (30 minutes)

Presenter: Dr LEWELLEN, John (LANL)

Session Classification: Welcome and Overview

Contribution ID: 4

Type: **not specified**

Review of requirements and challenges for UED/UEM

Monday, 15 October 2018 10:15 (20 minutes)

Presenter: Dr LI, Renkai (SLAC)

Session Classification: Session 2: Application Oriented Research: Low Average Current

Contribution ID: 5

Type: **not specified**

Spatio-temporal quantum limits for UED/UEM from MTE

Monday, 15 October 2018 10:35 (20 minutes)

Presenter: Dr MAXON, Jared (Cornell University)

Session Classification: Session 2: Application Oriented Research: Low Average Current

Contribution ID: 6

Type: **not specified**

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Monday, 15 October 2018 10:55 (20 minutes)

Presenter: Dr KARKARE, Siddharth (Arizona State University)

Session Classification: Session 2: Application Oriented Research: Low Average Current

Contribution ID: 7

Type: **not specified**

Laser-triggered, high-coherence electron emitters for femtosecond pulses generation in high-field environments

Monday, 15 October 2018 11:15 (20 minutes)

Session Classification: Session 2: Application Oriented Research: Low Average Current

Contribution ID: 8

Type: **not specified**

Nanocrystalline diamond cathodes

Monday, 15 October 2018 11:35 (15 minutes)

Session Classification: Session 2: Application Oriented Research: Low Average Current

Contribution ID: 9

Type: **not specified**

Workshop Discussion

Monday, 15 October 2018 11:50 (15 minutes)

Session Classification: Session 2: Application Oriented Research: Low Average Current

Contribution ID: **10**

Type: **not specified**

Review of requirements and challenges for FEL

Monday, 15 October 2018 13:45 (20 minutes)

Presenter: Dr DUNHAM, Bruce (SLAC National Accelerator Laboratory)

Session Classification: Session 3: Application Oriented Research: FEL

Contribution ID: 11

Type: **not specified**

Cathodes for Swiss FEL

Monday, 15 October 2018 14:05 (20 minutes)

Presenter: Dr GANTER, Romain (Paul Scherrer Institut)

Session Classification: Session 3: Application Oriented Research: FEL

Contribution ID: 12

Type: **not specified**

GaN, n-type and 2-photon pump probe studies

Monday, 15 October 2018 14:25 (15 minutes)

Presenter: Dr PIERCE, Christoper (Cornell University)

Session Classification: Session 3: Application Oriented Research: FEL

Contribution ID: 13

Type: **not specified**

Measurements of physical and chemical roughness of alkali-antimonides

Monday, 15 October 2018 14:40 (15 minutes)

Presenter: Dr DEBENEDETTI, William (Cornell University)

Session Classification: Session 3: Application Oriented Research: FEL

Contribution ID: 14

Type: **not specified**

Increase of intrinsic emittance by multiphoton photoemission

Monday, 15 October 2018 14:55 (15 minutes)

Presenter: Dr ZHU, Rui (Peking University)

Session Classification: Session 3: Application Oriented Research: FEL

Contribution ID: 15

Type: **not specified**

Workshop Discussion

Monday, 15 October 2018 15:10 (20 minutes)

Session Classification: Session 3: Application Oriented Research: FEL

Contribution ID: 16

Type: **not specified**

Source requirements and polarization measurements at different energies

Monday, 15 October 2018 16:30 (20 minutes)

Session Classification: Session 4: Application Oriented Research: Spin Polarized Sources

Contribution ID: 17

Type: **not specified**

Absorption enhanced nanostructured GaAs

Monday, 15 October 2018 16:50 (20 minutes)

Presenter: Dr ZHANG, Shukui (Jefferson Lab)

Session Classification: Session 4: Application Oriented Research: Spin Polarized Sources

Contribution ID: **18**

Type: **not specified**

High average current at CEBAF

Monday, 15 October 2018 17:10 (20 minutes)

Presenter: Dr SULEIMAN, Riad (Jefferson Laboratory)

Session Classification: Session 4: Application Oriented Research: Spin Polarized Sources

Contribution ID: **19**

Type: **not specified**

BNL activities on spin polarized sources

Monday, 15 October 2018 17:30 (20 minutes)

Presenter: Dr LIU, Wei (Brookhaven National Laboratory)

Session Classification: Session 4: Application Oriented Research: Spin Polarized Sources

Contribution ID: 20

Type: **not specified**

KEK activities on spin polarized sources

Monday, 15 October 2018 17:50 (1 minute)

Session Classification: Session 4: Application Oriented Research: Spin Polarized Sources

Contribution ID: 21

Type: **not specified**

Improving lifetime of GaAs photocathode using CsTe on GaAs

Monday, 15 October 2018 17:51 (20 minutes)

Presenter: Dr CULTRERA, Luca (Cornell University)

Session Classification: Session 4: Application Oriented Research: Spin Polarized Sources

Contribution ID: 22

Type: **not specified**

Spin polarized microscopy

Monday, 15 October 2018 18:11 (20 minutes)

Presenter: Dr KUWAHARA, Makoto (Nagoya University)

Session Classification: Session 4: Application Oriented Research: Spin Polarized Sources

Contribution ID: 23

Type: **not specified**

SPLEEM

Monday, 15 October 2018 18:31 (20 minutes)

Session Classification: Session 4: Application Oriented Research: Spin Polarized Sources

Contribution ID: 24

Type: **not specified**

Spin filters based photocathode

Monday, 15 October 2018 18:51 (20 minutes)

Session Classification: Session 4: Application Oriented Research: Spin Polarized Sources

Contribution ID: 25

Type: **not specified**

Workshop Discussion

Monday, 15 October 2018 19:11 (10 minutes)

Session Classification: Session 4: Application Oriented Research: Spin Polarized Sources

Contribution ID: 26

Type: **not specified**

Review of requirements and challenges

Tuesday, 16 October 2018 08:30 (15 minutes)

Session Classification: Session 5: Application Oriented Research: High Average Current

Contribution ID: 27

Type: **not specified**

Cs₂Te growth physics

Tuesday, 16 October 2018 08:45 (25 minutes)

Presenter: Dr GAOWEI, Mengjia (Brookhaven National Laboratory)

Session Classification: Session 5: Application Oriented Research: High Average Current

Contribution ID: 28

Type: **not specified**

Cathode thermal decomposition

Tuesday, 16 October 2018 09:10 (25 minutes)

Presenter: Dr SMEDLEY, John (Brookhaven National Laboratory)

Session Classification: Session 5: Application Oriented Research: High Average Current

Contribution ID: 29

Type: **not specified**

Capsule Cathodes

Tuesday, 16 October 2018 09:35 (15 minutes)

Presenters: Dr DEFAZIO, Jeffrey (PHOTONIS); Dr CULTRERA, Luca (Cornell University)

Session Classification: Session 5: Application Oriented Research: High Average Current

Contribution ID: **30**

Type: **not specified**

Workshop Discussion

Tuesday, 16 October 2018 09:50 (25 minutes)

Session Classification: Session 5: Application Oriented Research: High Average Current

Contribution ID: 31

Type: **not specified**

Review of requirements and challenges for holistic cathode design

Tuesday, 16 October 2018 10:30 (5 minutes)

Presenter: Dr DOWELL, Dave (Self)

Session Classification: Session 6: Application Oriented Research: Cathode Design

Contribution ID: 32

Type: **not specified**

Blade cathodes

Tuesday, 16 October 2018 10:35 (20 minutes)

Session Classification: Session 6: Application Oriented Research: Cathode Design

Contribution ID: 33

Type: **not specified**

Ultra-thin cathodes

Tuesday, 16 October 2018 10:55 (20 minutes)

Presenter: Dr SPENTZOURIS, Linda (Illinois Institute of Technology (IIT))

Session Classification: Session 6: Application Oriented Research: Cathode Design

Contribution ID: 34

Type: **not specified**

Etalon Photocathodes

Tuesday, 16 October 2018 11:15 (20 minutes)

Presenter: Dr ALEXANDER, Anna (University of California-San Diego)

Session Classification: Session 6: Application Oriented Research: Cathode Design

Contribution ID: 35

Type: **not specified**

2D photocathode coatings

Tuesday, 16 October 2018 11:35 (20 minutes)

Presenter: Dr BATISTA, Enrique (Los Alamos National Laboratory)

Session Classification: Session 6: Application Oriented Research: Cathode Design

Contribution ID: **36**

Type: **not specified**

Cathode surface layers for emittance improvement

Tuesday, 16 October 2018 11:55 (20 minutes)

Session Classification: Session 6: Application Oriented Research: Cathode Design

Contribution ID: 37

Type: **not specified**

Workshop Discussion

Tuesday, 16 October 2018 12:15 (15 minutes)

Session Classification: Session 6: Application Oriented Research: Cathode Design

Contribution ID: **38**

Type: **not specified**

Space charge dominated photoemission from Cs₂Te photocathodes in an L-band NC RF gun at PITZ

Tuesday, 16 October 2018 14:00 (15 minutes)

Presenter: Dr CHEN, Ye (DESY)

Session Classification: Session 7: Operations and Demonstrations - Normal conducting

Contribution ID: 39

Type: **not specified**

Photocathode preparation, characterization, and fundamental study using L-band NCRF guns at the AWA facility

Tuesday, 16 October 2018 14:15 (15 minutes)

Presenter: Dr SHAO, Jiahang (Argonne National Laboratory)

Session Classification: Session 7: Operations and Demonstrations - Normal conducting

Contribution ID: 40

Type: **not specified**

APEX

Tuesday, 16 October 2018 14:30 (15 minutes)

Session Classification: Session 7: Operations and Demonstrations - Normal conducting

Contribution ID: 41

Type: **not specified**

PEGASUS

Tuesday, 16 October 2018 14:45 (15 minutes)

Session Classification: Session 7: Operations and Demonstrations - Normal conducting

Contribution ID: 42

Type: **not specified**

IHEP

Tuesday, 16 October 2018 15:00 (15 minutes)

Session Classification: Session 7: Operations and Demonstrations - Normal conducting

Contribution ID: 43

Type: **not specified**

Shanghai

Tuesday, 16 October 2018 15:15 (15 minutes)

Session Classification: Session 7: Operations and Demonstrations - Normal conducting

Contribution ID: 44

Type: **not specified**

Tsinghua

Tuesday, 16 October 2018 15:30 (15 minutes)

Session Classification: Session 7: Operations and Demonstrations - Normal conducting

Contribution ID: 45

Type: **not specified**

Workshop Discussion

Tuesday, 16 October 2018 15:45 (5 minutes)

Session Classification: Session 7: Operations and Demonstrations - Normal conducting

Contribution ID: 46

Type: **not specified**

Cathode performance for electron cooling

Tuesday, 16 October 2018 16:05 (18 minutes)

Presenter: Dr GAOWEI, Mengjia (Brookhaven National Laboratory)

Session Classification: Session 8: Operations and Demonstrations - Superconducting & DC

Contribution ID: 47

Type: **not specified**

Cornell DC cryogun

Tuesday, 16 October 2018 16:23 (18 minutes)

Presenter: Dr LI, William (Cornell University)

Session Classification: Session 8: Operations and Demonstrations - Superconducting & DC

Contribution ID: 48

Type: **not specified**

BerlinPro

Tuesday, 16 October 2018 16:41 (18 minutes)

Presenter: Dr KUEHN, Julius (Helmholtz-Zentrum Berlin)

Session Classification: Session 8: Operations and Demonstrations - Superconducting & DC

Contribution ID: 49

Type: **not specified**

Jlab magnetized gun

Tuesday, 16 October 2018 16:59 (18 minutes)

Presenter: Dr MAMUN, Md Abdullah (Jefferson Lab)

Session Classification: Session 8: Operations and Demonstrations - Superconducting & DC

Contribution ID: 50

Type: **not specified**

PKU

Tuesday, 16 October 2018 17:17 (18 minutes)

Presenter: Dr XIE, Huamu (PKU)

Session Classification: Session 8: Operations and Demonstrations - Superconducting & DC

Contribution ID: 51

Type: **not specified**

Workshop Discussion

Tuesday, 16 October 2018 17:35 (15 minutes)

Session Classification: Session 8: Operations and Demonstrations - Superconducting & DC

Contribution ID: 52

Type: **not specified**

Review of requirements and challenges

Wednesday, 17 October 2018 08:30 (10 minutes)

Session Classification: Session 9: Theory and Computation

Contribution ID: 53

Type: **not specified**

High intensity laser & photoemission / Laser heating limits

Wednesday, 17 October 2018 08:40 (15 minutes)

Presenter: Dr BAE, Jai Kwan (Cornell University)

Session Classification: Session 9: Theory and Computation

Contribution ID: 54

Type: **not specified**

Tunneling time

Wednesday, 17 October 2018 08:55 (15 minutes)

Presenter: Dr CASTIGLIONI, Luca (University of Zurich, Switzerland)

Session Classification: Session 9: Theory and Computation

Contribution ID: 55

Type: **not specified**

Density Functional Theory and Surfaces

Wednesday, 17 October 2018 09:10 (15 minutes)

Presenter: Dr FINKENSTADT, Dan (U.S. Naval Academy)

Session Classification: Session 9: Theory and Computation

Contribution ID: 56

Type: **not specified**

Density Functional Theory and Surfaces

Wednesday, 17 October 2018 09:25 (15 minutes)

Presenter: Dr SCHROEDER, Andreas (University of Illinois at Chicago)

Session Classification: Session 9: Theory and Computation

Contribution ID: 57

Type: **not specified**

Quantum Dots and QE

Wednesday, 17 October 2018 09:40 (20 minutes)

Session Classification: Session 9: Theory and Computation

Contribution ID: 58

Type: **not specified**

(approved by PC) Many-body processes in Photoemission (DFT)

Wednesday, 17 October 2018 10:00 (15 minutes)

Presenter: Dr NANGOI, J. Kevin (Cornell University)

Session Classification: Session 9: Theory and Computation

Contribution ID: 59

Type: **not specified**

(suggested by PC) Computational Screening for New Photocathode Materials

Wednesday, 17 October 2018 10:15 (15 minutes)

Session Classification: Session 9: Theory and Computation

Contribution ID: **60**

Type: **not specified**

Workshop Discussion - combine with Session 10 WD

Wednesday, 17 October 2018 10:30 (1 minute)

Session Classification: Session 9: Theory and Computation

Contribution ID: **61**

Type: **not specified**

Surface Acoustic Waves and enhanced PE

Wednesday, 17 October 2018 10:50 (20 minutes)

Session Classification: Session 10: Theory and Computation - continued

Contribution ID: 62

Type: **not specified**

Space charge and laser intensity

Wednesday, 17 October 2018 11:10 (20 minutes)

Presenter: Dr ZHANG, Peng (Michigan State University)

Session Classification: Session 10: Theory and Computation - continued

Contribution ID: 63

Type: **not specified**

Modeling quantum yield, emittance, and surface roughness effects

Wednesday, 17 October 2018 11:30 (20 minutes)

Presenter: Dr DIMITROV, Dimitre (Tech-X Corp.)

Session Classification: Session 10: Theory and Computation - continued

Contribution ID: 64

Type: **not specified**

(Suggested by Pietro and Sid) Chemical and surface roughness

Wednesday, 17 October 2018 11:50 (15 minutes)

Presenter: Dr GEVORKYAN, Gevork (CBB - Arizona State University)

Session Classification: Session 10: Theory and Computation - continued

Contribution ID: 65

Type: **not specified**

Trajectories, beam codes, and delayed emission modeling

Wednesday, 17 October 2018 12:05 (20 minutes)

Session Classification: Session 10: Theory and Computation - continued

Contribution ID: 66

Type: **not specified**

A predictive QE simulation using DFT input for beam codes

Wednesday, 17 October 2018 12:25 (20 minutes)

Presenter: Dr JENSEN, Kevin (Naval Research Laboratory)

Session Classification: Session 10: Theory and Computation - continued

Contribution ID: 67

Type: **not specified**

Workshop Discussion

Wednesday, 17 October 2018 12:45 (10 minutes)

Session Classification: Session 10: Theory and Computation - continued

Contribution ID: 68

Type: **not specified**

The accelerator on a chip with a special focus on source requirements

Wednesday, 17 October 2018 14:25 (20 minutes)

Presenter: Dr TAFEL, Alexander (University Erlangen-Nuremberg (FAU))

Session Classification: Session 11: Novel Research and Applications

Contribution ID: 69

Type: **not specified**

Generation of attosecond electron pulses by inelastic ponderomotive scattering at an optical traveling wave

Wednesday, 17 October 2018 14:45 (20 minutes)

Presenter: Dr KOZAK, Martin (Charles University)

Session Classification: Session 11: Novel Research and Applications

Contribution ID: 70

Type: **not specified**

Quantum well and dot cathodes and their characterization

Wednesday, 17 October 2018 15:05 (20 minutes)

Session Classification: Session 11: Novel Research and Applications

Contribution ID: 71

Type: **not specified**

Workshop Discussion

Wednesday, 17 October 2018 15:25 (20 minutes)

Session Classification: Session 11: Novel Research and Applications

Contribution ID: 72

Type: **not specified**

Towards adaptive, automated growth of photocathodes

Wednesday, 17 October 2018 16:00 (20 minutes)

Presenter: Dr PAVLENKO, Vitaly (Los Alamos National Laboratory)

Session Classification: Session 12: Novel Research and Applications (and concluding discussion)

Contribution ID: 73

Type: **not specified**

Fabrication and photoemission results of diamond field arrays

Wednesday, 17 October 2018 16:20 (20 minutes)

Presenter: Dr SIMAKOV, Evgenya (Los Alamos National Laboratory)

Session Classification: Session 12: Novel Research and Applications (and concluding discussion)

Contribution ID: 74

Type: **not specified**

Cryogenic TEMeter and sample exchange with STM and ARPES system

Wednesday, 17 October 2018 16:40 (20 minutes)

Presenter: Dr GALDI, Alice (Cornell University)

Session Classification: Session 12: Novel Research and Applications (and concluding discussion)

Contribution ID: 75

Type: **not specified**

Workshop Discussion

Wednesday, 17 October 2018 17:00 (30 minutes)

Session Classification: Session 12: Novel Research and Applications (and concluding discussion)