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## Single electron storage at UVSOR-III electron storage ring

*Sunday 1 June 2025 14:00 (2 hours)*

We have started single electron storage experiments since 2021 at the UVSOR-III storage ring with the aim of conducting fundamental research on electromagnetic radiation. At BL1U, which is a beamline dedicated to light source developments, we extracted undulator light in the UV wavelength range into the air and observed its intensity by a photomultiplier tube, as decreasing the electron beam intensity using a beam scraper. When the beam intensity became sufficiently small, we observed step-function-like intensity changes with a good SN ratio, each of which corresponded to a loss of one electron. Based on this technique, we confirmed the single electron storage. After establishing the technique, we conducted some experimental studies on undulator radiation from single electron. We will present the latest results at the conference.

### Footnotes

### Paper preparation format

Word

### Region represented

Asia

### Funding Agency

**Author:** ASAI, Yuya (Hiroshima University)

**Co-authors:** Dr SHIMADA, Miho (High Energy Accelerator Research Organization); MIYAUCHI, Hiroshi (High Energy Accelerator Research Organization); KATOH, Masahiro (Hiroshima Synchrotron Radiation Center); KANEYASU, Tatsuo (Institute for Molecular Science)

**Presenter:** ASAI, Yuya (Hiroshima University)

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