

U.S. neutron source facility sets records

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U.S. scientists are excited with the accomplishments achieved during the first nine months of operations at the Spallation Neutron Source facility.

The SNS, a U.S. Department of Energy accelerator located at the Oak Ridge National Laboratory in Oak Ridge, Tenn., generates the most intense pulsed neutron beams in the world for scientific research.

The facility has already set records for the highest-energy proton linear accelerator in the world, for the highest number of protons in an accumulator ring, and for the highest brightness, or protons per pulse onto the mercury target.

Researchers said three of the facility's instruments -- the backscattering spectrometer and the liquids and magnetism reflectometers -- are already receiving neutrons. In some configurations, the reflectometers are receiving neutron beams intense enough to saturate the detectors, even operating at only 2 percent of the SNS's eventual 1.4 megawatts of power.

The scientists say such early accomplishments provide a promising beginning for decades of productive neutron science.

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