



FCC-EE MDI MEETING #44

M. Boscolo

20 February 2023

General Informations

- Minutes previous meeting 06/Feb/`23 [link](#)
- Next meeting 13 March

Agenda Today:

16:05	→ 16:25	Possible study on the detector solenoid compensation scheme Speaker: Dr Pantaleo Raimondi (SLAC National Accelerator Laboratory (US))
16:25	→ 16:50	Synchrotron Radiation background Speaker: Kevin Daniel Joel Andre (CERN)
16:50	→ 17:15	FCC-ee IR beam losses Speaker: Andrey Abramov (CERN)
17:15	→ 17:40	Detector backgrounds Speaker: Andrea Ciarna
17:40	→ 17:45	Plans for Radiation Studies with FLUKA for the FCC-ee MDI Speaker: Anton Lechner (CERN)

Next Steps on Backgrounds studies

- **Beam losses**

- Study other beam loss scenarios

- Obtain input for the equipment loss tolerances – superconducting magnets, collimators, other

- Energy deposition studies required for magnets, collimators, and masks

- Detailed evaluation of detector backgrounds required – shielding, muon backgrounds

- Study all beam modes

- **Synchrotron Radiation**

- Iteration on the positions and apertures of the synchrotron radiation collimators within the collimation hierarchy

- Study the SR collimation performance with the X-Y tail distribution modeling (charge and width)

- Continue the study of the synchrotron radiation background due to off-axis top-up injection

- **Backgrounds in CLD (& IDEA?) detector**

- Tracking the primary beam particles and the photons hitting the pipe performed in Key4HEP

- Photons at the tip of the SR mask upstream the IP

- **Radiation studies** in the experimental area and in the BS dump area will start with FLUKA in March