

# FCCIS 2023 WP2 Workshop



## Report of Contributions

Contribution ID: 1

Type: **not specified**

# Welcome address

Contribution ID: 2

Type: **not specified**

## Opening

*Monday, 13 November 2023 08:45 (15 minutes)*

**Presenters:** ZIMMERMANN, Frank (CERN); KEINTZEL, Jacqueline (CERN); BOSCOLO, Manuela (INFN e Laboratori Nazionali di Frascati (IT))

**Session Classification:** Optics Design, Beam-Beam and Electron Cloud

Contribution ID: 3

Type: **not specified**

## **Optics performance, beam lifetime and injection rate**

*Monday, 13 November 2023 09:00 (30 minutes)*

**Presenter:** Dr OIDE, Katsunobu (Universite de Geneve (CH))

**Session Classification:** Optics Design, Beam-Beam and Electron Cloud

Contribution ID: 4

Type: **not specified**

## **Overview of X-suite and its use for FCC-ee**

*Monday, 13 November 2023 10:00 (30 minutes)*

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

**Session Classification:** Optics Design, Beam-Beam and Electron Cloud

Contribution ID: 5

Type: **not specified**

## **e-cloud studies and e-cloud instability threshold**

*Monday, 13 November 2023 11:00 (30 minutes)*

**Presenter:** SABATO, Luca (EPFL - Ecole Polytechnique Federale Lausanne (CH))

**Session Classification:** Optics Design, Beam-Beam and Electron Cloud

Contribution ID: 6

Type: **not specified**

## **Vacuum system and photoelectron distributions in the collider**

*Monday, 13 November 2023 11:30 (30 minutes)*

**Presenter:** KERSEVAN, Roberto (CERN)

**Session Classification:** Optics Design, Beam-Beam and Electron Cloud

Contribution ID: 7

Type: **not specified**

## **Equilibrium emittances for FCC-ee: tracking and matrix methods**

*Monday, 13 November 2023 12:00 (30 minutes)*

**Presenter:** VAN RIESEN-HAUPT, Leon (EPFL - Ecole Polytechnique Federale Lausanne (CH))

**Session Classification:** Optics Design, Beam-Beam and Electron Cloud



Contribution ID: 8

Type: **not specified**

# Welcome and Opening from the President of INFN CSN1

*Monday, 13 November 2023 13:30 (30 minutes)*

**Presenter:** TENCHINI, Roberto (Universita & INFN Pisa (IT))

**Session Classification:** Impedance, Collective Effects, Interplay Impedance + Beam-Beam

Contribution ID: 9

Type: **not specified**

## **Collective effects in the collider**

*Monday, 13 November 2023 14:00 (30 minutes)*

**Presenter:** MIGLIORATI, Mauro (Sapienza Universita e INFN, Roma I (IT))

**Session Classification:** Impedance, Collective Effects, Interplay Impedance + Beam-Beam

Contribution ID: **10**

Type: **not specified**

## **Beam-beam and impedance instability modelling with the circulant matrix model and XSuite**

*Monday, 13 November 2023 14:30 (30 minutes)*

**Presenter:** SOOS, Roxana (Université Paris-Saclay (FR))

**Session Classification:** Impedance, Collective Effects, Interplay Impedance + Beam-Beam

Contribution ID: 11

Type: **not specified**

## **Interplay between beam-beam interaction and collective effects and its impact on the parameters**

*Monday, 13 November 2023 15:30 (30 minutes)*

**Presenter:** ZOBOV, Mikhail

**Session Classification:** Impedance, Collective Effects, Interplay Impedance + Beam-Beam

Contribution ID: 12

Type: **not specified**

## **HOM Loss Study for the FCC-ee 400 MHz Cavities**

*Monday, 13 November 2023 16:00 (10 minutes)*

**Presenters:** VANEL, Alice Lucie (CERN); GORGI ZADEH, Shahnam (CERN)

**Session Classification:** Impedance, Collective Effects, Interplay Impedance + Beam-Beam

Contribution ID: 13

Type: **not specified**

## Collective effects in the booster

*Monday, 13 November 2023 16:10 (30 minutes)*

**Presenter:** GHRIBI, Adnan

**Session Classification:** Impedance, Collective Effects, Interplay Impedance + Beam-Beam

Contribution ID: 14

Type: **not specified**

## **Resistive wall impedance & CBI for collider and booster**

*Monday, 13 November 2023 16:40 (30 minutes)*

**Presenter:** RAJABI, Ali

**Session Classification:** Impedance, Collective Effects, Interplay Impedance + Beam-Beam

Contribution ID: 15

Type: **not specified**

## **FCC in the INFN Strategy**

*Tuesday, 14 November 2023 09:00 (30 minutes)*

**Presenter:** CAMPANA, Pierluigi (Frascati)

**Session Classification:** Booster Design



Contribution ID: 16

Type: **not specified**

## **Booster Optics**

*Tuesday, 14 November 2023 09:30 (30 minutes)*

**Presenter:** CHANCE, Antoine (CEA Irfu)

**Session Classification:** Booster Design

Contribution ID: 17

Type: **not specified**

## **Vacuum systems and photoelectron distributions in the booster**

*Tuesday, 14 November 2023 10:00 (30 minutes)*

**Presenter:** KERSEVAN, Roberto (CERN)

**Session Classification:** Booster Design

Contribution ID: **18**

Type: **not specified**

## **Which vacuum pressure is acceptable in the booster ?**

*Tuesday, 14 November 2023 11:00 (30 minutes)*

**Presenter:** METHER, Lotta (CERN)

**Session Classification:** Booster Design

Contribution ID: 19

Type: **not specified**

## **FCCee booster Injection and extraction concepts**

*Tuesday, 14 November 2023 11:30 (30 minutes)*

**Presenter:** DUTHEIL, Yann (CERN)

**Session Classification:** Booster Design

Contribution ID: 20

Type: **not specified**

## **Booster coupled bunch instabilities and ramp optimisation**

*Tuesday, 14 November 2023 12:00 (30 minutes)*

**Presenter:** VANEL, Alice Lucie (CERN)

**Session Classification:** Booster Design

Contribution ID: 21

Type: **not specified**

## **HTS magnets for the short straight section**

*Tuesday, 14 November 2023 14:00 (30 minutes)*

**Presenters:** BATSARI, Vasiliki (National Technical Univ. of Athens (GR)); KORATZINOS, m (Paul Scherrer Institute (CH))

**Session Classification:** Alignment, IR Tuning, Vibrations, Feedback

Contribution ID: 22

Type: **not specified**

## Trim coil baseline

*Tuesday, 14 November 2023 13:30 (30 minutes)*

**Presenter:** BAUCHE, Jeremie (CERN)

**Session Classification:** Alignment, IR Tuning, Vibrations, Feedback

Contribution ID: 23

Type: **not specified**

## **Existing and possible synergies with light sources on performance enabling technologies**

*Tuesday, 14 November 2023 14:30 (30 minutes)*

**Presenter:** AGAPOV, Ilya (Deutsches Elektronen-Synchrotron (DE))

**Session Classification:** Alignment, IR Tuning, Vibrations, Feedback



Contribution ID: 24

Type: **not specified**

## **IR tuning knobs**

*Tuesday, 14 November 2023 15:00 (30 minutes)*

**Presenter:** JAGABATHUNI, Satya Sai (Universite de Geneve (CH))

**Session Classification:** Alignment, IR Tuning, Vibrations, Feedback

Contribution ID: 25

Type: **not specified**

## **Semi-analytical estimate of optics correction, ripple and vibration tolerances**

*Tuesday, 14 November 2023 16:00 (30 minutes)*

**Presenter:** Dr OIDE, Katsunobu (Universite de Geneve (CH))

**Session Classification:** Alignment, IR Tuning, Vibrations, Feedback

Contribution ID: 26

Type: **not specified**

## **Arc half-cell: methods to evaluate the systems' stability**

*Tuesday, 14 November 2023 16:30 (30 minutes)*

**Presenter:** Ms PICCINI, Audrey (Junior Fellow)

**Session Classification:** Alignment, IR Tuning, Vibrations, Feedback

Contribution ID: 27

Type: **not specified**

## **LAPP activities, e.g. ground motion, vibration models, simulations, news from SuperKEKB**

*Tuesday, 14 November 2023 17:00 (30 minutes)*

**Presenter:** BRUNETTI, Laurent (Centre National de la Recherche Scientifique (FR))

**Session Classification:** Alignment, IR Tuning, Vibrations, Feedback

Contribution ID: 28

Type: **not specified**

## Mitigation by fast IP feedback, a first look

*Tuesday, 14 November 2023 17:30 (30 minutes)*

**Presenter:** Mr SALVESEN, John Patrick (University of Oxford, CERN)

**Session Classification:** Alignment, IR Tuning, Vibrations, Feedback

Contribution ID: 29

Type: **not specified**

## **Alignment tolerances and dynamic aperture studies**

**Presenter:** HOFER, Michael (CERN)

**Session Classification:** Alignment, IR Tuning, Vibrations, Feedback

Contribution ID: 30

Type: **not specified**

## **Beam-beam simulation: Top-up injection, dynamic aperture and Bhabha lifetime, bunch length vs intensity**

*Wednesday, 15 November 2023 09:00 (30 minutes)*

**Presenter:** KICSINY, Peter (EPFL)

**Session Classification:** Polarisation, Optics Tuning, BBA, Diagnostics, Collimation, MDI

Contribution ID: **31**

Type: **not specified**

## **Transverse profile systems for the FCC-ee**

*Wednesday, 15 November 2023 09:30 (30 minutes)*

**Presenter:** BUTTI, Daniele

**Session Classification:** Polarisation, Optics Tuning, BBA, Diagnostics, Collimation, MDI



Contribution ID: 32

Type: **not specified**

## **Beam diagnostics & expected achievable performance**

*Wednesday, 15 November 2023 10:00 (30 minutes)*

**Presenter:** HOWLING, Emily Rose (Univ. of Oxford (GB))

**Session Classification:** Polarisation, Optics Tuning, BBA, Diagnostics, Collimation, MDI

Contribution ID: 33

Type: **not specified**

## **BBA simulations**

*Wednesday, 15 November 2023 11:00 (30 minutes)*

**Presenter:** HUANG, Xiaobiao (SLAC National Accelerator Laboratory)

**Session Classification:** Polarisation, Optics Tuning, BBA, Diagnostics, Collimation, MDI

Contribution ID: 34

Type: **not specified**

## **Alignment tolerances and tuning studies**

*Wednesday, 15 November 2023 11:30 (30 minutes)*

**Presenters:** HOFER, Michael (CERN); LIUZZO, Simone (ESRF)

**Session Classification:** Polarisation, Optics Tuning, BBA, Diagnostics, Collimation, MDI

Contribution ID: 35

Type: **not specified**

## **Booster magnets, possibly with eddy currents and low-field dipole**

*Wednesday, 15 November 2023 12:00 (30 minutes)*

**Presenter:** VON FREEDEN, Luke (CERN)

**Session Classification:** Polarisation, Optics Tuning, BBA, Diagnostics, Collimation, MDI

Contribution ID: **36**

Type: **not specified**

## Collimation status

*Wednesday, 15 November 2023 13:30 (30 minutes)*

**Presenter:** BROGGI, Giacomo (CERN, Sapienza Università di Roma e INFN Laboratori Nazionali di Frascati (IT))

**Session Classification:** Collimation, MDI, Beam Studies around the World and Future Plans

Contribution ID: 37

Type: **not specified**

## **MDI status & plan**

*Wednesday, 15 November 2023 14:00 (20 minutes)*

**Presenter:** BOSCOLO, Manuela (INFN e Laboratori Nazionali di Frascati (IT))

**Session Classification:** Collimation, MDI, Beam Studies around the World and Future Plans

Contribution ID: **38**

Type: **not specified**

## **SuperKEKB studies and plans**

*Wednesday, 15 November 2023 14:20 (20 minutes)*

**Presenter:** KEINTZEL, Jacqueline (CERN)

**Session Classification:** Collimation, MDI, Beam Studies around the World and Future Plans

Contribution ID: 39

Type: **not specified**

## **FCC optics correction studies and possible verification at PETRA**

*Wednesday, 15 November 2023 14:40 (20 minutes)*

**Presenter:** MUSA, Elaf (DESY)

**Session Classification:** Collimation, MDI, Beam Studies around the World and Future Plans



Contribution ID: 40

Type: **not specified**

## **DAFNE as a possible test bench for FCC-ee**

*Wednesday, 15 November 2023 15:30 (20 minutes)*

**Presenters:** MILARDI, Catia (Istituto Nazionale di Fisica Nucleare (INFN)); ZIMMERMANN, Frank (CERN)

**Session Classification:** Collimation, MDI, Beam Studies around the World and Future Plans

Contribution ID: 41

Type: **not specified**

## **Polarization studies at KARA**

*Wednesday, 15 November 2023 15:50 (20 minutes)*

**Presenter:** HAERER, Bastian

**Session Classification:** Collimation, MDI, Beam Studies around the World and Future Plans

Contribution ID: 42

Type: **not specified**

## Longitudinal measurements at CLEAR

*Wednesday, 15 November 2023 16:10 (20 minutes)*

**Presenter:** SCHLOGELHOFER, Andreas (Vienna University of Technology (AT))

**Session Classification:** Collimation, MDI, Beam Studies around the World and Future Plans

Contribution ID: 43

Type: **not specified**

## **Electro-optical measurements**

*Wednesday, 15 November 2023 16:30 (20 minutes)*

**Presenter:** REISSIG, Micha

**Session Classification:** Collimation, MDI, Beam Studies around the World and Future Plans

Contribution ID: 44

Type: **not specified**

## Closing remarks

*Wednesday, 15 November 2023 16:50 (10 minutes)*

**Presenter:** BOSCOLO, Manuela (INFN e Laboratori Nazionali di Frascati (IT))

**Session Classification:** Collimation, MDI, Beam Studies around the World and Future Plans

Contribution ID: 45

Type: **not specified**

## Alternative Optics and Variants

*Monday, 13 November 2023 09:30 (30 minutes)*

**Presenter:** Dr RAIMONDI, Pantaleo (SLAC National Accelerator Laboratory (US))

**Session Classification:** Optics Design, Beam-Beam and Electron Cloud

Contribution ID: 46

Type: **not specified**

## **FCCIS WP2 in a Nutshell: Structure, Tasks, Deliverables and Milestones**

*Monday, 13 November 2023 17:10 (20 minutes)*

**Presenter:** AGAPOV, Ilya (Deutsches Elektronen-Synchrotron (DE))

**Session Classification:** Impedance, Collective Effects, Interplay Impedance + Beam-Beam