

Workshop on a Future Muon Program At Fermilab

Report of Contributions

Contribution ID: 1

Type: **not specified**

Muonium overview

Tuesday, 28 March 2023 13:30 (25 minutes)

Primary author: KAPLAN, Daniel (Illinois Institute of Technology)

Presenter: KAPLAN, Daniel (Illinois Institute of Technology)

Session Classification: Parallel AMF

Contribution ID: 2

Type: **not specified**

M-Mbar mixing

Tuesday, 28 March 2023 13:55 (35 minutes)

Primary author: PETROV, Alexey (Wayne State University)

Presenter: PETROV, Alexey (Wayne State University)

Session Classification: Parallel AMF

Contribution ID: 3

Type: **not specified**

Proposed MACE M-Mbar experiment

Tuesday, 28 March 2023 14:30 (25 minutes)

Primary authors: Prof. TANG, Jian (Sun Yat-Sen University); Mr ZHAO, Shihan (Sun Yat-Sen University)

Presenter: Mr ZHAO, Shihan (Sun Yat-Sen University)

Session Classification: Parallel AMF

Contribution ID: 4

Type: **not specified**

Muonium spectroscopy

Tuesday, 28 March 2023 14:55 (35 minutes)

Primary author: KAWALL, David (University of Massachusetts Amherst)

Presenter: KAWALL, David (University of Massachusetts Amherst)

Session Classification: Parallel AMF

Contribution ID: 5

Type: **not specified**

Low-energy muons at Fermilab

Tuesday, 28 March 2023 16:00 (25 minutes)

Primary author: JOHNSTONE, Carol (Fermilab)

Presenter: JOHNSTONE, Carol (Fermilab)

Session Classification: Parallel AMF

Contribution ID: 6

Type: **not specified**

Making muonium with superfluid helium

Tuesday, 28 March 2023 16:25 (25 minutes)

Presenter: PHILLIPS, Thomas (Illinois Institute of Technology)

Session Classification: Parallel AMF

Contribution ID: 7

Type: **not specified**

Muonium gravity

Tuesday, 28 March 2023 16:50 (20 minutes)

Primary author: KAPLAN, Daniel (Illinois Institute of Technology)

Presenter: KAPLAN, Daniel (Illinois Institute of Technology)

Session Classification: Parallel AMF

Contribution ID: 8

Type: **not specified**

Discussion, other physics, & summary-talk preparation

Tuesday, 28 March 2023 17:10 (20 minutes)

Primary author: ALL

Co-author: KAPLAN, Daniel (Illinois Institute of Technology)

Presenter: ALL

Session Classification: Parallel AMF

Contribution ID: 9

Type: **not specified**

Welcome and workshop goals

Monday, 27 March 2023 08:30 (20 minutes)

Presenters: ECHENARD, Bertrand (Caltech); PORTER, Frank (Caltech)

Session Classification: Plenary

Contribution ID: **10**

Type: **not specified**

Theory overview

Monday, 27 March 2023 08:50 (30 minutes)

Presenter: DAVIDSON, Sacha (IN2P3)

Session Classification: Plenary

Contribution ID: 11

Type: **not specified**

Mu2e-II - status and perspectives

Monday, 27 March 2023 09:20 (30 minutes)

Presenter: MILLER, James (Boston University)

Session Classification: Plenary

Contribution ID: 12

Type: **not specified**

AMF - status and perspectives

Monday, 27 March 2023 09:50 (30 minutes)

Presenter: BERNSTEIN, Robert (Fermilab)

Session Classification: Plenary

Contribution ID: 13

Type: **not specified**

AMF - Compressor summary

Wednesday, 29 March 2023 16:00 (15 minutes)

Presenter: ELDRED, Jeffrey (Fermilab)

Session Classification: Plenary

Contribution ID: 14

Type: **not specified**

AMF - FFA accelerator summary

Wednesday, 29 March 2023 16:15 (15 minutes)

Presenter: BERNSTEIN, Robert (Fermilab)

Session Classification: Plenary

Contribution ID: 15

Type: **not specified**

AMF - Conversion experiment summary

Wednesday, 29 March 2023 16:30 (15 minutes)

Presenters: KAMPA, Cole (Northwestern University); KAMPA, Cole

Session Classification: Plenary

Contribution ID: 16

Type: **not specified**

AMF - Other experiment summary

Wednesday, 29 March 2023 16:45 (15 minutes)

Presenter: KAPLAN, Daniel (Illinois Institute of Technology)

Session Classification: Plenary

Contribution ID: 17

Type: **not specified**

AMF - Decay experiments summary

Wednesday, 29 March 2023 17:00 (15 minutes)

Presenter: RENGA, Francesco (INFN Roma)

Session Classification: Plenary

Contribution ID: **18**

Type: **not specified**

Closing workshop remarks

Wednesday, 29 March 2023 17:15 (10 minutes)

Presenters: ECHENARD, Bertrand (Caltech); PORTER, Frank (Caltech)

Session Classification: Plenary

Contribution ID: 19

Type: **not specified**

Conversion experiments

Presenters: KAMPA, Cole; GROUP, Craig (Virginia)

Session Classification: Parallel AMF

Contribution ID: 20

Type: **not specified**

FFA / Accelerator

Presenters: PASTERNAK, Jaroslaw (Imperial College/RAL-STFC); BERNSTEIN, Robert (Fermilab)

Contribution ID: 21

Type: **not specified**

Mu2e-II Tracker Introduction

Monday, 27 March 2023 13:30 (30 minutes)

Primary author: AMBROSE, Daniel (University of Minnesota)

Presenter: AMBROSE, Daniel (University of Minnesota)

Session Classification: Parallel Mu2e II

Contribution ID: 22

Type: **not specified**

Mu2e-II Tracker Intrinsic Resolution, Electronics, Readout

Monday, 27 March 2023 14:00 (30 minutes)

Primary author: BONVENTRE, Richard (Lawrence Berkeley National Lab)

Presenter: BONVENTRE, Richard (Lawrence Berkeley National Lab)

Session Classification: Parallel Mu2e II

Contribution ID: 23

Type: **not specified**

Mu2e-II Research topics and Discussion

Monday, 27 March 2023 14:30 (30 minutes)

Primary author: POPP, James (York College of The City Univeristy of Nnew York)

Presenter: POPP, James (York College of The City Univeristy of Nnew York)

Session Classification: Parallel Mu2e II

Contribution ID: 24

Type: **not specified**

Simulating Vacuum effects on Resolution and Beam Flash Radiation

Monday, 27 March 2023 16:00 (30 minutes)

Presenter: EDMONDS, Andrew (Boston University)

Session Classification: Parallel Mu2e II

Contribution ID: 25

Type: **not specified**

Mu2e lessons learned

Monday, 27 March 2023 16:30 (30 minutes)

Primary author: AMBROSE, Daniel (University of Minnesota)

Presenter: AMBROSE, Daniel (University of Minnesota)

Session Classification: Parallel Mu2e II

Contribution ID: 26

Type: **not specified**

Mu2e-II Calorimeter: Overview & Requirements

Tuesday, 28 March 2023 08:30 (30 minutes)

Presenter: MORESCALCHI, Luca (INFN Pisa & University of Siena)

Session Classification: Parallel Mu2e II

Contribution ID: 27

Type: **not specified**

Crystals - 2

Tuesday, 28 March 2023 09:30 (30 minutes)

Primary author: DAVIDOV, Yury

Presenter: DAVIDOV, Yury

Session Classification: Parallel Mu2e II

Contribution ID: 28

Type: **not specified**

Crystals - 1

Tuesday, 28 March 2023 09:00 (30 minutes)

Primary author: ZHU, Ren-Yuan (Caltech)

Presenter: ZHU, Ren-Yuan (Caltech)

Session Classification: Parallel Mu2e II

Contribution ID: 29

Type: **not specified**

Photosensors

Tuesday, 28 March 2023 10:00 (30 minutes)

Primary author: HITLIN, David (Caltech)

Presenter: HITLIN, David (Caltech)

Session Classification: Parallel Mu2e II

Contribution ID: **30**

Type: **not specified**

Alternatives

Tuesday, 28 March 2023 11:00 (30 minutes)

Primary author: SARRA, Ivano (INFN)

Presenter: SARRA, Ivano (INFN)

Session Classification: Parallel Mu2e II

Contribution ID: 31

Type: **not specified**

Electronics

Primary author: SPINELLA, franco (infn)

Presenter: SPINELLA, franco (infn)

Session Classification: Parallel Mu2e II

Contribution ID: 32

Type: **not specified**

Introduction

Monday, 27 March 2023 11:00 (10 minutes)

Primary author: MIDDLETON, Sophie (Caltech)

Presenter: MIDDLETON, Sophie (Caltech)

Session Classification: Parallel Mu2e-II

Contribution ID: 33

Type: **not specified**

Stopping target

Monday, 27 March 2023 11:10 (25 minutes)

Primary author: BORREL, Leo (California Institute of Technology)

Presenter: BORREL, Leo (California Institute of Technology)

Session Classification: Parallel Mu2e-II

Contribution ID: 34

Type: **not specified**

Normalization

Monday, 27 March 2023 11:35 (25 minutes)

Primary author: HITLIN, David (Caltech)

Presenters: HITLIN, David G. (Caltech); HITLIN, David (Caltech)

Session Classification: Parallel Mu2e-II

Contribution ID: 35

Type: **not specified**

Exotic physics signatures

Monday, 27 March 2023 12:00 (25 minutes)

Primary author: PLESTID, Ryan (Caltech)

Presenter: PLESTID, Ryan (Caltech)

Session Classification: Parallel Mu2e-II

Contribution ID: 36

Type: **not specified**

Implication of production target design on sensitivity

Monday, 27 March 2023 13:30 (25 minutes)

Primary author: MACKENZIE, Michael

Presenter: MACKENZIE, Michael

Session Classification: Parallel Mu2e-II

Contribution ID: 37

Type: **not specified**

Implication of tracker design on sensitivity

Monday, 27 March 2023 13:55 (25 minutes)

Primary author: BROWN, David (LBNL)

Presenter: BROWN, David (LBNL)

Session Classification: Parallel Mu2e-II

Contribution ID: **38**

Type: **not specified**

Challenges and on-going efforts

Monday, 27 March 2023 14:20 (30 minutes)

Primary author: ALL

Presenter: ALL

Session Classification: Parallel Mu2e-II

Contribution ID: 39

Type: **not specified**

Introduction

Tuesday, 28 March 2023 13:30 (20 minutes)

- a. Welcome
- b. Snowmass summary

Presenter: GROUP, Craig (Virginia)

Session Classification: Parallel AMF

Contribution ID: 40

Type: **not specified**

Overview of AMF Conversion Experiment

Tuesday, 28 March 2023 13:50 (50 minutes)

- a. Limiting factors from previous experiments
- b. Challenges for future experiments
- c. PRISM/PRIME concept

Presenter: ECHENARD, Bertrand (Caltech)

Session Classification: Parallel AMF

Contribution ID: 41

Type: **not specified**

Signal Resolution Requirements

Tuesday, 28 March 2023 14:40 (15 minutes)

Presenter: GAPONENKO, Andrei (Fermilab)

Session Classification: Parallel AMF

Contribution ID: 42

Type: **not specified**

Discussing an AMF Tracker

Tuesday, 28 March 2023 14:55 (15 minutes)

Presenter: AMBROSE, Daniel (Fermilab)

Session Classification: Parallel AMF

Contribution ID: 43

Type: **not specified**

Discussion 1

Tuesday, 28 March 2023 15:10 (20 minutes)

Session Classification: Parallel AMF

Contribution ID: 44

Type: **not specified**

Tracker Hit Resolution

Tuesday, 28 March 2023 16:00 (15 minutes)

Presenter: BONVENTRE, Richard (Lawrence Berkeley National Lab)

Session Classification: Parallel AMF

Contribution ID: 45

Type: **not specified**

Cosmic Ray Veto Considerations

Tuesday, 28 March 2023 16:45 (15 minutes)

Presenter: GROUP, Craig (Virginia)

Session Classification: Parallel AMF

Contribution ID: 46

Type: **not specified**

Tracker Design; Simulations

Tuesday, 28 March 2023 16:15 (30 minutes)

Presenter: BROWN, David (LBNL)

Session Classification: Parallel AMF

Contribution ID: 47

Type: **not specified**

Discussion 2

Tuesday, 28 March 2023 17:00 (30 minutes)

- a. Planning for the future
- b. Summary talk

Session Classification: Parallel AMF

Contribution ID: 48

Type: **not specified**

PAR Proposal

Wednesday, 29 March 2023 11:00 (20 minutes)

Presenter: SIMONS, Ben (Fermilab and Northern Illinois University)

Session Classification: Parallel AMF

Contribution ID: 49

Type: **not specified**

C-PAR Concept

Wednesday, 29 March 2023 11:20 (20 minutes)

Presenter: ELDRED, Jeffrey (Fermilab)

Session Classification: Parallel AMF

Contribution ID: 50

Type: **not specified**

SNS Experience

Wednesday, 29 March 2023 11:40 (20 minutes)

Presenter: MOROZOV, Vasiliy (Jefferson Lab)

Session Classification: Parallel AMF

Contribution ID: 51

Type: **not specified**

PIP2-BD Experiment

Wednesday, 29 March 2023 12:00 (20 minutes)

Presenter: ZETTLEMOYER, Jacob (Fermilab)

Session Classification: Parallel AMF

Contribution ID: 52

Type: **not specified**

Discussion

Wednesday, 29 March 2023 12:20 (10 minutes)

Presenter: ELDRED, Jeffrey (Fermilab)

Session Classification: Parallel AMF

Contribution ID: 53

Type: **not specified**

Status of the MEG II experiment

Wednesday, 29 March 2023 08:30 (20 minutes)

Presenter: PALO, Dylan (University of California, Irvine)

Session Classification: Parallel AMF

Contribution ID: 54

Type: **not specified**

Mu3e: present and future

Session Classification: Parallel AMF

Contribution ID: 55

Type: **not specified**

Exotic muon decays

Wednesday, 29 March 2023 09:35 (35 minutes)

Presenter: REDIGOLO, Diego (INFN Firenze)

Session Classification: Parallel AMF

Contribution ID: 56

Type: **not specified**

Discussion

Session Classification: Parallel AMF

Contribution ID: 57

Type: **not specified**

Beamlines for muon decays at PSI

Presenter: PAPA, Angela (Paul Scherrer Institut)

Session Classification: Parallel AMF

Contribution ID: 58

Type: **not specified**

Limiting factors of future mu \rightarrow e gamma searches

Wednesday, 29 March 2023 11:00 (25 minutes)

Presenter: RENGA, Francesco (INFN Roma)

Session Classification: Parallel AMF

Contribution ID: 59

Type: **not specified**

Conceptual design and R&D activities for a future mu -> e gamma search

Wednesday, 29 March 2023 11:25 (35 minutes)

Presenter: OOTANI, Wataru (ICEPP, University of Tokyo)

Session Classification: Parallel AMF

Contribution ID: **60**

Type: **not specified**

Discussion

Wednesday, 29 March 2023 12:00 (25 minutes)

Session Classification: Parallel AMF

Contribution ID: **61**

Type: **not specified**

Welcome and goals

Monday, 27 March 2023 11:00 (5 minutes)

Presenter: GROUP, Craig (Virginia)

Session Classification: Parallel Mu2e II

Contribution ID: 62

Type: **not specified**

CRV at Mu2e II Overview

Monday, 27 March 2023 11:05 (40 minutes)

Presenter: CORRODI, Simon

Session Classification: Parallel Mu2e II

Contribution ID: 63

Type: **not specified**

Studies of Triangular Counters for Mu2ell

Monday, 27 March 2023 11:45 (25 minutes)

Presenters: EHRLICH, Ralf; EHRLICH, Ralf (University of Virginia)

Session Classification: Parallel Mu2e II

Contribution ID: 64

Type: **not specified**

Discussion and plans

Monday, 27 March 2023 12:10 (20 minutes)

Presenter: GROUP, Craig (Virginia)

Session Classification: Parallel Mu2e II

Contribution ID: 65

Type: **not specified**

Muon collider HTS solenoid

Tuesday, 28 March 2023 08:30 (30 minutes)

Presenter: BOTTURA, luca (CERN)

Session Classification: Parallel Mu2e-II

Contribution ID: 66

Type: **not specified**

HTS (high temperature superconductor) magnets

Tuesday, 28 March 2023 09:00 (30 minutes)

Presenter: HARTWIG, Zach (MIT)

Session Classification: Parallel Mu2e-II

Contribution ID: 67

Type: **not specified**

Field calculations

Tuesday, 28 March 2023 09:30 (30 minutes)

Presenters: KAMPA, Cole; KAMPA, Cole (Northwestern University)

Session Classification: Parallel Mu2e-II

Contribution ID: **68**

Type: **not specified**

PIP-II

Wednesday, 29 March 2023 13:30 (15 minutes)

Presenter: NEUFFER, David (Fermilab)

Session Classification: Plenary

Contribution ID: **69**

Type: **not specified**

Calorimeter

Wednesday, 29 March 2023 13:45 (15 minutes)

Presenters: SARRA, Ivano (LNF - INFN); SARRA, Ivano (INFN); SARRA, Ivano (LNF - INFN)

Session Classification: Plenary

Contribution ID: 70

Type: **not specified**

Trigger and DAQ

Wednesday, 29 March 2023 14:00 (15 minutes)

Presenter: PEZZULLO, Gianantonio (Yale University)

Session Classification: Plenary

Contribution ID: 71

Type: **not specified**

Magnets

Wednesday, 29 March 2023 14:15 (15 minutes)

Presenter: BADGLEY, Karie (Fermilab)

Session Classification: Plenary

Contribution ID: 72

Type: **not specified**

Cosmic ray veto (CRV)

Wednesday, 29 March 2023 14:30 (15 minutes)

Presenter: CORRODI, Simon

Session Classification: Plenary

Contribution ID: 73

Type: **not specified**

Production target

Wednesday, 29 March 2023 14:45 (15 minutes)

Presenter: PRONSKIKH, Vitaly (Fermilab)

Session Classification: Plenary

Contribution ID: 74

Type: **not specified**

Tracking

Wednesday, 29 March 2023 15:00 (15 minutes)

Presenters: YUCEL, Mete; YÜCEL, Mete (Istanbul Technical University)

Session Classification: Plenary

Contribution ID: 75

Type: **not specified**

Sensitivity

Wednesday, 29 March 2023 15:15 (15 minutes)

Presenter: MIDDLETON, Sophie (Caltech)

Session Classification: Plenary

Contribution ID: 76

Type: **not specified**

Intro

Tuesday, 28 March 2023 08:30 (5 minutes)

Introductory talk by conveners

Presenter: LYNCH, Kevin (Fermilab)

Session Classification: Parallel Mu2e-II

Contribution ID: 77

Type: **not specified**

What we know and do not know about tungsten in accelerator environments

Tuesday, 28 March 2023 08:35 (30 minutes)

What we know and do not know about tungsten in accelerator environments

Presenter: LEE, Yong Joong (ESS)

Session Classification: Parallel Mu2e-II

Contribution ID: 78

Type: **not specified**

Granular tungsten target R&D at RAL

Tuesday, 28 March 2023 09:05 (30 minutes)

Granular tungsten target R&D at RAL

Presenter: WILCOX, Dan (RAL)

Session Classification: Parallel Mu2e-II

Contribution ID: 79

Type: **not specified**

Muon Collider, fluidized targets

Tuesday, 28 March 2023 10:00 (30 minutes)

Muon Collider, fluidized targets

Presenter: CARELLI, Carlo (ENEA)

Session Classification: Parallel Mu2e-II

Contribution ID: **80**

Type: **not specified**

HPT R&D

Tuesday, 28 March 2023 09:35 (25 minutes)

HPT R&D

Presenter: PELLEMOINE, Frederique (Fermilab -AD - TSD - TRD)

Session Classification: Parallel Mu2e-II

Contribution ID: **81**

Type: **not specified**

Mu2e talk

Tuesday, 28 March 2023 11:00 (30 minutes)

Mu2e Talk

Presenter: HEDGES, Michael

Session Classification: Parallel Mu2e-II

Contribution ID: **82**

Type: **not specified**

Mu2e-II LDRD

Tuesday, 28 March 2023 11:30 (30 minutes)

Mu2e-II LDRD

Presenter: NEUFFER, David (Fermilab)

Session Classification: Parallel Mu2e-II

Contribution ID: **83**

Type: **not specified**

Discussion

Tuesday, 28 March 2023 12:00 (30 minutes)

Discussion

Presenter: EVERYONE

Session Classification: Parallel Mu2e-II

Contribution ID: **84**

Type: **not specified**

FFAs for Muons

Wednesday, 29 March 2023 08:30 (30 minutes)

Presenter: MEOT, Francois (BNL)

Session Classification: Parallel AMF

Contribution ID: 85

Type: **not specified**

Review of PRISM FFA ring designs

Wednesday, 29 March 2023 09:20 (25 minutes)

Presenter: LAGRANGE, Jean-Baptiste (ISIS/RAL/STFC)

Session Classification: Parallel AMF

Contribution ID: 86

Type: **not specified**

Building blocks and requirements of PRISM-like FFA system

Wednesday, 29 March 2023 09:00 (20 minutes)

Presenter: PASTERNAK, Jaroslaw (Imperial College/RAL-STFC)

Session Classification: Parallel AMF

Contribution ID: 87

Type: **not specified**

Designing injection system for PRISM FFA ring

Wednesday, 29 March 2023 09:45 (30 minutes)

Presenter: PASTERNAK, Jaroslaw (Imperial College/RAL-STFC)

Session Classification: Parallel AMF

Contribution ID: **88**

Type: **not specified**

discussion

Wednesday, 29 March 2023 10:15 (15 minutes)

Session Classification: Parallel AMF

Contribution ID: 89

Type: **not specified**

Contiuen dicussion on research topics

Monday, 27 March 2023 17:00 (30 minutes)

Presenters: AMBROSE, Daniel (Fermilab); AMBROSE, Daniel (Fermilab)

Session Classification: Parallel Mu2e II

Contribution ID: **90**

Type: **not specified**

Alternate Tracker Design Ideas

Monday, 27 March 2023 15:00 (30 minutes)

Primary author: BROWN, David (LBNL)

Presenter: BROWN, David (LBNL)

Session Classification: Parallel Mu2e II

Contribution ID: **91**

Type: **not specified**

HiMB: status and physics cases (incl. Mu3e)

Wednesday, 29 March 2023 08:50 (45 minutes)

Presenter: PAPA, Angela (Paul Scherrer Institut)

Session Classification: Parallel AMF

Contribution ID: 92

Type: **not specified**

TDAQ summary

Tuesday, 28 March 2023 11:00 (1h 30m)

Presenter: PEZZULLO, Gianantonio (Yale University)

Session Classification: Parallel Mu2e-II