
JAMES A. VAN ALLEN

An opposing view

But manned flights simply cost too much

IOWA CITY, Iowa — The high drama of a manned shuttle launch and subsequent views of astronauts floating under free-fall conditions provide vicarious thrills to millions of persons, including me.

But despite our cumulatively enormous expenditures on manned space flight, nearly all of the really important and durable products of space technology have been achieved by much-less-expensive unmanned spacecraft, operating automatically and under command control from ground stations, often for many years in earth orbit or in the far reaches of the solar system.

The space era dates from 1946, when we began the exploration of space with instruments carried through and above the atmosphere by rocket-propelled vehicles.

During the subsequent 39 years, such techniques have produced an explosive growth of knowledge of the earth, the sun, the moon, the planets, and remote astronomical objects.

Simultaneously, space technology has yielded many important utilitarian benefits, the most noteworthy of which is worldwide telecommunications, the only application that has yet achieved free-standing commercial status.

There is an impressive variety of other applications of global dimensions and of far-ranging significance: Reconnaissance, surveillance, remote sensing of natural resources, navigation, meteorology, atmospheric science,

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geodesy, and oceanography. All of these applications remain in the area of government services, and all are also served by long-lived automated spacecraft.

The public acclaim for the Apollo program has left a permanent imprint on the National Aeronautics and Space Administration and has, in effect, committed it to an overriding emphasis on further development of manned space flight.

This emphasis is simultaneously NASA's greatest strength and its greatest weakness. Manned space flight, with all its mythological foundations, has assumed the aura of a religion. The space shuttle and the proposed permanently manned space station are primarily embodiments of this religion.

President Reagan and other advocates of the space station envision large-scale commercial manufacturing of exotic pharmaceuticals and crystalline materials in space. I join in their enthusiasm for research on the elementary processes occurring in materials under space-flight conditions, but the relevant results to date are far too meager to justify such hyperbolic expectations and such enormous expenditures.

Meanwhile, the proven applications of space technology are languishing for lack of resources.