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BeamNetUS at Brookhaven National Laboratory

Thursday 14 August 2025 16:00 (2 hours)

BeamNetUS is a national network of accelerator facilities that aims to provide broader access to the unique capabilities of accelerated particle beams. Two facilities at Brookhaven National Laboratory are part of the inaugural year of BeamNetUS, the Accelerator Test Facility (ATF) and the Low Energy Accelerator Development (LEAD) facility, and are scheduled to each host one BeamNetUS user experiment.

The ATF features an RF photocathode electron LINAC, a femtosecond Ti:Sa laser, and a high-peak-power long-wave infrared (LWIR) laser. These tools can be synchronized for joint use or operated individually, facilitating the development of advanced beam manipulation and measurement techniques, accelerator and laser technologies, and the exploration of low-plasma-density regimes.

The LEAD facility provides an ultrafast electron diffraction (UED) apparatus, utilizing an RF electron gun and Ti:Sa laser to enable dynamic studies of material structures, as well as investigations involving low-energy electron beams.

In addition to these two accelerator facilities, Brookhaven National Laboratory provides administrative support for the network. Further expansion is planned for 2026, including both increased user hours at ATF and LEAD as well as the potential inclusion of several other facilities at the lab.

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No

Would you like to submit this poster in student poster session on Sunday (August 10th)

No

Footnotes

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Yes

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