Weapons in space

ABM test persuades US Senate

Washington

LAST week's interception of one Minuteman missile by another at an altitude of more than 100 miles was a feat of exquisite political timing. The successful test was announced by the Department of Defense at the beginning of a week in which the Reagan Administration's plans for testing a new antisatellite (ASAT) weapon and stepping up research on the proposed "star wars" nuclear defence system faced major congressional hurdles. In the event, the Republican-controlled Senate agreed to give the ASAT test an amber light. And Congress now seems certain to give the administration much if not all of the $2,000 million it wants in 1985 for research on ballistic missile defence.

Of the two space weapon initiatives, the more pressing from the administration's point of view is the ASAT test. The Air Force has already developed a sophisticated aircraft-borne satellite interceptor (see *Nature* **308**, 576; 1984), but the House of Representatives voted last month to block tests against targets in space for a year or for as long as the Soviet Union continued a moratorium on tests of its own weapons. In both houses, there is strong feeling that talks on an ASAT ban should be resumed, despite the administration's insistence that no such ban could be adequately verified. And in a piece of deft timing of his own, Soviet President Konstantin Chernenko again urged the United States to negotiate an ASAT ban before it was "too late".

To discourage the Senate from following the example of the House, President Reagan's Senate allies arranged a closed session in which senators received intelligence briefings on the state of Soviet ASAT technology. They are said to have been told that, in addition to its well-publicized ASAT interceptor, the Soviet Union now has the means to cripple US satellites with a laser beam from an Earth station or by jamming their radio communications.

A day later, the Senate voted by 61 votes to 28 to allow the ASAT tests to proceed provided only that the President shows that he is trying to negotiate "the strictest possible limitations on antisatellite weapons consistent with national security interests of the United States".

The effect of the Senate resolution, which will have to be reconciled with the position of the House in a conference committee, is to require some action by the administration that demonstrates a wish to prevent an arms race in space. But it is clear from the mood of the debate that a symbolic gesture will suffice. As long as Mr Reagan certifies that the ASAT tests are vital to national security, and will not represent an "irreversible" block to negotiation, he will be allowed to test the new weapon.

Whether the President will take up the option in a hurry is another matter. The administration is becoming uncomfortably aware of growing public concern about the prospect of an arms race in space. So is the Democratic Party; its national chairman, Mr Charles Manatt, said last week that the presidential election in November will give voters a chance to ponder the "frightening choices" entailed in the administration's plans for the militarization of space. President Reagan is under pressure from his own party to show some flexibility on arms control before the election; by the end of last week the administration was already hinting that it might be willing to discuss some limitations on ASAT development.

The short-term ASAT question has not entirely distracted attention from "star wars". While Congress appears still to be willing to underwrite the preliminary research called for in the 1985 budget, organized opposition to the concept is gathering pace. A "national campaign to save the antiballistic missile (ABM) treaty" was launched this week by a committee of senior politicians and scientists, including former President Jimmy Carter and former defence secretary, Robert McNamara. In an opening statement, the committee claimed that the expanded star wars testing programme requested by the administration will "soon collide" with the restrictions imposed by the ABM Treaty.

Meanwhile, in a bizarre coda to the political debate, the technical debate over the feasibility of the star wars programme is becoming increasingly unfriendly. Deputy Defense Secretary Howard Taft has taken the extraordinary step of asking the Office of Technology Assessment to withdraw a technical memorandum on the subject written by Dr Ashton Carter of the Massachusetts Institute of Technology (see *Nature* **309**, 485; 1984). Mr Taft claims that the memorandum, which said the prospect of a near-perfect defence against nuclear attack was "remote", had subsequently been criticized on technical grounds by four independent review groups.

The Pentagon clearly expects last week's Minuteman interception to cut some ground from under the feet of those who doubt whether a defence against ballistic missiles is feasible. However, most critics of the star wars concept have already acknowledged that the interception of nuclear warheads in midcourse is feasible. Their objection is that a nuclear attack would involve so many missiles and decoys that such defences would be overwhelmed. The Office of Technology Assessment study therefore focused on the prospects for destroying missiles in their boost phase, before they could spawn their mutiple warheads. It concluded that most of the novel technologies required could be countered with relative ease.

Peter David

US Naval Observatory

Research at risk

Washington

THE US Naval Observatory, one of the oldest government scientific institutions in the United States, is in trouble, according to the National Academy of Sciences. Short of funds and overburdened by its role as a support agency, the observatory's basic research capability is in jeopardy, according to a new study. Some divisions of the observatory are "one man deep", according to Lee Hunt of the National Academy staff, and are "struggling to provide the bare minimum of services". Scientists often have to act as administrators and technicians as well, all of which leaves little time for basic research.

The primary mission of the observatory is what it always has been: providing data to aid navigation. Much of its work at present, for example, involves calibrating

atomic time standards and carrying out the observations needed to adjust the International Atomic Time scale for astronomical and navigational use.

But the observatory has also established a solid scientific reputation. The study notes the observatory's longstanding work on visual double stars, now in jeopardy for lack of manpower, and its determinations of parallaxes of faint stars — data that "effectively define our knowledge about luminosities, colours and tangential velocities of faint stars in the neighbourhood of the Sun". "Too much of the astronomers' time must go toward technical support activities", the study says, but Hunt put the point more directly: "You find directors sweeping floors."

The shortage of manpower is apparent in the study's recommendation on the double-star programme. If "one other person were able to take over clerical jobs", the study says, "the staff would be able to do much needed work on new technology." Hunt said that the study panel felt that continued excellence in basic research was vital to attract qualified scientists and to keep them in the mainstream of science.

The observatory has suffered not so much from budget cuts as from benign neglect. But the consequences are just as serious, the academy panel said. "No action at this time is a decision to erode the quality of staff and the services of data and information it provides."

Stephen Budiansky