

Neutralizer-based longitudinal bunch profile measurement design

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The Los Alamos Neutron Science Center (LANSCE) provides an 800-MeV H⁻ ion beam to four of its five user facilities. Two new methods for studying the beam profile are being installed in the south transport lines to the Lujan Spallation Neutron Center and the Weapons Neutron Science (WNR) Facility. The Laser Profile Monitor (LPM) studies the longitudinal beam profile by neutralizing the H⁻ ions. The Neutralization Beam Energy Measurement (NBEM) system uses the excited neutrals from stripping to measure the beam's momentum using doppler-shifted decay photons. Here presents the simulated results we expect from the system and how their data can be correlated.

Footnotes

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