Contribution ID: **1309** Contribution code: **TUCD1**   Type: **Contributed Oral Presentation**

Operational status and future project of the KEK Photon Factory

Tuesday 3 June 2025 15:00 (20 minutes)

Two synchrotron radiation sources, the 2.5 GeV Photon Factory Storage Ring (PF ring) and the 6.5 GeV Photon Factory Advanced Ring (PF-AR), have been in stable operation at the High Energy Accelerator Research Organization (KEK) for over 40 years. This paper first describes the current operational status and recent developments at the Photon Factory. Next, a new concept of hybrid light source (PF-HLS) combining the advantages of a superconducting linac and a low-emittance storage ring is described. In the preliminary design, the beam energy can be switched between 2.5 GeV and 5.0 GeV. The storage ring will be constructed in a green field with a circumference of 750 m. Conceptual Design Report (CDR) has been published and updated since Jan/2024.

Footnotes

Paper preparation format

Word

Region represented

Asia

Funding Agency

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Session Classification: TUCD:Photon Sources and Electron Accelerators (Contributed)

Track Classification: MC2: Photon Sources and Electron Accelerators: MC2.A05 Synchrotron Radiation Facilities