ALEGRO2023 Workshop

Report of Contributions

https://indico.cern.ch/e/1193719

Contribution ID: **1** Type: **not specified**

Feedback from Snowmass

Contribution ID: **2** Type: **not specified**

Opening words

Wednesday, 22 March 2023 09:00 (15 minutes)

Presenters: BEHNKE, Ties; LEEMANS, Wim (DESY)

Session Classification: Introduction

Contribution ID: **3** Type: **not specified**

Feedback from Snowmass

Wednesday, 22 March 2023 09:15 (40 minutes)

Presenter: HOGAN, Mark

Session Classification: Introduction

Contribution ID: **4** Type: **not specified**

Feedback from ESPP

Wednesday, 22 March 2023 09:55 (50 minutes)

Presenter: PATTATHIL, Rajeev

Session Classification: Introduction

Contribution ID: **5** Type: **not specified**

Accelerator Physics

Wednesday, 22 March 2023 11:15 (35 minutes)

Presenter: SCHROEDER, Carl

Session Classification: Mid-term particle physics application and science case (10-100 GeV)

Contribution ID: **6** Type: **not specified**

Non-linear QED

Wednesday, 22 March 2023 11:50 (35 minutes)

Presenter: Prof. ZEPF, Matt (Helmholtz Institut Jena)

Session Classification: Mid-term particle physics application and science case (10-100 GeV)

Contribution ID: **7** Type: **not specified**

Particle Physics Applications with AWAKE Technology

Wednesday, 22 March 2023 12:25 (35 minutes)

Presenter: CALDWELL, Allen (Max-Planck-Institut fur Physik (DE))

Session Classification: Mid-term particle physics application and science case (10-100 GeV)

Contribution ID: **8** Type: **not specified**

Simulation challenges for a multi-stage plasma accelerator

Wednesday, 22 March 2023 14:00 (45 minutes)

Presenter: VAY, Jean-Luc (Lawrence Berkeley National Laboratory)

Session Classification: How to build a mid-term facility (10-100 GeV)

Contribution ID: **9** Type: **not specified**

Staging and temporal tolerances

Wednesday, 22 March 2023 14:45 (45 minutes)

Presenter: Dr LINDSTRØM, Carl A. (DESY)

Session Classification: How to build a mid-term facility (10-100 GeV)

Contribution ID: **10** Type: **not specified**

Transverse-tolerance challenges at conventional and novel accelerators

Wednesday, 22 March 2023 16:00 (45 minutes)

Presenter: WHITE, Glen (SLAC)

Session Classification: How to build a mid-term facility (10-100 GeV)

Contribution ID: **11** Type: **not specified**

Simulation tools and performance for accelerator modeling

Friday, 24 March 2023 09:50 (50 minutes)

State-of-the-art and its relevance to collider development, including discussion

Presenter: VIERA, Jorge (IST)

Session Classification: Study: what aspects of a HeP collider do all the non-directly related ANAS or ANAs experiments contribute to?

Contribution ID: **12** Type: **not specified**

Discussion and other contributions

Open to additional contributions

Session Classification: Study: what aspects of a HeP collider do all the non-directly related ANAS or ANAs experiments contribute to?

Contribution ID: **13** Type: **not specified**

Laser drivers for plasma accelerators

Friday, 24 March 2023 09:00 (50 minutes)

State-of-the-art and its relevance to collider development,

Presenter: GIZZI, Leonida (CNR)

Session Classification: Study: what aspects of a HeP collider do all the non-directly related ANAS or ANAs experiments contribute to?

Contribution ID: **14** Type: **not specified**

Discussion and other contributions

Session Classification: Study: what aspects of a HeP collider do all the non-directly related ANAS or ANAs experiments contribute to?

Contribution ID: **15** Type: **not specified**

High-rep.-rate laser drivers and plasma sources

Thursday, 23 March 2023 14:00 (30 minutes)

Presenter: Dr CORNER, Laura (Cockcroft Institute, University of Liverpool)

Session Classification: Outstanding challenges: positron acceleration in plasma, emittance preservation at a level relevant for collider applications, competitive efficiency, repetition rate/average power

Contribution ID: **16** Type: **not specified**

High-rep.-rate beam drivers and plasma sources

Thursday, 23 March 2023 14:30 (30 minutes)

Presenter: D'ARCY, Richard (DESY)

Session Classification: Outstanding challenges: positron acceleration in plasma, emittance preservation at a level relevant for collider applications, competitive efficiency, repetition rate/average power

Contribution ID: **17** Type: **not specified**

Competitive efficiency: what's achieved and what's required (LWFA & PWFA)

Thursday, 23 March 2023 15:00 (30 minutes)

Presenter: ADLI, Erik (University of Oslo (NO))

Session Classification: Outstanding challenges: positron acceleration in plasma, emittance preservation at a level relevant for collider applications, competitive efficiency, repetition rate/average power

Contribution ID: **18** Type: **not specified**

‘Efficiency vs. Stability’in novel and conventional accelerators

Thursday, 23 March 2023 15:30 (30 minutes)

Presenter: ANTIPOV, Sergey

Session Classification: Outstanding challenges: positron acceleration in plasma, emittance preservation at a level relevant for collider applications, competitive efficiency, repetition rate/average power

Contribution ID: **19** Type: **not specified**

Positron acceleration: a systematic overview

Thursday, 23 March 2023 16:30 (30 minutes)

Presenter: Mr DIEDERICHS, Severin (DESY)

Session Classification: Outstanding challenges: positron acceleration in plasma, emittance preservation at a level relevant for collider applications, competitive efficiency, repetition rate/average power

Contribution ID: **20** Type: **not specified**

Hybrid Asymmetric Linear Higgs Factory (HALHF)

Thursday, 23 March 2023 17:00 (30 minutes)

Presenter: FOSTER, Brian (University of Oxford (GB))

Session Classification: Outstanding challenges: positron acceleration in plasma, emittance preservation at a level relevant for collider applications, competitive efficiency, repetition rate/average power

Contribution ID: **21** Type: **not specified**

Emittance preservation and required tolerances

Thursday, 23 March 2023 17:30 (30 minutes)

Presenter: THEVENET, Maxence (Lawrence Berkeley National Laboratory)

Session Classification: Outstanding challenges: positron acceleration in plasma, emittance preservation at a level relevant for collider applications, competitive efficiency, repetition rate/average power

Contribution ID: **22** Type: **not specified**

Coordination: Plasma Accelerators for Particle Physics

Thursday, 23 March 2023 09:00 (15 minutes)

Presenters: PATTATHIL, Rajeev; LEEMANS, Wim (DESY)

Session Classification: ESPP Roadmap Process

Contribution ID: **23** Type: **not specified**

Overall collider concepts (Higgs factory, multi-TeV)

Thursday, 23 March 2023 09:15 (10 minutes)

Presenters: Dr LINDSTRØM, Carl A. (DESY); SCHROEDER, Carl; NAJMUDIN, Zulfikar (Imperial College)

Session Classification: ESPP Roadmap Process

Contribution ID: **24** Type: **not specified**

Beam-driven electron linac

Thursday, 23 March 2023 09:25 (10 minutes)

Presenter: ADLI, Erik (University of Oslo (NO))

Session Classification: ESPP Roadmap Process

Contribution ID: **25** Type: **not specified**

Laser-driven electron linac

Thursday, 23 March 2023 09:35 (10 minutes)

Presenters: CROS, Brigitte; VIERA, Jorge (IST); THEVENET, Maxence (Lawrence Berkeley National Laboratory)

Session Classification: ESPP Roadmap Process

Contribution ID: **26** Type: **not specified**

Positron arm / Spin and polarisation preservation / Final-focus system

Thursday, 23 March 2023 09:45 (15 minutes)

Session Classification: ESPP Roadmap Process

Contribution ID: **27** Type: **not specified**

Sustainability analysis

Thursday, 23 March 2023 10:00 (10 minutes)

Presenter: VÖLKER, Denise

Session Classification: ESPP Roadmap Process

Contribution ID: **28** Type: **not specified**

Discussion

Thursday, 23 March 2023 10:10 (35 minutes)

Session Classification: ESPP Roadmap Process

Contribution ID: **29** Type: **not specified**

High-rep.-rate plasma-accelerator module: 10 yr vision

Thursday, 23 March 2023 11:15 (10 minutes)

Presenters: MAIER, Andreas (Universität Hamburg); GIZZI, Leonida (CNR)

Session Classification: ESPP Roadmap Process

Contribution ID: **30** Type: **not specified**

High-rep.-rate laser-driver development

Thursday, 23 March 2023 11:25 (10 minutes)

Presenters: MAIER, Andreas (Universität Hamburg); MASON, Paul

Session Classification: ESPP Roadmap Process

Contribution ID: **31** Type: **not specified**

High-rep.-rate plasma targets

Thursday, 23 March 2023 11:35 (10 minutes)

Presenters: CROS, Brigitte; HOOKER, Simon (University of Oxford)

Session Classification: ESPP Roadmap Process

Contribution ID: **32** Type: **not specified**

Facility/Delivery requirements

Thursday, 23 March 2023 11:45 (10 minutes)

Presenters: Dr DÖPP, Andreas (University of Munich (LMU)); SYMES, Daniel (STFC Rutherford Appleton Laboratory)

Session Classification: ESPP Roadmap Process

Contribution ID: **33** Type: **not specified**

High-efficiency, beam-quality-preserving electron-driven plasma module: 10 yr vision

Thursday, 23 March 2023 11:55 (10 minutes)

Presenters: OSTERHOFF, Jens; D'ARCY, Richard (DESY)

Session Classification: ESPP Roadmap Process

Contribution ID: **34** Type: **not specified**

Proton-driven experiments at AWAKE

Thursday, 23 March 2023 12:05 (10 minutes)

Presenters: GSCHWENDTNER, Edda (CERN); MUGGLI, Patric (Max Planck Institute for Physics)

Session Classification: ESPP Roadmap Process

Contribution ID: **35** Type: **not specified**

Early particle physics experiments and test facilities

Thursday, 23 March 2023 12:15 (10 minutes)

Presenters: FOSTER, Brian (University of Oxford (GB)); VRANIC, Maria; ZEPF, Matt (Helmholtz Institut Jena); MANGLES, Stuart

Session Classification: ESPP Roadmap Process

Contribution ID: **36** Type: **not specified**

Discussion - next steps

Thursday, 23 March 2023 12:25 (35 minutes)

Session Classification: ESPP Roadmap Process