Laser weapon system stops truck in field test

March 4 2015, by Lynn Fisher

Lockheed Martin ATHENA laser weapon system defeats a truck target by disabling the engine, demonstrating its military effectiveness against enemy ground vehicles. Photo: Lockheed Martin.

Lockheed Martin's 30-kilowatt fiber laser weapon system successfully disabled the engine of a small truck during a recent field test, demonstrating the rapidly evolving precision capability to protect military forces and critical infrastructure.

Known as ATHENA, for Advanced Test High Energy Asset, the ground-based prototype system burned through the engine manifold in a matter of seconds from more than a mile away. The truck was mounted on a

test platform with its engine and drive train running to simulate an operationally-relevant test scenario.

"Fiber-optic lasers are revolutionizing directed energy systems," said Keoki Jackson, Lockheed Martin chief technology officer. "We are investing in every component of the system – from the optics and beam control to the laser itself – to drive size, weight and power efficiencies. This test represents the next step to providing lightweight and rugged laser weapon systems for military aircraft, helicopters, ships and trucks."

The demonstration marked the first field testing of an integrated 30-kilowatt, single-mode fiber laser weapon system prototype. Through a technique called spectral beam combining, multiple fiber laser modules form a single, powerful, high-quality beam that provides greater efficiency and lethality than multiple individual 10-kilowatt lasers used in other systems.

ATHENA is based on the Area Defense Anti-Munitions (ADAM) laser weapon system developed by Lockheed Martin in Sunnyvale, California, which has been proven in demonstrations against small airborne and sea-based targets. It incorporates the 30-kilowatt Accelerated Laser Demonstration Initiative (ALADIN) fiber laser developed by the company in Bothell, Washington.

Provided by Lockheed Martin