

FACT SHEET

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SPACE-BASED BEAM WEAPONS

The development of beam weapons is the object of considerable research in the laboratories of all military powers today. In his national security address on 23rd of March 1983, President Reagan has referred to one possible use of beam weapons : Ballistic Missile Defense (BMD).

The following technical facts should be stressed:

1. Space-based BMD systems don't have to be 100% efficient to be of interest to Superpowers. Should such systems be deployed, the nuclear weapons of medium size Powers would become ineffective to deter the Superpowers. Furthermore, space-based BMD systems enable world-wide control of sea, air and space activities of smaller countries.

2. Space-based BMD technology should not be confused with anti-satellite (ASAT) beam technology. For instance, space-based chemical lasers will be used primarily for ASAT applications. On the other hand, space-based BMD beam weapons will consist of particle accelerators producing neutral particle beams, and free electron lasers generating short wavelength laser beams (1).

3. One key technology for space-based battle stations is electricity from nuclear reactors. Electricity from space nuclear reactors is indispensable to power particle accelerators, free electron lasers and other devices such as radars (1). Nuclear reactors for use in space capable of generating 100 MW(e) (i.e. the power of a small commercial power plant), are under development for such applications (2).

References:

- 1) Broad W.J., "Nuclear Power for Militarization of Space", Science, vol. 218, p. 1199, 17th December 1982.
- 2) Lee H.L. and Seaton M.K., "Space Nuclear Power : A Summary of the State-of-the-Art", Transactions of the American Nuclear Society, vol. 43, p. 24, 1982.

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