



Contribution ID: 737 Contribution code: WEPL029

Type: **Poster Presentation**

## Mini-beta optics for the European Synchrotron Radiation Facility

*Wednesday, 10 May 2023 16:30 (2 hours)*

The ESRF presently operates with the HMBA lattice that features beta-functions of 6.9 m and 2.7 m in the horizontal and vertical planes at the center of the the straight sections. These are not optimal for a length of in-vacuum undulator of approximately 2 m that is used at ESRF. New optics with reduced beta functions at the center of the straight section were designed to better match the electron and photon beams, allow for a reduction of the in-vacuum undulator gap and increase the brilliance delivered to the beam line. This paper presents the optics design, brilliance calculation and plans for experimental validation at the ESRF.

### Funding Agency

### Footnotes

### I have read and accept the Privacy Policy Statement

Yes

**Primary authors:** WHITE, Simon (European Synchrotron Radiation Facility); LE BEC, Gaël (European Synchrotron Radiation Facility); LIUZZO, Simone (European Synchrotron Radiation Facility)

**Co-authors:** BENABDERRAHMANE, Chamseddine (European Synchrotron Radiation Facility); CHAVANNE, Joel (European Synchrotron Radiation Facility); FALAISE, Philippe (European Synchrotron Radiation Facility); LAGARDE, S. (European Synchrotron Radiation Facility); OGIER, Bernard (European Synchrotron Radiation Facility); RAIMONDI, Pantaleo (European Synchrotron Radiation Facility); VERSTEEGEN, Reine (European Synchrotron Radiation Facility)

**Presenter:** WHITE, Simon (European Synchrotron Radiation Facility)

**Session Classification:** Wednesday Poster Session

**Track Classification:** MC5: Beam Dynamics and EM Fields: MC5.D01: Beam Optics Lattices, Correction Schemes, Transport