

**3rd Workshop on Low
Emittance Lattice Design - LEL
2022**

Report of Contributions

Contribution ID: 2

Type: **not specified**

Registration

Monday, 27 June 2022 08:30 (15 minutes)

Contribution ID: 3

Type: **not specified**

Welcome

Monday, 27 June 2022 08:45 (5 minutes)

Presenter: BISCARI, Caterina

Contribution ID: 4

Type: **not specified**

Overview of future diffraction-limited light source storage rings: Directions to follow in view of the physical and technological challenges we have today and how they are being overcome

Monday, 27 June 2022 09:00 (30 minutes)

Presenter: NADJI, Amor (Soleil Synchrotron)

Session Classification: LEL Overview

Contribution ID: 5

Type: **not specified**

MAX IV: lessons learned

Monday, 27 June 2022 09:30 (25 minutes)

Presenter: SJÖSTRÖM, Magnus (MAX IV Laboratory)

Session Classification: LEL Design concept

Contribution ID: 6

Type: **not specified**

ESRF-EBS lessons learned

Presenter: CARMIGNANI, Nicola (ESRF)

Session Classification: LEL Design concept

Contribution ID: 7

Type: **not specified**

Sirius lessons learned

Session Classification: LEL Design concept

Contribution ID: 8

Type: **not specified**

PETRA IV progress

Monday, 27 June 2022 10:20 (25 minutes)

Presenter: BARTOLINI, Riccardo (DESY)

Session Classification: LEL Design concept

Contribution ID: 9

Type: **not specified**

Latest ultra low-emittance lattice designs following the stream of the ESRF-EBS hybrid lattice, and future scope

Session Classification: LEL Design concept

Contribution ID: **10**

Type: **not specified**

HALF progress (remote)

Monday, 27 June 2022 11:15 (25 minutes)

Presenter: BAI, Zhenghe (NSRL, USTC)

Session Classification: LEL Design concept

Contribution ID: 11

Type: **not specified**

Machine learning techniques for accelerators

Monday, 27 June 2022 14:55 (25 minutes)

Presenter: FOL, Elena

Session Classification: LEL Tools

Contribution ID: 12

Type: **not specified**

Overview of computer-aided optimization of nonlinear dynamics

Session Classification: LEL Tools

Contribution ID: 13

Type: **not specified**

Toolkit for Simulated Commissioning (SC)

Presenter: HELLERT, Thorsten (DESY)

Session Classification: LEL Tools

Contribution ID: 14

Type: **not specified**

UFO tracking code for GPUs

Presenter: CARLÀ, Michele

Session Classification: LEL Tools

Contribution ID: 15

Type: **not specified**

Elettra 2.0 progress

Tuesday, 28 June 2022 09:00 (25 minutes)

Presenter: KARANTZOULIS, Emanuel (Elettra - Sincrotrone Trieste)

Session Classification: LEL Design concept

Contribution ID: 16

Type: **not specified**

Low emittance lattice design with variable long. field dipoles for ELETTRA upgrade

Tuesday, 28 June 2022 09:25 (25 minutes)

Presenter: POYET, Axel (CERN)

Session Classification: LEL Design concept

Contribution ID: 17

Type: **not specified**

Diamond U progress

Presenter: MARTIN, Ian (Diamond Light Source)

Session Classification: LEL Design concept

Contribution ID: **18**

Type: **not specified**

Deterministic design of multibend HOA lattices

Presenter: KUSKE, Bettina (Helmholtz-Zentrum Berlin)

Session Classification: LEL Design concept

Contribution ID: 19

Type: **not specified**

Deterministic design of multibend HOA lattices

Tuesday, 28 June 2022 11:10 (25 minutes)

Presenter: KUSKE, Bettina (Helmholtz-Zentrum Berlin)

Session Classification: LEL Design concept

Contribution ID: 20

Type: **not specified**

BESSY 3 progress

Presenter: GOSLAWSKI, Paul (Helmholtz-Zentrum Berlin, BESSY II, MLS)

Session Classification: LEL Design concept

Contribution ID: 21

Type: **not specified**

Overview on sensitivities of ultra low-emittance light source rings against errors, measures developed to enhance robustness and strategies of first-turn commissioning (remote)

Tuesday, 28 June 2022 12:25 (25 minutes)

Presenter: SAJAEV, Vadim

Session Classification: Errors / Alignment / Correction

Contribution ID: 22

Type: **not specified**

Full coupling studies at ALBA

Tuesday, 28 June 2022 11:35 (25 minutes)

Presenter: MARTÍ DÍAZ, Zeus

Session Classification: Errors / Alignment / Correction

Contribution ID: 23

Type: **not specified**

Prospects for optics measurement and correction in FCC-ee (remote)

Tuesday, 28 June 2022 12:00 (25 minutes)

Presenter: KEINTZEL, Jacqueline (CERN)

Session Classification: Errors / Alignment / Correction

Contribution ID: 24

Type: **not specified**

Overview of collective effects and their mitigation in ultra low-emittance light source rings

Tuesday, 28 June 2022 14:30 (25 minutes)

Presenter: CHAE, Yong (DESY)

Session Classification: Collective effects for LEL

Contribution ID: 25

Type: **not specified**

Review of bunch lengthening with harmonic cavities in ultra low-emittance light source rings, their impact on beam collective effects and future directions

Tuesday, 28 June 2022 14:55 (25 minutes)

Presenter: CULLINAN, Francis

Session Classification: Collective effects for LEL

Contribution ID: 26

Type: **not specified**

Combined simulation of space-charge, IBS and damping/cooling for low emittance rings and beyond

Session Classification: Collective effects for LEL

Contribution ID: 27

Type: **not specified**

Diamond-II: Impedance database, calculation of single and multi-bunch instability thresholds / rise times, ion effects and the impact of a passive super-conducting harmonic cavity

Tuesday, 28 June 2022 15:20 (25 minutes)

Presenter: OLSSON, Teresia (Diamond Light Source)

Session Classification: Collective effects for LEL

Contribution ID: 28

Type: **not specified**

Injection into SLS-2: beam dynamics aspects and technological challenges

Wednesday, 29 June 2022 11:35 (25 minutes)

Presenter: AIBA, Masamitsu

Session Classification: LEL Injection, design of injector chain, technological challenges

Contribution ID: 29

Type: **not specified**

HALF progress

Presenter: BAI, Zhenghe (NSRL, USTC)

Session Classification: LEL Injection, design of injector chain, technological challenges

Contribution ID: 30

Type: **not specified**

Commissioning and characterization of the performance of the MIK (Multipole Injection Kicker) installed at SOLEIL

Wednesday, 29 June 2022 10:15 (25 minutes)

Presenter: OLLIER, Randy (Synchrotron SOLEIL)

Session Classification: LEL Injection, design of injector chain, technological challenges

Contribution ID: 31

Type: **not specified**

The swap-out injection using the booster as an accumulator ring at the High Energy Photon Source (remote)

Wednesday, 29 June 2022 11:10 (25 minutes)

Presenter: DUAN, Zhe (Institute of High Energy Physics, Chinese Academy of Sciences)

Session Classification: LEL Injection, design of injector chain, technological challenges

Contribution ID: 32

Type: **not specified**

Injection into Diamond-II: beam dynamics and technological challenges

Wednesday, 29 June 2022 12:00 (25 minutes)

Presenter: KALLESTRUP, Jonas (Diamond Light Source)

Session Classification: LEL Injection, design of injector chain, technological challenges

Contribution ID: **33**

Type: **not specified**

TBD

Session Classification: LEL Injection, design of injector chain, technological challenges

Contribution ID: **34**

Type: **not specified**

Introduction

Monday, 27 June 2022 08:50 (10 minutes)

Presenter: BENEDETTI, Gabriele

Contribution ID: 35

Type: **not specified**

ESRF-EBS lessons learned

Monday, 27 June 2022 09:55 (25 minutes)

Presenter: CARMIGNANI, Nicola (ESRF)

Session Classification: LEL Design concept

Contribution ID: 36

Type: **not specified**

Sirius lessons learned (remote)

Monday, 27 June 2022 14:30 (25 minutes)

Presenter: LIU, Lin (Brazilian Synchrotron Light Laboratory)

Session Classification: LEL Design concept

Contribution ID: 37

Type: **not specified**

Diamond-II progress

Monday, 27 June 2022 11:40 (25 minutes)

Presenter: MARTIN, Ian (Diamond Light Source)

Session Classification: LEL Design concept

Contribution ID: **38**

Type: **not specified**

Six bend higher order achromat lattice for ALBA-II

Monday, 27 June 2022 12:05 (25 minutes)

Presenter: BENEDETTI, Gabriele

Session Classification: LEL Design concept

Contribution ID: 39

Type: **not specified**

ALS-U: highest brightness soft x-rays in just 200 m through an ultra-dense 9BA and extensive MOGA optimization

Monday, 27 June 2022 12:30 (25 minutes)

Presenter: SUN, Changchun (Lawrence Berkeley National Lab)

Session Classification: LEL Design concept

Contribution ID: 40

Type: **not specified**

Machine Learning-Enhanced MOGA for Ultrahigh-Brightness Lattices

Monday, 27 June 2022 15:20 (25 minutes)

Presenter: LEEMANN, Simon (Lawrence Berkeley National Laboratory)

Session Classification: LEL Tools

Contribution ID: 41

Type: **not specified**

Toolkit for Simulated Commissioning (SC)

Monday, 27 June 2022 16:15 (25 minutes)

Presenter: HELLERT, Thorsten (DESY)

Session Classification: LEL Tools

Contribution ID: 42

Type: **not specified**

UFO tracking code for GPUs

Monday, 27 June 2022 16:40 (25 minutes)

Presenter: CARLÀ, Michele

Session Classification: LEL Tools

Contribution ID: 43

Type: **not specified**

Latest ultra low-emittance lattice designs following the stream of the ESRF-EBS hybrid lattice, and future scope (remote)

Monday, 27 June 2022 17:05 (25 minutes)

Presenter: RAIMONDI, Pantaleo (SLAC)

Session Classification: LEL Design concept

Contribution ID: 44

Type: **not specified**

BESSY III progress

Tuesday, 28 June 2022 10:15 (25 minutes)

Presenter: GOSLAWSKI, Paul (Helmholtz-Zentrum Berlin, BESSY II, MLS)

Session Classification: LEL Design concept

Contribution ID: 45

Type: **not specified**

Impedance and collective effects of HEPS storage ring (remote)

Tuesday, 28 June 2022 16:15 (25 minutes)

Presenter: WANG, Na

Session Classification: Collective effects for LEL

Contribution ID: 46

Type: **not specified**

Combined simulation of space-charge, IBS and damping/cooling for low emittance rings and beyond

Tuesday, 28 June 2022 16:40 (25 minutes)

Presenter: ZAMPETAKIS, Michail (CERN - UoC)

Session Classification: Collective effects for LEL

Contribution ID: 47

Type: **not specified**

MIK performance at the MAX IV 3 GeV ring and beam dynamics design of a MIK for the MAX IV 1.5 GeV ring

Wednesday, 29 June 2022 09:50 (25 minutes)

Presenter: APOLLONIO, Marco (MAXIV / Lund University)

Session Classification: LEL Injection, design of injector chain, technological challenges

Contribution ID: 48

Type: **not specified**

Closing remarks

Wednesday, 29 June 2022 12:50 (10 minutes)

Contribution ID: 49

Type: **not specified**

7BA-4BA HOA lattice developed for the SOLEIL upgrade

Tuesday, 28 June 2022 09:50 (25 minutes)

Presenter: NAGAOKA, Ryutaro (Synchrotron SOLEIL)

Session Classification: LEL Design concept

Contribution ID: 50

Type: **not specified**

ESRF-EBS injection status and plans

Wednesday, 29 June 2022 09:25 (25 minutes)

Presenter: WHITE, Simon (ESRF)

Session Classification: LEL Injection, design of injector chain, technological challenges

Contribution ID: 51

Type: **not specified**

HALF progress

Wednesday, 29 June 2022 09:00 (25 minutes)

Presenter: BAI, Zhenghe (NSRL, USTC)

Session Classification: LEL Design concept