

HALHF Workshop –Erice, Italy



Report of Contributions

Contribution ID: 1

Type: **not specified**

Arrival

Thursday 3 October 2024 09:00 (15 hours)

Contribution ID: 2

Type: **not specified**

Departure

Tuesday 8 October 2024 07:00 (8 hours)

Contribution ID: 3

Type: **not specified**

Introduction and Aims of Workshop

Friday 4 October 2024 09:00 (20 minutes)

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

Session Classification: Introduction and global context

Contribution ID: 4

Type: **not specified**

New baseline proposal

Friday 4 October 2024 11:10 (1h 20m)

Presenter: Dr LINDSTRØM, Carl Andreas (University of Oslo)

Session Classification: Updated HALHF baseline

Contribution ID: 5

Type: **not specified**

Developments in linac

Presenter: Dr LIST, Benno (Deutsches Elektronen-Synchrotron (DE))

Contribution ID: 6

Type: **not specified**

Developments in PWFA

Presenter: Dr OTHER, AN (University of Oslo)

Contribution ID: 7

Type: **not specified**

HALHF and XCC

Friday 4 October 2024 15:00 (30 minutes)

Presenter: Dr BARKLOW, Timothy (SLAC)

Session Classification: Technology demonstrators, alternatives and upgrades

Contribution ID: 8

Type: **not specified**

HALHF and Structured Wakefields

Friday 4 October 2024 14:30 (30 minutes)

Presenter: Dr LU, Xueying (Northern Illinois University)

Session Classification: Technology demonstrators, alternatives and upgrades

Contribution ID: 9

Type: **not specified**

HALHF - Physics & Detectors

Friday 4 October 2024 09:20 (30 minutes)

Presenter: LIST, Jenny (Deutsches Elektronen-Synchrotron (DE))

Session Classification: Introduction and global context

Contribution ID: **10**

Type: **not specified**

Organisation & Discussion of List of Questions

Friday 4 October 2024 15:50 (20 minutes)

Presenter: D'ARCY, Richard (University of Oxford)

Session Classification: Organisation and parallel session

Contribution ID: 11

Type: **not specified**

**Parallel session 1: Q1) RF linac designs: constraints
and costs of drive-beam linac and positron linac.
(BL,NW,KS) -**

Friday 4 October 2024 16:10 (1h 20m)

Presenter: PARTICIPANTS, ALL

Session Classification: Organisation and parallel session

Contribution ID: 12

Type: **not specified**

First Plenary Discussion

Friday 4 October 2024 17:30 (30 minutes)

Co-authors: Prof. FOSTER, Brian; Dr LINDSTROM, Carl; Prof. D'ARCY, Richard

Presenters: Prof. FOSTER, Brian; Dr LINDSTROM, Carl; Prof. D'ARCY, Richard

Session Classification: Organisation and parallel session

Contribution ID: 13

Type: **not specified**

Discussion on possible funding mechanisms

Saturday 5 October 2024 09:00 (30 minutes)

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

Contribution ID: 14

Type: **not specified**

Parallel Session 2 - Q2) Beam-driven RF/SWFA cost-effective alternative for the positron linac (XL,KS,BL)

Saturday 5 October 2024 14:30 (1h 20m)

Presenter: PARTICIPANTS, ALL

Contribution ID: 15

Type: **not specified**

**Parallel Session 4 - Q3) BDS: shorten, collimation,
include positron source; positron (electron?)
damping rings design, (AS,SG,VC,GM-P, SB, NW)**

Saturday 5 October 2024 11:00 (1 hour)

Presenter: PARTICIPANTS, ALL

Contribution ID: **16**

Type: **not specified**

Plenary Session

Saturday 5 October 2024 12:00 (30 minutes)

Presenter: PARTICIPANTS, ALL

Contribution ID: 17

Type: **not specified**

ABEL start-to-end framework and self-consistent plasma linac simulations

Saturday 5 October 2024 14:00 (30 minutes)

Presenter: CHEN, Jian Bin Ben (University of Oslo (NO))

Contribution ID: **18**

Type: **not specified**

Parallel Session 3 - Q5) Plasma-linac design: staging, driver distribution (KP, JW, CAL, RD, SG,MH)

Saturday 5 October 2024 16:10 (1h 20m)

Presenter: PARTICIPANTS, ALL

Contribution ID: 19

Type: **not specified**

**Parallel Session 5 - Q1) RF linac designs: constraints
and costs of drive-beam linac and positron linac.
(BL,NW,KS)**

Saturday 5 October 2024 11:00 (1 hour)

Presenter: PARTICIPANTS, ALL

Contribution ID: 20

Type: **not specified**

Plenary Discussion

Saturday 5 October 2024 17:30 (30 minutes)

Presenter: PARTICIPANTS, ALL

Contribution ID: **21**

Type: **not specified**

Highlighted topic tbc

Presenter: BC, T

Contribution ID: 22

Type: **not specified**

Parallel Session 8 - Q5) Plasma-linac design: staging, driver distribution (KP, JW, CAL, RD, SG,MH)

Monday 7 October 2024 09:00 (1h 20m)

Presenter: PARTICIPANTS, ALL

Contribution ID: 23

Type: **not specified**

Final Plenary - Reports from, discussion on and agree answers for Q1

Monday 7 October 2024 10:40 (35 minutes)

Co-authors: FOSTER, Brian (University of Oxford (GB)); Dr LINDSTROM, Carl; Prof. D'ARCY, Richard

Presenters: FOSTER, Brian (University of Oxford (GB)); Dr LINDSTROM, Carl; Prof. D'ARCY, Richard

Contribution ID: 24

Type: **not specified**

Final Plenary (contd.) - Reports from, discussion on and agree answers for Q5

Monday 7 October 2024 14:15 (25 minutes)

Co-authors: FOSTER, Brian (University of Oxford (GB)); Dr LINDSTROM, Carl; Prof. D'ARCY, Richard

Presenters: FOSTER, Brian (University of Oxford (GB)); Dr LINDSTROM, Carl; Prof. D'ARCY, Richard

Contribution ID: 25

Type: **not specified**

Agree answers and define further questions

Presenter: PARTICIPANTS, ALL

Contribution ID: 26

Type: **not specified**

Next steps (meetings, timeline, deadlines) and draft of Erice summary paper(s)

Monday 7 October 2024 16:25 (40 minutes)

Presenter: D'ARCY, Richard (University of Oxford)

Contribution ID: 27

Type: **not specified**

First discussion of draft of CERN Strategy Contribution

Monday 7 October 2024 17:05 (40 minutes)

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

Contribution ID: **28**

Type: **not specified**

AOB

Monday 7 October 2024 17:45 (15 minutes)

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

Contribution ID: 29

Type: **not specified**

Global collaboration and US effort

Friday 4 October 2024 09:50 (30 minutes)

Presenter: GESSNER, Spencer (SLAC)

Session Classification: Introduction and global context

Contribution ID: **30**

Type: **not specified**

Global experimental facilities for HALHF R&D

Friday 4 October 2024 10:20 (30 minutes)

Presenter: HOGAN, Mark

Session Classification: Introduction and global context

Contribution ID: **31**

Type: **not specified**

The SPARTA project: a PWFA demonstrator

Friday 4 October 2024 14:00 (30 minutes)

Presenter: DROBNIAK, Pierre (University of Oslo)

Session Classification: Technology demonstrators, alternatives and upgrades

Contribution ID: 32

Type: **not specified**

**Parallel session 1: Q4) The upgrade ladder:
demonstrators, default energy, XCC, 10 TeV path (TB,
EA, CAL, SG, MH)**

Friday 4 October 2024 16:10 (1h 20m)

Presenter: PARTICIPANTS, ALL

Session Classification: Organisation and parallel session

Contribution ID: 33

Type: **not specified**

**Parallel Session 2: Q7) Plasma generation, heating,
cooling and power flow, efficiency
(RD,JW,MT,MH,PD)**

Saturday 5 October 2024 09:30 (1h 10m)

Presenter: PARTICIPANTS, ALL

Contribution ID: 34

Type: **not specified**

**Parallel Session 4 - Q6) Plasma-linac design:
polarisation, beam-quality preservation, tolerances
(KP,GM-P,JW,CAL,RD,MH,BC,EA)**

Saturday 5 October 2024 14:30 (1h 20m)

Presenter: PARTICIPANTS, ALL

Contribution ID: 35

Type: **not specified**

Parallel Session 3 - Q8) Physics/detector constraints, including coherent pairs (JL,TB,SB,GM-P,VC)

Saturday 5 October 2024 09:30 (1h 10m)

Presenter: PARTICIPANTS, ALL

Contribution ID: 36

Type: **not specified**

**Parallel Session 5 - Q4) The upgrade ladder:
demonstrators, default energy, XCC, 10 TeV path (TB,
EA, CAL, SG, MH)**

Saturday 5 October 2024 16:10 (1h 20m)

Presenter: PARTICIPANTS, ALL

Contribution ID: 37

Type: **not specified**

Parallel Session 6 - Q2) Beam-driven RF/SWFA cost-effective alternative for the positron linac (XL,KS,BL)

Sunday 6 October 2024 10:30 (1h 5m)

Presenter: PARTICIPANTS, ALL

Contribution ID: 38

Type: **not specified**

**Parallel Session 6 - Q7) Plasma generation, heating,
cooling and power flow, efficiency
(RD,JW,MT,MH,PD)**

Sunday 6 October 2024 10:30 (1h 5m)

Presenter: PARTICIPANTS, ALL

Contribution ID: 39

Type: **not specified**

**Parallel Session 7 - Q3) BDS: shorten, collimation,
include positron source; positron (electron?)
damping rings design, (AS,SG,VC,GM-P, SB, NW)**

Sunday 6 October 2024 11:55 (1h 5m)

Presenter: PARTICIPANTS, ALL

Contribution ID: 40

Type: **not specified**

**Parallel Session 7 - Q6) Plasma-linac design:
polarisation, beam-quality preservation, tolerances
(KP,GM-P,JW,CAL,RD,MH,BC,EA)**

Sunday 6 October 2024 11:55 (1h 5m)

Presenter: PARTICIPANTS, ALL

Contribution ID: 41

Type: **not specified**

Parallel Session 8 - Q8) Physics/detector constraints, including coherent pairs (JL,TB,SB,GM-P,VC,SF)

Monday 7 October 2024 09:00 (1h 20m)

Presenter: PARTICIPANTS, ALL

Contribution ID: 42

Type: **not specified**

HALHF-like upgrade to existing LC

Sunday 6 October 2024 09:00 (45 minutes)

Presenter: Dr LIST, Benno (Deutsches Elektronen-Synchrotron (DE))

Contribution ID: 43

Type: **not specified**

Final Plenary - Reports from, discussion on and agree answers for Q2

Monday 7 October 2024 11:15 (35 minutes)

Co-authors: FOSTER, Brian (University of Oxford (GB)); Dr LINDSTROM, Carl; Prof. D'ARCY, Richard

Presenters: FOSTER, Brian (University of Oxford (GB)); Dr LINDSTROM, Carl; Prof. D'ARCY, Richard

Contribution ID: 44

Type: **not specified**

Final Plenary - Reports from, discussion on and agree answers for Q3

Monday 7 October 2024 11:50 (35 minutes)

Co-authors: FOSTER, Brian (University of Oxford (GB)); Dr LINDSTROM, Carl; Prof. D'ARCY, Richard

Presenters: FOSTER, Brian (University of Oxford (GB)); Dr LINDSTROM, Carl; Prof. D'ARCY, Richard

Contribution ID: 45

Type: **not specified**

Final Plenary - Reports from, discussion on and agree answers for Q2

Co-authors: FOSTER, Brian (University of Oxford (GB)); Dr LINDSTROM, Carl; Prof. D'ARCY, Richard

Presenters: FOSTER, Brian (University of Oxford (GB)); Dr LINDSTROM, Carl; Prof. D'ARCY, Richard

Contribution ID: 46

Type: **not specified**

Final Plenary - Reports from, discussion on and agree answers for Q3

Co-authors: FOSTER, Brian (University of Oxford (GB)); Dr LINDSTROM, Carl; Prof. D'ARCY, Richard

Presenters: FOSTER, Brian (University of Oxford (GB)); Dr LINDSTROM, Carl; Prof. D'ARCY, Richard

Contribution ID: 47

Type: **not specified**

Final Plenary - Reports from, discussion on and agree answers for Q4

Monday 7 October 2024 12:25 (25 minutes)

Co-authors: FOSTER, Brian (University of Oxford (GB)); Dr LINDSTROM, Carl; Prof. D'ARCY, Richard

Presenters: FOSTER, Brian (University of Oxford (GB)); Dr LINDSTROM, Carl; Prof. D'ARCY, Richard

Contribution ID: 48

Type: **not specified**

Final Plenary (contd.) - Reports from, discussion on and agree answers for Q6

Monday 7 October 2024 14:40 (25 minutes)

Co-authors: FOSTER, Brian (University of Oxford (GB)); Dr LINDSTROM, Carl; Prof. D'ARCY, Richard

Presenters: FOSTER, Brian (University of Oxford (GB)); Dr LINDSTROM, Carl; Prof. D'ARCY, Richard

Contribution ID: 49

Type: **not specified**

Final Plenary (contd.) - Reports from, discussion on and agree answers for Q8

Monday 7 October 2024 15:30 (25 minutes)

Co-authors: FOSTER, Brian (University of Oxford (GB)); Dr LINDSTROM, Carl; Prof. D'ARCY, Richard

Presenters: FOSTER, Brian (University of Oxford (GB)); Dr LINDSTROM, Carl; Prof. D'ARCY, Richard

Contribution ID: 50

Type: **not specified**

Final Plenary (contd.) - Reports from, discussion on and agree answers for Q7

Monday 7 October 2024 15:05 (25 minutes)

Co-authors: FOSTER, Brian (University of Oxford (GB)); Dr LINDSTROM, Carl; Prof. D'ARCY, Richard

Presenters: FOSTER, Brian (University of Oxford (GB)); Dr LINDSTROM, Carl; Prof. D'ARCY, Richard