

# Industrial Research Application of PLS-II 8D beamline

Thursday, November 14, 2024 10:00 AM (20 minutes)

The beamline of the PLS-II 8D port was first constructed in 2000 with the support of POSCO and the supervision of RIST, and has been in operation for 24 years.

As the beamline operation institute, RIST performs measurements utilizing synchrotron radiation requested by various industries including POSCO, and it is the only one beamline in PLS-II that is utilized more by industry than by universities or other research institutes.

Of course, general users also use some (30%) of the beamtime through the general proposal and review process.

In the early stages of construction, equipment for XAFS measurements as well as XRD measurements were equipped, but due to the aging of the XAFS equipment, only XRD measurements have been performed recently.

Nowadays, due to the rapid development of the secondary battery industry, the demand for XAFS for the characterization of cathode materials, anode materials, and all-solid-state materials has also rapidly expanded, therefore latest high-spec XAFS equipment is being installed in the 8D beamline. We will demonstrate the performance of the equipment and beamline through standard sample data utilizing the newly purchased and installed XAFS equipment. Since the XAFS field is the field with the highest user demand, we plan to provide XAFS measurement equipment to general users through the consultation process.

We will share the measurement results of the powder X-ray diffraction standard samples to help you verify the performance of the beamline. The 8D beamline also has a Pilatus 3S 2M 2D X-ray detector, and is also performing in-situ measurements to analyze the properties of materials during the secondary battery charging and discharging process.

I will introduce the contents disclosed among the research on the utilization of synchrotron radiation in the industrial field being conducted at the whole PLS-II.

## Paper submission Plan

## Best Presentation

## Contribution track

ICABU WG3. Beamline and Instrumentation

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