



Contribution ID: 2232 Contribution code: MOPA136

Type: **Poster Presentation**

A high-current low-energy storage ring for photon-hungry applications

Monday, 8 May 2023 16:30 (2 hours)

Many applications of synchrotron light sources such as imaging, lithography and angle-resolved photoemission spectroscopy can benefit from high photon flux, which, unlike the brightness, is almost independent of electron beam transverse emittance. To realize high photon flux, it is desired to increase the stored current or number of periods of insertion devices. To this end, a low energy (500\,MeV) and high current (1000\,mA) storage ring with long straight sections is under design in Chongqing University of China. This paper presents the physical design, highlighting both the feasibility and challenges.

Funding Agency

Footnotes

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Yes

Primary author: ZHANG, Yao (Chongqing University)

Co-authors: JIANG, Bocheng (Chongqing University); XIANG, Dao (Shanghai Jiao Tong University); BAI, Zhenghe (University of Science and Technology of China)

Presenter: ZHANG, Yao (Chongqing University)

Session Classification: Monday Poster Session

Track Classification: MC2: Photon Sources and Electron Accelerators: MC2.A04: Circular Accelerators