

# 4th ICFA Mini-Workshop on Space Charge 2019



## Report of Contributions

Contribution ID: 1

Type: **not specified**

## Welcome address

*Monday 4 November 2019 09:15 (15 minutes)*

**Presenter:** SCHMIDT, Frank (CERN)

Contribution ID: 2

Type: **not specified**

## Workshop dinner

*Tuesday 5 November 2019 19:00 (3 hours)*

Contribution ID: 3

Type: **not specified**

## Status of the LIU project

*Monday 4 November 2019 09:30 (30 minutes)*

**Presenter:** RUMOLO, Giovanni (CERN)

**Session Classification:** Introduction and projects

Contribution ID: 4

Type: **not specified**

## Status of the FAIR project

*Monday 4 November 2019 10:00 (30 minutes)*

**Presenter:** KORNILOV, Vladimir (GSI Helmholtzzentrum Darmstadt, Germany)

**Session Classification:** Introduction and projects

Contribution ID: 5

Type: **not specified**

## **Status of PIP2 at FNAL**

*Monday 4 November 2019 11:00 (30 minutes)*

**Presenter:** Dr POZDEYEV, Eduard

**Session Classification:** Introduction and projects

Contribution ID: 6

Type: **not specified**

## **Status of the ISIS upgrade**

*Monday 4 November 2019 11:30 (30 minutes)*

**Presenter:** WARSOP, Chris

**Session Classification:** Introduction and projects

Contribution ID: 7

Type: **not specified**

## **Extraction of transfer map including self-consistent space-charge effects in a symplectic tracking code**

*Monday 4 November 2019 13:30 (25 minutes)*

**Presenter:** QIANG, Ji (Lawrence Berkeley National Laboratory)

**Session Classification:** Space charge modelling and simulation codes



Contribution ID: 8

Type: **not specified**

## **Initial beam studies using symplectic 2D space charge with open BCs**

*Monday 4 November 2019 13:55 (25 minutes)*

**Presenter:** WEBB, Stephen (Radasoft)

**Session Classification:** Space charge modelling and simulation codes

Contribution ID: 9

Type: **not specified**

## **Experience with the symplectic 3D space charge kick**

*Monday 4 November 2019 14:20 (25 minutes)*

**Presenter:** SCHMIDT, Frank (CERN)

**Session Classification:** Space charge modelling and simulation codes

Contribution ID: **10**

Type: **not specified**

## **Space charge and lattice driven resonances in the CERN PS**

*Monday 4 November 2019 16:05 (25 minutes)*

**Presenter:** ASVESTA, Foteini (National Technical Univ. of Athens (GR))

**Session Classification:** Experimental and simulation studies

Contribution ID: 11

Type: **not specified**

## **PSB simulation studies for post LS2 operation**

*Monday 4 November 2019 16:30 (25 minutes)*

**Presenter:** RENNERT, Elisabeth (Vienna University of Technology (AT))

**Session Classification:** Experimental and simulation studies

Contribution ID: 12

Type: **not specified**

## **Tune scan experiment at injection in the PS**

*Monday 4 November 2019 16:55 (25 minutes)*

**Presenter:** RAFIQUE, Haroon (CERN)

**Session Classification:** Experimental and simulation studies

Contribution ID: 13

Type: **not specified**

## **On the boundary between coherent and incoherent effects**

*Tuesday 5 November 2019 14:00 (25 minutes)*

**Presenter:** FRANCHETTI, Giuliano (GSI - Helmholtzzentrum für Schwerionenforschung GmbH (DE))

**Session Classification:** Theory and space charge mechanisms

Contribution ID: 14

Type: **not specified**

## **Characterization of resonances - coherent versus incoherent**

*Monday 4 November 2019 15:10 (25 minutes)*

**Presenter:** OEFTIGER, Adrian (GSI - Helmholtzzentrum für Schwerionenforschung GmbH (DE))

**Session Classification:** Theory and space charge mechanisms

Contribution ID: 15

Type: **not specified**

## **Working point and space charge simulation studies for SIS100**

*Tuesday 5 November 2019 11:00 (25 minutes)*

**Presenter:** CHETVERTKOVA, Vera (GSI)

**Session Classification:** Experimental and simulation studies



Contribution ID: 16

Type: **not specified**

## **Study of the PS integer resonance**

*Tuesday 5 November 2019 11:50 (25 minutes)*

**Presenter:** TITZE, Malte (Humboldt University of Berlin (DE))

**Session Classification:** Experimental and simulation studies

Contribution ID: 17

Type: **not specified**

## **Studies on tune ripple**

*Tuesday 5 November 2019 12:15 (25 minutes)*

**Presenter:** BARTOSIK, Hannes (CERN)

**Session Classification:** Experimental and simulation studies

Contribution ID: **18**

Type: **not specified**

## **Modelling of the PS main magnets**

*Wednesday 6 November 2019 09:45 (25 minutes)*

**Presenter:** HUSCHAUER, Alexander (CERN)

**Session Classification:** Machine modelling

Contribution ID: 19

Type: **not specified**

## **Non-linear model of the SPS main dipoles**

*Wednesday 6 November 2019 10:10 (25 minutes)*

**Presenter:** CARLA', Michele (CERN)

**Session Classification:** Machine modelling

Contribution ID: 20

Type: **not specified**

## **Development of the SIS100 machine model with measured field errors**

**Presenter:** KORNILOV, Vladimir (GSI Helmholtzzentrum Darmstadt, Germany)

**Session Classification:** Machine modelling

Contribution ID: 21

Type: **not specified**

## **Simulations of space charge effect compensations with electron lenses in the presence of lattice imperfections**

*Wednesday 6 November 2019 11:05 (25 minutes)*

**Presenter:** Dr STERN, Eric

**Session Classification:** Space charge and interplay with other effects

Contribution ID: 22

Type: **not specified**

## **Space charge and IBS effect in LEIR**

*Wednesday 6 November 2019 11:30 (25 minutes)*

**Presenter:** SAA HERNANDEZ, Angela (CERN)

**Session Classification:** Space charge and interplay with other effects

Contribution ID: 23

Type: **not specified**

## **Modelling of IBS**

*Wednesday 6 November 2019 11:55 (25 minutes)*

**Presenter:** ZAMPETAKIS, Michail (University of Crete (GR))

**Session Classification:** Space charge and interplay with other effects



Contribution ID: 24

Type: **not specified**

## **Emittance blow-up studies at the transfer from the PSB to the PS**

*Tuesday 5 November 2019 11:25 (25 minutes)*

**Presenter:** FRASER, Matthew Alexander (CERN)

**Session Classification:** Experimental and simulation studies

Contribution ID: 25

Type: **not specified**

## **Progress toward testing non-linear integrable optics in a Paul trap**

*Tuesday 5 November 2019 15:35 (25 minutes)*

**Presenter:** MARTIN, Lucy (University of Oxford)

**Session Classification:** Special topics

Contribution ID: 26

Type: **not specified**

## **GPU accelerated space charge simulations using SixTrackLib and PyHEADTAIL**

*Monday 4 November 2019 14:45 (25 minutes)*

**Presenter:** OEFTIGER, Adrian (GSI - Helmholtzzentrum für Schwerionenforschung GmbH (DE))

**Session Classification:** Space charge modelling and simulation codes

Contribution ID: 27

Type: **not specified**

## **Effects of detuning impedance, chromaticity, transverse damper, linear coupling, Landau damping and space charge on TMCI**

*Tuesday 5 November 2019 16:00 (25 minutes)*

**Presenter:** METRAL, Elias (CERN)

**Session Classification:** Special topics

Contribution ID: 28

Type: **not specified**

## **Beam profile measurements based on pixel detectors in the PS**

*Tuesday 5 November 2019 16:25 (25 minutes)*

**Presenter:** SANDBERG, Hampus (University of Manchester (GB))

**Session Classification:** Special topics

Contribution ID: 29

Type: **not specified**

## Why we need the HL-LHC

*Wednesday 6 November 2019 09:00 (45 minutes)*

**Presenter:** MANGANO, Michelangelo (CERN)

**Session Classification:** Special topics

Contribution ID: **30**

Type: **not specified**

## **Space charge effects in Linac4**

*Tuesday 5 November 2019 09:30 (30 minutes)*

**Presenter:** NOLL, Daniel (CERN)

**Session Classification:** Space charge effects in Linacs

Contribution ID: 31

Type: **not specified**

## Space charge issues in FFAs

*Tuesday 5 November 2019 16:50 (25 minutes)*

**Presenters:** LAGRANGE, Jean-Baptiste (Science and Technology Facilities Council); MACHIDA, Shinji (STFC/RAL)

**Session Classification:** Special topics



Contribution ID: 32

Type: **not specified**

## **Application of SNS beam test facility to halo formation in high-intensity linacs**

*Tuesday 5 November 2019 10:00 (30 minutes)*

**Presenter:** RUISARD, Kiersten (SNS)

**Session Classification:** Space charge effects in Linacs

Contribution ID: 33

Type: **not specified**

## Recent developments in PyORBIT

**Presenter:** TBD

**Session Classification:** Space charge modelling and simulation codes

Contribution ID: 34

Type: **not specified**

## Space Charge in JPARC synchrotrons

*Tuesday 5 November 2019 09:00 (30 minutes)*

**Presenter:** HOTCHI, Hideaki (JPARC)

**Session Classification:** Introduction and projects

Contribution ID: 35

Type: **not specified**

## **Space-charge particle resonances and mode parametric resonances**

*Tuesday 5 November 2019 14:25 (25 minutes)*

**Presenter:** Dr JEON, Dong-O (RAON)

**Session Classification:** Theory and space charge mechanisms

Contribution ID: **36**

Type: **not specified**

## **Summary of 2019 Fermilab Booster experiments**

*Monday 4 November 2019 17:20 (25 minutes)*

**Presenter:** ELDRED, Jeffrey (Fermilab)

**Session Classification:** Experimental and simulation studies

Contribution ID: 37

Type: **not specified**

## **Comments on the coherent and incoherent views**

*Tuesday 5 November 2019 14:50 (15 minutes)*

**Presenter:** MACHIDA, Shinji (STFC/RAL)

**Session Classification:** Theory and space charge mechanisms