



SOLID STATE LASER TESTBED (SSLT)



Solid state laser weapons have potential to provide the Army unique capabilities that other weapons do not possess – lethality is key to bringing the right system to the fight

Enemy rockets, artillery, and mortars, unmanned aerial vehicles, and cruise missiles pose a significant threat to America's fighting force. Recent demonstrations have shown that these targets can be defeated by high energy laser weapons. A high energy laser system offers low cost per kill, a deep magazine, speed of light engagement, precision application of energy, and a graduated response for lethal to non-lethal effects. The Army's High Energy Laser Lethality Program is collecting data at the Solid State Laser Testbed to enable future high energy laser weapon systems to select optimum aimpoints based on threat type, engagement geometry and other factors.

- Instrumental to Army Laser Lethality Program
- Demonstrated effectiveness at negating unmanned aerial vehicles and rockets, artillery and mortar threats
- Suitable for in-flight demonstrations and fixed-site lethality data collection
- Up to 50 kW laser source





SOLID STATE LASER TESTBED

The SSLT is a high energy laser data collection and demonstration facility located at the High Energy Laser Systems Test Facility at White Sands Missile Range, N.M. At the SSLT, the U.S. Army Space and Missile Defense Command has integrated the Joint High Power Solid-State Laser, or JHPSSL, and the Tactical High Energy Laser Pointer Tracker Subsystem into a complete facility that enables validation of effects in dynamic (in-flight) engagements of rockets, artillery and mortars, unmanned aerial vehicles, and other threat types.

In addition, the program has procured a 50 kW commercial laser to support high throughput data collection at fixed sites. The primary function of the SSLT is to collect lethality and beam propagation data needed by military planners to validate directed energy capability and help determine the next steps for developing laser systems for the battlefield.

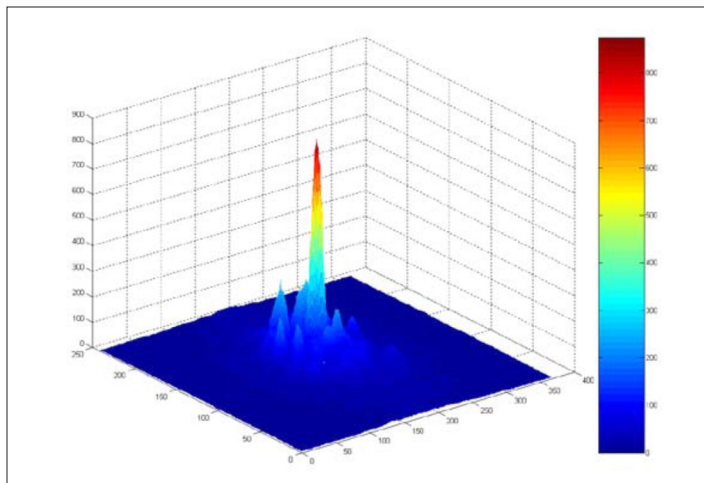
LASER CAPABILITIES

The SSLT is equipped with the JHPSSL and a multi-mode fiber laser. The JHPSSL is a coherent laser suitable for long range propagation. In addition, the qualities of the JHPSSL enable research and development testing of advanced beam control concepts such as advanced adaptive optics and innovative laser pointing concepts.

The multi-mode fiber laser power is primarily used for laboratory type data collection at fixed locations. As much as 50 kW of laser power is available for laboratory testing. The SSLT is fully equipped and capable of engagements involving explosive and flammable materials.

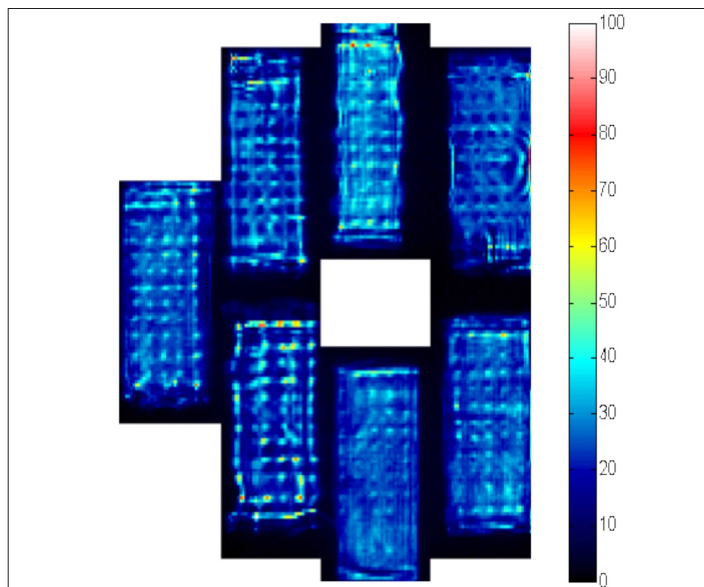
TESTING CAPABILITIES

The Pointer Tracker System has been modified to operate with the JHPSSL allowing for the capability to accomplish



relatively inexpensive demonstrations of laser effectiveness against RAM, UAV, and cruise missile targets under highly realistic conditions.

Types of target engagements include material, component, hazardous material, full-scale system, and dynamic system tests. The site has a full suite of diagnostics that operate with both laboratory and dynamic engagements. These capabilities make the SSLT a one-of-a-kind facility that will provide Warfighters with the information needed to implement solid state lasers into America's Army.



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