

”Extreme Storage Rings” Workshop (ESRW22)



Report of Contributions

Contribution ID: 1

Type: **not specified**

Heavy Ion storage ring ESR at GSI

Monday 31 January 2022 16:05 (25 minutes)

Presenter: STECK, Markus

Session Classification: Session 1: Opening. State of the art of storage rings –leptons and hadrons.

Contribution ID: 2

Type: **not specified**

Storage of low energy heavy ions at FAIR

Monday 31 January 2022 16:30 (25 minutes)

Presenter: HERFURTH, Frank

Session Classification: Session 1: Opening. State of the art of storage rings –leptons and hadrons.

Contribution ID: 3

Type: **not specified**

Beam Physics Research at IOTA

Monday 31 January 2022 16:55 (25 minutes)

Presenter: STANCARI, Giulio (Fermilab)

Session Classification: Session 1: Opening. State of the art of storage rings –leptons and hadrons.

Contribution ID: 4

Type: **not specified**

The SuperKEKB Damping Ring as a tool for low-emittance positron beam injection: design and operational experience

Monday 31 January 2022 14:35 (25 minutes)

Presenter: IIDA, Naoko (KEK)

Session Classification: Session 1: Opening. State of the art of storage rings –leptons and hadrons.

Contribution ID: 5

Type: **not specified**

State-of-the-art synchrotron light source

Monday 31 January 2022 15:00 (25 minutes)

Presenter: AIBA, Masamitsu (Paul Scherrer Institut (CH))

Session Classification: Session 1: Opening. State of the art of storage rings –leptons and hadrons.

Contribution ID: 6

Type: **not specified**

Injection challenge for diffraction limited storage ring based SR light sources

Monday 31 January 2022 15:25 (20 minutes)

Presenter: WHITE, Simon (ESRF)

Session Classification: Session 1: Opening. State of the art of storage rings –leptons and hadrons.

Contribution ID: 7

Type: **not specified**

Discussion

Monday 31 January 2022 17:20 (30 minutes)

Session Classification: Session 1: Opening. State of the art of storage rings –leptons and hadrons.

Contribution ID: 8

Type: **not specified**

Stable state microbunching

Tuesday 1 February 2022 15:40 (25 minutes)

Presenter: LI, Renkai (Tsinghua University)

Session Classification: Session 2: Limits and perspectives for future lepton and hadron storage rings

Contribution ID: 9

Type: **not specified**

Collective effects studies and mitigation for the SOLEIL upgrade

Tuesday 1 February 2022 16:05 (25 minutes)

Presenter: GAMELIN, Alexis (Synchrotron SOLEIL)

Session Classification: Session 2: Limits and perspectives for future lepton and hadron storage rings

Contribution ID: 10

Type: **not specified**

The High Energy Storage Ring (HESR) at FAIR

Tuesday 1 February 2022 14:55 (25 minutes)

Presenter: HETZEL, Jan Henry (Forschungszentrum Jülich)

Session Classification: Session 2: Limits and perspectives for future lepton and hadron storage rings

Contribution ID: 11

Type: **not specified**

Discussion

Tuesday 1 February 2022 16:55 (30 minutes)

Session Classification: Session 2: Limits and perspectives for future lepton and hadron storage rings

Contribution ID: 12

Type: **not specified**

Studies on systematic effects of charged particle Electric Dipole Moment measurements

Wednesday 2 February 2022 15:20 (25 minutes)

Presenter: CARLI, Christian (CERN)

Session Classification: Session 3: Precision experiment with storage rings. G-2 and EDM

Contribution ID: 13

Type: **not specified**

Precision Atomic and Nuclear Physics with stored beams of PSIs

Wednesday 2 February 2022 16:30 (25 minutes)

Presenter: BUDKER, DMITRY (Helmholtz Institute Mainz and UC Berkeley)

Session Classification: Session 3: Precision experiment with storage rings. G-2 and EDM

Contribution ID: 14

Type: **not specified**

Discussion

Wednesday 2 February 2022 16:55 (30 minutes)

Session Classification: Session 3: Precision experiment with storage rings. G-2 and EDM

Contribution ID: 15

Type: **not specified**

Measuring beam noise at 10 - 100 THz and production of intense, low noise electron beams

Thursday 3 February 2022 16:05 (25 minutes)

Presenter: PETRUSHINA, Irina (Stony Brook University)

Session Classification: Session 4: Beam Stabilization, Schottky, and diagnostics

Contribution ID: 16

Type: **not specified**

SOLEIL upgrade project: planned beam instrumentation for the low-emittance storage ring

Thursday 3 February 2022 15:40 (25 minutes)

Presenter: HUBERT, Nicolas (Synchrotron Soleil)

Session Classification: Session 4: Beam Stabilization, Schottky, and diagnostics

Contribution ID: 17

Type: **not specified**

Bunch-by-bunch diagnostic system applications in the low-emittance storage ring

Thursday 3 February 2022 14:30 (25 minutes)

Presenter: LENG, Yongbin

Session Classification: Session 4: Beam Stabilization, Schottky, and diagnostics

Contribution ID: 18

Type: **not specified**

Review of beam diagnostic for next generation synchrotron light sources

Thursday 3 February 2022 14:55 (25 minutes)

Presenter: TORINO, Laura

Session Classification: Session 4: Beam Stabilization, Schottky, and diagnostics

Contribution ID: **19**

Type: **not specified**

Discussion

Thursday 3 February 2022 16:30 (30 minutes)

Session Classification: Session 4: Beam Stabilization, Schottky, and diagnostics

Contribution ID: 20

Type: **not specified**

Control system simulator used in EBS storage ring design and commissioning

Friday 4 February 2022 14:30 (30 minutes)

Presenter: LIUZZO, Simone (ESRF)

Session Classification: Session 5: Applications of Machine learning to improve storage-ring performance and precision experiments

Contribution ID: 21

Type: **not specified**

Limits of Machine Learning

Presenter: ADELMANN, Andreas

Session Classification: Session 5: Applications of Machine learning to improve storage-ring performance and precision experiments

Contribution ID: 22

Type: **not specified**

SLAC Machine Learning Effort and Impact on Extreme Storage Rings

Friday 4 February 2022 16:25 (25 minutes)

Presenter: RATNER, Daniel (SLAC)

Session Classification: Session 5: Applications of Machine learning to improve storage-ring performance and precision experiments

Contribution ID: 23

Type: **not specified**

Machine Learning Prospects for the LHC and injectors

Friday 4 February 2022 15:00 (30 minutes)

Presenter: KAIN, Verena (CERN)

Session Classification: Session 5: Applications of Machine learning to improve storage-ring performance and precision experiments

Contribution ID: 24

Type: **not specified**

Discussion

Friday 4 February 2022 16:50 (30 minutes)

Session Classification: Session 5: Applications of Machine learning to improve storage-ring performance and precision experiments

Contribution ID: 25

Type: **not specified**

Towards supercooled crystalline beams that allow entanglement

Monday 7 February 2022 14:30 (25 minutes)

Presenter: BROWN, Kevin (Brookhaven National Laboratory)

Session Classification: Session 6: Crystalline beams, quantum computers based on stored beams

Contribution ID: 26

Type: **not specified**

Cold ion beam as a platform for large scale quantum computers

Monday 7 February 2022 14:55 (25 minutes)

Presenter: SHAFTAN, Timur (Brookhaven National Laboratory)

Session Classification: Session 6: Crystalline beams, quantum computers based on stored beams

Contribution ID: 27

Type: **not specified**

Discussion

Monday 7 February 2022 16:30 (30 minutes)

Session Classification: Session 6: Crystalline beams, quantum computers based on stored beams

Contribution ID: 28

Type: **not specified**

Laser cooling of bunched beams at ultra-relativistic energies and its applications

Tuesday 8 February 2022 14:55 (25 minutes)

Presenter: PETRENKO, Alexey

Session Classification: Session 7: Advanced cooling, and Gamma factory. Workshop Summary

Contribution ID: 29

Type: **not specified**

Gamma Factory —the present status and the way forward

Tuesday 8 February 2022 15:20 (25 minutes)

Presenter: MARTENS, Aurelien (Université Paris-Saclay (FR))

Session Classification: Session 7: Advanced cooling, and Gamma factory. Workshop Summary

Contribution ID: **30**

Type: **not specified**

Discussion

Tuesday 8 February 2022 16:05 (30 minutes)

Session Classification: Session 7: Advanced cooling, and Gamma factory. Workshop Summary

Contribution ID: 31

Type: **not specified**

Status and Plans for the CR antiproton collector ring at FAIR

Tuesday 1 February 2022 14:30 (25 minutes)

Presenter: DOLINSKYI, Oleksiy

Session Classification: Session 2: Limits and prospectives for future lepton and hadron storage rings

Contribution ID: 32

Type: **not specified**

Storage rings with extremely long spin decoherence time for EDM searches

Wednesday 2 February 2022 14:30 (25 minutes)

Presenter: OMAROV, ZHANIBEK

Session Classification: Session 3: Precision experiment with storage rings. G-2 and EDM

Contribution ID: 33

Type: **not specified**

The Muon g-2 Storage Ring at Fermilab

Wednesday 2 February 2022 16:05 (25 minutes)

Presenter: TARAZONA, David (University of Liverpool)

Session Classification: Session 3: Precision experiment with storage rings. G-2 and EDM

Contribution ID: 34

Type: **not specified**

First direct hadron EDM measurement done with deuterons using COSY

Wednesday 2 February 2022 14:55 (25 minutes)

Presenter: RATHMANN, Frank

Session Classification: Session 3: Precision experiment with storage rings. G-2 and EDM

Contribution ID: 35

Type: **not specified**

Design and challenges for the 4th generation light sources

Tuesday 1 February 2022 16:30 (25 minutes)

Presenter: RAIMONDI, Pantaleo (SLAC)

Session Classification: Session 2: Limits and perspectives for future lepton and hadron storage rings

Contribution ID: 36

Type: **not specified**

Laser cooling of bunched relativistic ions in storage ring

Tuesday 8 February 2022 14:30 (25 minutes)

Presenter: WINTERS, Danyal (GSI Helmholtzzentrum für Schwerionenforschung GmbH)

Session Classification: Session 7: Advanced cooling, and Gamma factory. Workshop Summary

Contribution ID: 37

Type: **not specified**

Summary & Outlook

Tuesday 8 February 2022 16:35 (30 minutes)

Presenters: ZIMMERMANN, Frank (CERN); FRANCHETTI, Giuliano (GSI - Helmholtzzentrum für Schwerionenforschung GmbH (DE))

Session Classification: Session 7: Advanced cooling, and Gamma factory. Workshop Summary

Contribution ID: **38**

Type: **not specified**

Adaptive Machine Learning for Particle Accelerator Tuning

Friday 4 February 2022 16:00 (25 minutes)

Presenter: SCHEINKER, Alexander

Session Classification: Session 5: Applications of Machine learning to improve storage-ring performance and precision experiments

Contribution ID: 39

Type: **not specified**

Crystalline Beam Lessons from PALLAS

Monday 7 February 2022 15:40 (25 minutes)

Presenter: SCHAETZ, Tobias (University of Freiburg)

Session Classification: Session 6: Crystalline beams, quantum computers based on stored beams

Contribution ID: 40

Type: **not specified**

Assembling a Ring-Shaped Crystal in a Microfabricated Surface Ion Trap

Monday 7 February 2022 16:05 (25 minutes)

Presenter: STICK, Dan (Sandia National Labs)

Session Classification: Session 6: Crystalline beams, quantum computers based on stored beams

Contribution ID: 41

Type: **not specified**

Welcome from iFAST

Monday 31 January 2022 14:30 (5 minutes)

Presenter: VRETENAR, Maurizio (CERN)

Session Classification: Session 1: Opening. State of the art of storage rings –leptons and hadrons.