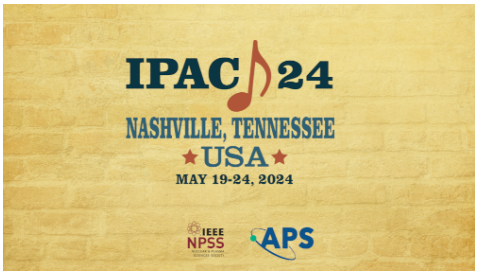

Contribution ID: **1549** Contribution code: **WEPC73** Type: **Poster Presentation**

Preparation, transport, and operation of high quantum efficiency semiconductor Cs-Te photocathode for SHINE

Wednesday, 22 May 2024 16:00 (2 hours)

According to the high repetition rate, high brightness and other operating characteristics of SHINE, the photocathode with high quantum efficiency, low emittance, and long operating lifetime is required to produce high-quality electron beam. After solving the problems of ultra-high vacuum acquisition, photocathode plug in vacuum transmission, and photocathode preparation process, the Cs-Te photocathode prepared on SHINE's photocathode preparation device based on Te intermittent and Cs continuous deposition method has a quantum efficiency greater than 10% under 265 nm light irradiation, and the quantum efficiency remains almost unchanged in the photocathode preparation device, photocathode suitcase, photocathode load lock system, and electron gun.

Footnotes

Funding Agency

Paper preparation format

Word

Region represented

Asia

Primary author: LI, Xudong (Shanghai Synchrotron Radiation Facility)

Co-authors: JIANG, Zenggong (Shanghai Advanced Research Institute); QIAN, Houjun (Deutsches Elektronen-Synchrotron DESY at Zeuthen); GU, Qiang (Shanghai Institute of Applied Physics); LIU, Zipeng (Shanghai Synchrotron Radiation Facility); SHU, Guan (Institute of High Energy Physics)

Presenter: LI, Xudong (Shanghai Synchrotron Radiation Facility)

Session Classification: Wednesday Poster Session

Track Classification: MC2: Photon Sources and Electron Accelerators: MC2.T02 Electron Sources