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February 11, 2010

Airborne Laser Test Bed Successful in Lethal Intercept Experiment

The Missile Defense Agency demonstrated the potential use of directed energy to defend against ballistic missiles when the Airborne Laser Test Bed (ALTB) successfully destroyed a boosting ballistic missile. The experiment, conducted at Point Mugu Naval Air Warfare Center-Weapons Division Sea Range off the central California coast, serves as a proof-of-concept demonstration for directed energy technology. The ALTB is a pathfinder for the nation's directed energy program and its potential application for missile defense technology.

At 8:44 p.m. (PST), February 11, 2010, a short-range threat-representative ballistic missile was launched from an at-sea mobile launch platform. Within seconds, the ALTB used onboard sensors to detect the boosting missile and used a low-energy laser to track the target. The ALTB then fired a second low-energy laser to measure and compensate for atmospheric disturbance. Finally, the ALTB fired its megawatt-class High Energy Laser, heating the boosting ballistic missile to critical structural failure. The entire engagement occurred within two minutes of the target missile launch, while its rocket motors were still thrusting.

This was the first directed energy lethal intercept demonstration against a liquid-fuel boosting ballistic missile target from an airborne platform. The revolutionary use of directed energy is very attractive for missile defense, with the potential to attack multiple targets at the speed of light, at a range of hundreds of kilometers, and at a low cost per intercept attempt compared to current technologies.

Less than one hour later, a second solid fuel short-range missile was launched from a ground location on San Nicolas Island, Calif. and the ALTB successfully engaged the boosting target with its High Energy Laser, met all its test criteria, and terminated lasing prior to destroying the second target. The ALTB destroyed a solid fuel missile, identical to the second target, in flight on February 3, 2010.

It is the policy of the United States to deploy as soon as is technologically possible an effective National Missile Defense system capable of defending the territory of the United States against limited ballistic missile attack (whether accidental, unauthorized, or deliberate) with funding subject to the annual authorization of appropriations and the annual appropriation of funds for National Missile Defense.

– National Missile Defense Act of 1999 (Public Law 106-38)

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