FCC-EE MDI MEETING #43

M. Boscolo

6 February 2023

General Informations

- Minutes previous meeting 5/09/22: link
- Next meeting 20 February

Agenda Today:

- **Magnet Design for Beamstrahlung Photons Extraction Line** - Carl Jaermyr Eriksson (CERN)
- **Update on the MDI Mechanical model** - Francesco Fransesini , Stefano Lauciani (INFN-LNF)
- **Vertex & Outer Tracker Integration in the MDI** - Fabrizio Palla, Filippo Bosi (Univ. & INFN Pisa)
- **Comments from the 6th FCC Physics Workshop –** M.B.

Progress on MDI study:

Since the last MDI meeting 5 September:

17-28 October `22: FCC-EIC Joint & 4th MDI workshop https://indico.cern.ch/event/1186798/

21-23 November `22: FCC-France & Italy Workshop in Lyon: https://indico.in2p3.fr/event/27968/

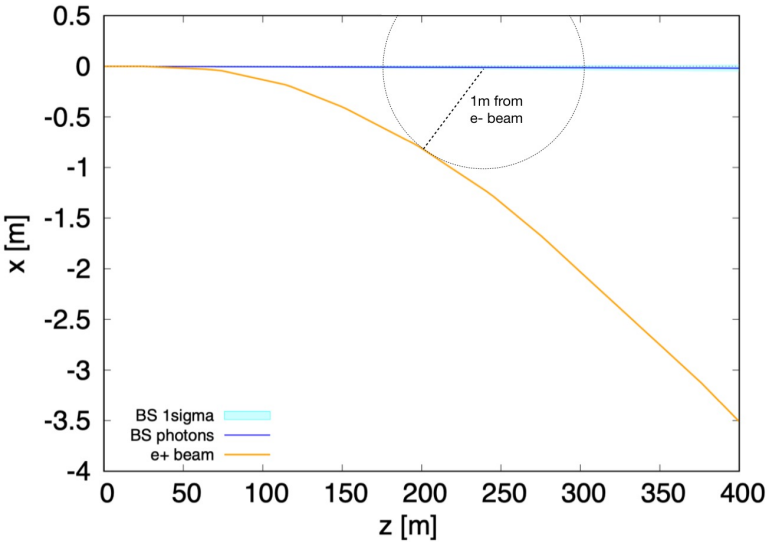
5-9 December `22: FCCIS 2022 workshop : https://indico.cern.ch/event/1203316/

23-27 January `23: 6th FCC Physics workshop: https://indico.cern.ch/event/1176398/

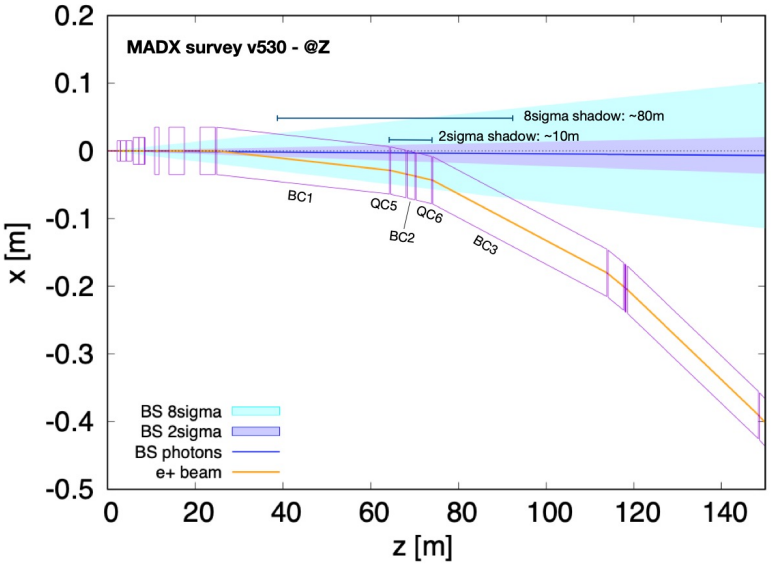
As an introduction to the first presentation of today

FCC-ee BS photon absorber

An **external dump is preferrable**



Plots courtesy Andrea Ciarma



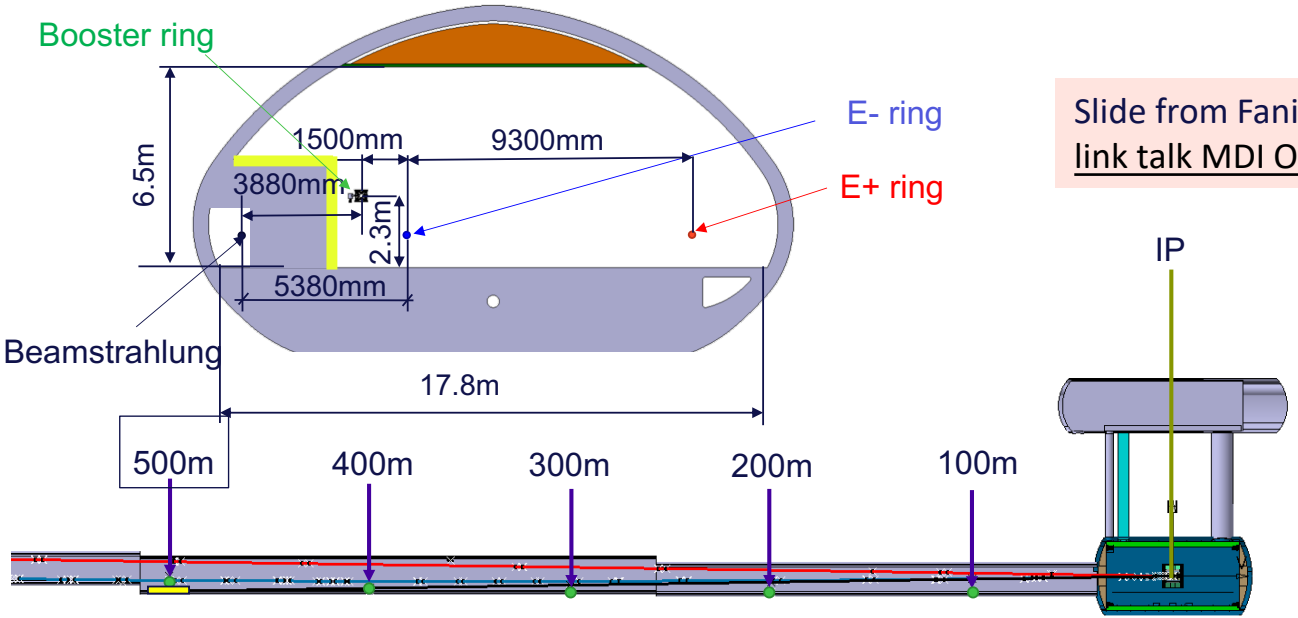
An external dump is possible with an **extraction line up to at least 300-400 m downstream of the IP, where the electron and photon beams have a separation of about 2-3 m**.

Study required on the aperture of the magnet yokes to extract the photon line.

Handling of Beamstrahlung

Discussed at the MDI workshop in a dedicated session on Thursday 27 October
https://indico.cern.ch/event/1186798

FCC-ee beamstrahlung dump integration at point A



Slide from Fani Valchkova:
link talk MDI Oct. workshop

Integration in the tunnel:
External dump @400/500m from IP preferrable option