

Workshop on Dust Charging and Beam-Dust Interaction in Particle Accelerators

Report of Contributions

Contribution ID: 1

Type: **not specified**

Welcome message

Tuesday 13 June 2023 09:00 (20 minutes)

Presenter: JIMENEZ, Jose Miguel (CERN)

Session Classification: Session 1: Introduction

Contribution ID: 2

Type: **not specified**

Introduction to Workshop

Tuesday 13 June 2023 09:20 (15 minutes)

Presenter: WOLLMANN, Daniel (CERN)

Session Classification: Session 1: Introduction

Contribution ID: 3

Type: **not specified**

Overview of beam-dust issues in accelerators: from AdA to LHC

Tuesday 13 June 2023 09:35 (30 minutes)

Presenter: SCHMIDT, Rudiger (GSI - Helmholtzzentrum für Schwerionenforschung GmbH (DE))

Session Classification: Session 1: Introduction

Contribution ID: 4

Type: **not specified**

Overview of dust issues in space research

Tuesday 13 June 2023 10:05 (30 minutes)

Presenter: HORANYI, Mihaly

Session Classification: Session 1: Introduction

Contribution ID: 5

Type: **not specified**

Dust-charging environment in accelerators: synchrotron radiation

Tuesday 13 June 2023 10:55 (30 minutes)

Presenter: BAGLIN, Vincent (CERN)

Session Classification: Session 1: Introduction

Contribution ID: 6

Type: **not specified**

Dust-charging environment in accelerators: electron clouds

Tuesday 13 June 2023 11:25 (30 minutes)

Presenter: PARASCHOU, Konstantinos (CERN)

Session Classification: Session 1: Introduction

Contribution ID: 7

Type: **not specified**

Discussion Session 1

Tuesday 13 June 2023 11:55 (20 minutes)

Session Classification: Session 1: Introduction

Contribution ID: 8

Type: **not specified**

Dust charging and dust-surface interaction in the laboratory

Tuesday 13 June 2023 15:45 (30 minutes)

Presenter: ARNAS, Cecile

Session Classification: Session 3: Dust in space research and nuclear fusion

Contribution ID: 9

Type: **not specified**

Theoretical and numerical characterisation of the adhesion and electrostatic charge of dust

Tuesday 13 June 2023 16:45 (30 minutes)

Presenter: DECA, Jan

Session Classification: Session 3: Dust in space research and nuclear fusion

Contribution ID: 10

Type: **not specified**

Dust issues in nuclear fusion reactors

Tuesday 13 June 2023 16:15 (30 minutes)

Presenter: RATYNSKAIA, Svetlana (Royal Institute of Technology (KTH), Stockholm)

Session Classification: Session 3: Dust in space research and nuclear fusion

Contribution ID: 11

Type: **not specified**

Dust issues in the semiconductor industry

TBC

Session Classification: Session 3: Dust in space research and nuclear fusion

Contribution ID: 12

Type: **not specified**

Discussion Session 3

Tuesday 13 June 2023 17:15 (20 minutes)

Session Classification: Session 3: Dust in space research and nuclear fusion

Contribution ID: 13

Type: **not specified**

Observation of sudden beam loss at SuperKEKb, and possible reasons

Tuesday 13 June 2023 13:45 (30 minutes)

Presenter: IKEDA, HITOMI (High Energy Accelerator Research Organization (KEK)-Unknown-Unkn)

Session Classification: Session 2a: Dust in particle accelerators I (Beam-dust interactions)

Contribution ID: 14

Type: **not specified**

"Fireball" measured inside the RF cavity at SuperKEKb

Tuesday 13 June 2023 14:15 (30 minutes)

Presenter: Dr ABE, Tetsuo (High Energy Accelerator Research Organization (KEK))

Session Classification: Session 2a: Dust in particle accelerators I (Beam-dust interactions)

Contribution ID: 15

Type: **not specified**

Overview of UFOs during LHC operation - what we know, what we do not know

Wednesday 14 June 2023 09:00 (30 minutes)

Presenter: LECHNER, Anton (CERN)

Session Classification: Session 2b: Dust in particle accelerators I (Beam-dust interactions)

Contribution ID: 16

Type: **not specified**

UFO dynamics and pre-charged dust: Simulations and experimental observations at LHC

Wednesday 14 June 2023 09:30 (30 minutes)

Presenter: LINDSTROM, Bjorn Hans Filip (CERN)

Session Classification: Session 2b: Dust in particle accelerators I (Beam-dust interactions)

Contribution ID: 17

Type: **not specified**

Dust and beam instabilities: The "16L2" events at LHC - what we know, what we do not know

Presenter: METHER, Lotta (CERN)

Session Classification: Session 2b: Dust in particle accelerators I (Beam-dust interactions)

Contribution ID: **18**

Type: **not specified**

Discussion Session 2

Wednesday 14 June 2023 10:00 (20 minutes)

Session Classification: Session 2b: Dust in particle accelerators I (Beam-dust interactions)

Contribution ID: 19

Type: **not specified**

Issues with beam-dust interaction inside the vacuum chamber at SuperKEKb

Wednesday 14 June 2023 10:40 (30 minutes)

Presenter: SUETSUGU, Yusuke (KEK)

Session Classification: Session 4: Dust in particle accelerators II (Vacuum, surfaces and RF)

Contribution ID: 20

Type: **not specified**

Surface laser treatment of vacuum systems and potential dust issues

Wednesday 14 June 2023 11:35 (25 minutes)

Presenter: HIMMERLICH, Marcel (CERN)

Session Classification: Session 4: Dust in particle accelerators II (Vacuum, surfaces and RF)

Contribution ID: 21

Type: **not specified**

Analysis and possible sources of dust grains extracted from the LHC

Wednesday 14 June 2023 13:30 (30 minutes)

Presenter: PEREZ FONTENLA, Ana Teresa (CERN)

Session Classification: Session 4: Dust in particle accelerators II (Vacuum, surfaces and RF)

Contribution ID: 22

Type: **not specified**

Dust issues and beam losses in LHC injection kickers: What can we learn from it?

Wednesday 14 June 2023 14:00 (30 minutes)

Presenter: BARNES, Mike (CERN)

Session Classification: Session 4: Dust in particle accelerators II (Vacuum, surfaces and RF)

Contribution ID: 23

Type: **not specified**

Dust issues at DESY (HERA, DORIS, PETRA) and how to avoid them at XFEL and FLASH

Wednesday 14 June 2023 14:30 (30 minutes)

Presenter: LILJE, Lutz

Session Classification: Session 4: Dust in particle accelerators II (Vacuum, surfaces and RF)

Contribution ID: 24

Type: **not specified**

Dust migration into RF cavities

Wednesday 14 June 2023 15:00 (30 minutes)

Presenter: MAHON, Aveen (McGill University, (CA))

Session Classification: Session 4: Dust in particle accelerators II (Vacuum, surfaces and RF)

Contribution ID: 25

Type: **not specified**

Discussion Session 4

Wednesday 14 June 2023 15:30 (20 minutes)

Session Classification: Session 4: Dust in particle accelerators II (Vacuum, surfaces and RF)

Contribution ID: 26

Type: **not specified**

Visits

Wednesday 14 June 2023 16:10 (1h 20m)

Visit to CERN's Large Magnet Facility
Visit to the CERN Control Centre (CCC)

Session Classification: Visits

Contribution ID: 27

Type: **not specified**

Dust charging mechanisms in accelerators

Thursday 15 June 2023 09:00 (30 minutes)

Presenter: BELANGER, Philippe (TRIUMF (CA))

Session Classification: Session 5: Dust charging and dust release in particle accelerators

Contribution ID: 28

Type: **not specified**

Dust charging lofting experiments at LASP, University of Colorado

Thursday 15 June 2023 09:30 (30 minutes)

Presenter: WANG, Xu

Session Classification: Session 5: Dust charging and dust release in particle accelerators

Contribution ID: 29

Type: **not specified**

Wrap-up and questions for the discussion

Thursday 15 June 2023 10:30 (30 minutes)

Presenter: WIESNER, Christoph (CERN)

Session Classification: Session 6: Closure and discussion

Contribution ID: **30**

Type: **not specified**

Discussion: Most relevant aspects to be understood and studied? Next steps?

Thursday 15 June 2023 11:00 (1h 30m)

Session Classification: Session 6: Closure and discussion

Contribution ID: 31

Type: **not specified**

Dust and beam instabilities: The "16L2" events at LHC - what we know, what we do not know

Tuesday 13 June 2023 14:45 (30 minutes)

Presenter: METHER, Lotta (CERN)

Session Classification: Session 2a: Dust in particle accelerators I (Beam-dust interactions)

Contribution ID: 32

Type: **not specified**

Discussion Session 2a

Tuesday 13 June 2023 15:15 (10 minutes)

Session Classification: Session 2a: Dust in particle accelerators I (Beam-dust interactions)

Contribution ID: 33

Type: **not specified**

Dust in accelerator vacuum systems: Vacuum manipulations and beam-screen treatment at LHC

Wednesday 14 June 2023 11:10 (25 minutes)

Presenter: GARION, Cedric (CERN)

Session Classification: Session 4: Dust in particle accelerators II (Vacuum, surfaces and RF)

Contribution ID: 34

Type: **not specified**

Coffee Break

Session Classification: Session 2a: Dust in particle accelerators I (Beam-dust interactions)

Contribution ID: 35

Type: **not specified**

Discussion Session 5

Thursday 15 June 2023 10:00 (10 minutes)

Session Classification: Session 5: Dust charging and dust release in particle accelerators