

## SDI snubs APS

Washington

THE Strategic Defense Initiative Organization (SDIO) delivered a public snub to the American Physical Society (APS) recently by boycotting at the last minute a symposium on strategic defence at APS's spring meeting in Washington. According to Richard Bleach, one of two invited speakers from SDIO who failed to turn up at the meeting, SDIO senior management decided that "some of the abstracts for the session were so political that we should find some other place to present [our results]".

Bleach, who works in the SDIO programme integration office, had been due to represent SDIO together with James Ionson, head of SDIO's innovative science and technology office. The title for the session was "Impacts of the Strategic Defense Initiative on the physics community". In addition to speaking at the symposium, Bleach and Ionson had been due to appear at an APS press conference.

Ionson let APS know in advance that he would not attend the press conference, but, according to Robert Park of APS, no word was received that he also would not appear at the symposium. Ionson says it would be improper for him to appear at someone else's press conference without approval from SDIO management, which was apparently not sought; he says he asked his office to let APS in New York know that he would not attend.

Bleach told APS he would not attend the symposium or the press conference on the day they were to occur. Bleach says he was told by senior SDIO management not to attend the session after they read published abstracts of other talks to be given at the symposium: one, by Charles Schwartz of the University of California at Berkeley, states: "The strategic defense initiative... will push strategic instabilities so far that it will be difficult, in a time of severe crisis, for national leaders to avoid the option of pre-emptive attack". Schwartz goes on to say that "this is the career awaiting the major portion of our physics students" and proposed to discuss "several forms of resistance".

SDIO has other reasons to be irritated with APS besides the allegedly "political" meeting. The society has recently given much publicity to an opinion poll of its members which found almost a two-to-one majority believing SDI was bad for national security.

Anti-SDI feeling was certainly prevalent at the Washington meeting: an official desk was promoting anti-SDI literature. At the ill-fated press conference, representatives of *Fusion* magazine, a publication linked to political maverick Lyndon LaRouche, castigated APS for not giving similar space to non-governmental supporters of the Strategic Defense Initiative.

Tim Beardsley

## US in space

# Delta failure a big set-back

Washington

THE spate of calamities that has struck the US space programme this year has led the National Aeronautics and Space Administration (NASA) into difficulties both with the Office of Management and Budget and with Congress. Damaging revelations continue to surface about slipshod safety procedures that may have contributed to the explosion on 28 January of the space shuttle Challenger and, most recently, the failure on 3 May of an unmanned Delta rocket at Cape Canaveral.



Meanwhile, a proposal to provide NASA with funds for a replacement shuttle orbiter remains stalled in the White House.

The accident on 3 May, in which a Delta launcher and a National Oceanic and Atmospheric Administration weather satellite (GOES-7) were destroyed following a rocket engine failure, means that the United States now has no reliable means of launching payloads of over 2,000 lb into orbit, at least until the causes of the recent accidents have been determined and corrective measures taken.

NASA had planned to launch three more Deltas for paying customers (one more weather satellite and two Strategic Defense Initiative experiments) before turning the rocket over to the private sector; the accident will only strengthen the resolve of the US Air Force to expand its independent launch capability, and distance itself from the administration's previous policy of relying exclusively on the shuttle for military access to space.

There are some 17 Atlas rockets of different types available for military use, most already assigned to a launch. But because of similarities between the Delta engine and that of the Atlas rocket, Atlases are also grounded until the Delta problem is tracked down.

Meanwhile, the Air Force has its own problems, with the explosion (also last month) of a Titan 34D rocket seconds after lifting off from Vandenberg Air Force base in California. In response to

the shuttle loss and the Titan accident, the Air Force is to procure 13 additional Complementary Expendable Launch Vehicles (CELVs), otherwise the Titan 34D7. These will be extra to the 13 Titan-2s being refurbished for Air Force use.

NASA has still not prepared a detailed supplementary budget request for fiscal year 1987 in the light of the Challenger and other accidents, which is becoming the source of some frustration on Capitol Hill. NASA officials say they are convinced of the need for a new orbiter, but a decision on who should pay for it apparently still not been settled, with the Office of Management and Budget opposing the use of extra funds.

The total cost of a new orbiter, modifying the suspect solid booster joint on the other orbiters and the replacement of spare parts, comes close to \$3,000 million, so if NASA had to find the cost of a new orbiter out of its own budget it would be able to do very little else for a year.

Part of the argument now hinges on whether the cost of a new shuttle could be justified as a national security emergency; if it could be, it need not be included in the deficit reduction target of the Gramm-Rudman law. An administration decision is expected next month.

A further difficulty is that NASA has not yet published a proposed plan for dealing with the backlog of shuttle launches once they do begin again, which is now thought unlikely before July 1987. As about 16 launches per year had been planned, the backlog is likely to be around 24. Given that military payloads will have priority over others, it seems clear that scientific missions will be greatly delayed. One suggestion is that the Galileo mission to Jupiter would take a "delta vega" trajectory via the inner planets, which would take two years longer than the original trajectory, but would eliminate the narrow launch window that puts Galileo in competition for a slot with Ulysses, the joint mission with West Germany to the poles of the Sun.

There remain several important safety hurdles to be negotiated. The Centaur upper stage used in these missions would be the first liquid-fuelled upper stage to fly in the shuttle, and special safety reviews of the issue have been instituted. The intended use in the spacecraft of radioactive thermal generators has only added to nervousness about the consequences of another shuttle accident.

Commercial satellite launches have also been held up by the shuttle accident, and Arianespace, the competing French carrier, has taken some extra bookings. The order books are now full until 1989, and Arianespace says it cannot greatly in-