

updated for assignment of interceptors; tracking methods also contribute to discrimination of warheads from decoys.

- d) *Kill Assessment*: to determine whether a target has been destroyed; contributes to further discrimination of warheads from decoys.

B) *Research Activities*:

- 1) **Technology Base**: to develop the data base and sensor technologies:
 - a) *Radar Discrimination Project*: to collect and interpret radar signatures of missile components and re-entry vehicles; to develop new radar hardware and signal processing software.
 - b) *Optical Discrimination Project*: to collect and analyze optical and infra-red data on background phenomena and signatures of ballistic missile components.
- 2) **Advanced Development**: a number of projects leading up to the demonstration of key components of advanced sensors.
 - a) *Imaging Radar*: to demonstrate, by the early 1990's, a spaced-based phased-array imaging radar that can monitor ballistic missiles in the boost and post-boost phase, improving discrimination of warheads from decoys.
 - b) *Imaging Laser*: to demonstrate, by the early 1990's, an imaging laser radar (LIDAR) that could also improve target/decoy discrimination.
 - c) *Improved Sensors and Technology*: to develop technologies associated with advanced infra-red sensors, including optical mosaic sensors, multi-colour focal plane arrays, and cryogenic refrigeration systems.
 - d) *Common Technology and Architecture*: to develop "hardened" computer circuits, signal processor architecture and software which will be common to all SDI sensors.
- 3) **System Demonstrations**: a program for realistic testing of actual prototypes.
 - a) *Booster Surveillance and Tracking System (BSTS)*: improved versions of present generation early warning satellites; enhanced mid-wavelength infra-red sensing will provide higher resolution and precision for tracking missiles in their boost phase.