

FACT SHEET

Presentation to the President of a Crystal Grown
in Space aboard Skylab

The Presentation

- Dr. Howard Johnson, Board Chairman (and Past President) of Massachusetts Institute of Technology(MIT) presented to the President a small segment of a crystal(indium-antimonide) which was grown in space in an experiment aboard the Skylab Space Station on January 6, 1974.
- Dr. James C. Fletcher, NASA Administrator, and Dr. George M. Low, Deputy Administrator, were present for the ceremony.

The Significance of the Crystal

- The crystal given to the President was cut from a cylinder of crystal known as indium-antimonide), which is a semiconductor material similar to that used in transistors and other components of computers, radios, and television sets.
- The crystal was the product of an experiment to test a theory that crystals solidified in the absence of gravity would be more uniform than those producable on earth because gravity causes a variety of effects on materials(e. g., thermal convection).
- Scientists believe the more uniform and perfect crystals grown in the absence of gravity could lead to another significant step in electronic circuit minitiarization.
- The experiment was developed under the leadership of MIT Professor Harry C. Gatos. It involved the melting and resolidifying of the crystal in a special furnace aboard Skylab. The experiment was carried out by the members of the Third Skylab crew, astronauts Gerald Carr, Edward Gibson, and William Pogue.
- Dr. Gatos' experiment was one of 14 materials science experiments carried out on Skylab to explore the potential for producing in space of superior materials. In all 89 samples were processed. Of these 27 were samples used in exploring crystalline structure and 6 of these were indium-antimonide.