SHINE | TESTING

Radiation Effects Testing

SHINE delivers the highest steady-state 14 MeV neutron flux in the industry for radiation-hardened microelectronics and fusion component testing.

Survivability ensured

Designed for defense and aerospace programs where component failure is not an option, SHINE Radiation Effects Testing provides the test environment to certify that electronics and materials can survive the environment they'll face in the field.

Built for speed, volume and accuracy

- Steady-state neutron flux — more than 20 times greater than the nearest legacy facility — significantly reduces irradiation times, accelerating qualification while reducing costs.
- Linear neutron source is accessible from all sides, enabling uniform-flux irradiation of multiple devices simultaneously, irradiation of large test articles, and more efficient use of test resources.
- Supports both monitored and unmonitored testing protocols, including neutron single event effects (nSEE) and displacement damage (DD). Upgrades enhance throughput and testing flexibility.



Engineers installing test articles in spacious irradiation cavities



Customer space and irradiation bunker

RESERVE BEAM TIME AT:
shinefusion.com/radiation-effects

3400 Innovation Ct.
Janesville, WI 53546



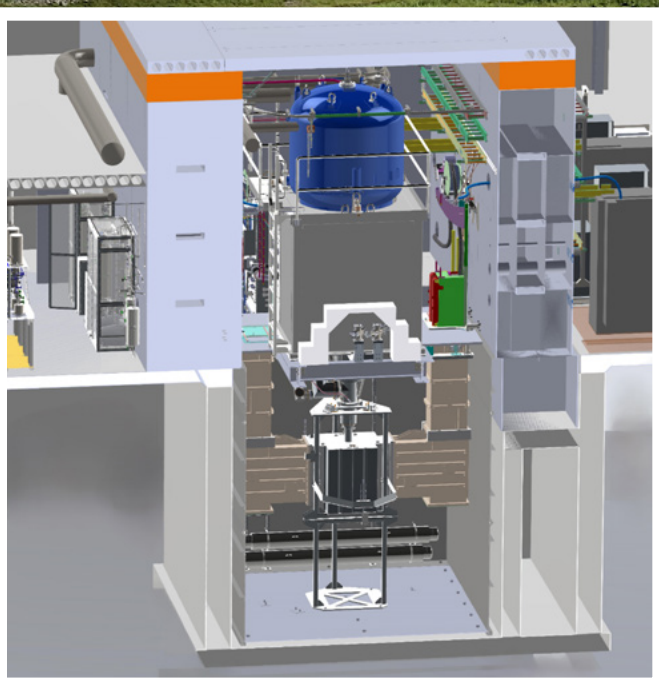
> "There's no better company than SHINE for 14 MeV neutrons. We'll keep using SHINE's Radiation Effects Testing. Full stop."
>
> – Major Defense Prime Contractor

SHINE expands defense industrial base for rad-hard testing

- Proven high flux Deuterium-Tritium (DT) neutron source dedicated to commercial test services
- 10,000 sq. ft. facility on easily accessible private property, licensed for tritium operations

Game-changing neutron irradiation performance

- Steady-state operations up to days at a time with uniform, sustained output
- Delivers a neutron flux up to 4.1x109 n/(cm2•s) for small irradiation volumes
- Two 16" x 16" x 8" rapid-loading irradiation frames enable simultaneous irradiation of multiple devices
- Thermal detectors monitor real-time flux, validated by Ni, In, Au, or Nb activation foils
- No EMI in the neutron field means high test fidelity



Rendering of 2026 Upgrade

A high-value user experience

- ITAR-controlled, fully licensed facility for all radiation Effect use cases
- Spacious customer area for staging and monitoring, proximal to bunker to minimize cable runs. Unstaffed user equipment can be placed as close as 12 ft to the irradiation area
- Fully trained and licensed staff of accelerator operators, authorized tritium handlers, radiation protection professionals, and engineers provide a safe, high-value testing experience

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