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## Construction and beam commissioning of the GeV-range test beamline at KEK PF-AR

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

Commissioning a test beamline in KEK Photon Factory Advanced Ring (PF-AR, 6.5GeV and 5.0GeV) is proceeded under cooperation with the KEK Institute for Particle and Nuclear Studies (IPNS) to use electron beams in the GeV-range for the development of detectors in particle physics experiments. The inauguration of the project which was mainly directed by the IPNS was launched back in 2014, but the project progressed after the budgeting in FY2020, and the construction was completed in the summer of 2021. The electron for beam test can be obtained from gamma-rays emitted by collisions between the halo of a stored beam, which is the synchrotron radiation source in PF-AR, and a wire target using a copper converter to electron-positron pair creation. A yielded monochromatic electron beam is guided to the test area by quadrupole magnets and a bending magnet on the test beamline; the first interaction test between the wire target and the stored beam was successfully performed in the fall of 2021 and the trial of long user operation with top-up injection was completed in the fall of 2022. In this presentation, we will report on the overview of the construction and the beam commissioning of the test beam line.

### Funding Agency

### Footnotes

### I have read and accept the Privacy Policy Statement

Yes

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