international news

Kohoutek makes a good night out

John Hall

ITS complex molecules apart, there is no doubt that the biggest let-down of the astronomical year was the arrival of the hapless Dr Kohoutek's comet. After nine months of speculation and counter speculation about the size and brightness of this spectacle it is now possible to make a single dogmatic assertion on the subject without fear of contradiction: that distance lent enchantment to the eye. The thing is not going to bowl over anybody on account of its splendour, and the complex molecules cannot be detected with binoculars.

Turning a blind eye to the dim reality of the phenomenon, at least two British companies had the enterprise to cash in on Kohoutek. Kohoutek Ltd settled for comet 'T' shirts and a million shares at a penny a go, and Transolar Travel plumped for an observation flight, price £12 to £24 a head, which pulled in 140 enthusiasts, culled largely from the ranks of amateur astronomy societies. The media were there to observe the observers and, curiously for an event which was to be enjoyed at a distance of 90 million miles, clutches of spotters milled about with portable tape recorders and instamatic cameras topped with flash cubes which could scarcely have thrown much light on the subject. The British astronomer Mr Patrick Moore was clearly visible to the naked eye.

The tone of the expedition was set at a preliminary lecture, at which a director of Transolar projected an artist's impression of a nineteenth century comet, about as bright as a full moon and stretching half across the sky, which he confessed to be much the sort of show he expected from Kohoutek. This was greeted by polite laughter from the spotters who throughout the lecture insisted on photographing the lecturer, the slides, each other, and such aeroplanes as passed within range.

Once above the Gatwick clouds in a couple of BAC 1-11s, an excited babbling broke out as Venus and Jupiter hove into view, and a gentleman from the BBC paced the gangway soliloquising about the agitation. Then from the flight deck an announcement was made that, at 33,000 feet, the comet was no longer obscured by cloud, and it was all going to be worthwhile. Patrick Moore raised his voice above all others to issue directions for identifying the target ("left from Venus to Jupiter, then up a bit") and was heavily photographed for his pains.

Then, sure enough, we were able to see a distinct sort of smudge, with a tail extending five degrees maybe, representing perhaps six and a half million miles, and of magnitude three and a half, possibly. Certainly it was a distinct sort of smudge. More plainly, it was possible to make out the street lighting of Wales, Wallasey and the shape of the Mersey estuary, then the Isle of Man, Manchester and, more controversially, Leeds.

The astronomers passed among each other cassette recorders, making essays in historical audio verité. "Have you seen the comet?" "Yes, I've seen the comet. It has a tail extending five degrees maybe, representing perhaps six and a half million . . ." and so on. Finally, since there was only one window to every two observers, those who did not have the good fortune to be twisting their necks and spines to crane after the comet, insisted on paying their respects to the captain, since a better view could be had from the flight deck. A visiting rota had to be arranged when the astronomers, firing their flash cubes as they went, were thought to be harassing the pilot. "It's all very well, but we just cannot have people sitting on the captain's shoulders", the Transolar man remonstrated.

Patrick Moore initiated a round of rousing applause for the organisers, who had put on the entire junket with nothing to gain but hard cash, and the only note of concern was voiced when we passed, on the Lancashire coast, a bright flame of petrochemical waste which, I commented, looked remarkably like the exhaust of a SAM-7 missile.

Nuclear safety

Colin Norman, Washington

THE longstanding and bitter dispute about the safety of American light water reactors is about to boil up again in the United States. Next week, the Joint Committee on Atomic Energy is planning to hold three days of public hearings which will put the spotlight on perhaps the most contentious nuclear safety issue: the emergency cooling system which is supposed to flood the reactor core with water if an accident suddenly robs the reactor of coolant. Arguments about whether or not this piece of hardware would actually work in an emergency have been batted back and forth between the Atomic Energy Commission and its critics for the past two or three years. Since the British Government may soon put in an order for American reactors, the matter is of more than parochial interest.

Next week's hearings, which will take place on January 22–24, will be concerned chiefly with a number of regulations issued by the AEC at the end of December. Based on a marathon public inquiry into the functioning of the emergency core cooling system (ECCS), held by the AEC over a four-month period last year, the regulations will reduce the peak operating temperature of light water reactors by 100°F, and put limits on the amount of oxidation permitted in the fuel cladding.

According to officials of the Atomic Energy Commission, the regulations will reduce the power output from some reactors, and provide an adequate margin of safety in the (unlikely) event of loss of coolant. According to the critics, however, they do no such thing, since the regulations are merely cosmetic changes designed mostly for public relations purposes.

The hearings will also take place against a backdrop of persistent rumours of palace revolts and power struggles among top AEC officials. According to some accounts, open warfare has broken out between Dr Dixie Lee Ray, the Chairman of the AEC, and some of the other commissioners. A number of key officials have resigned from the agency in the past few months, including Mr Milton Shaw, director of the Division of Reactor Technology, Mr Robert E. Hollingsworth, the AEC's General Manager, and Alvin M. Weinberg, Director of the Oak Ridge Laboratory. Moreover, James T. Ramey, a former general counsel of the Joint Committee on Atomic Energy, was reappointed to the Commission last year after his term of office expired. Since Ramey provided a link between the AEC and its Congressional watchdog, his loss has stirred up considerable animosity between Dr Ray and some committee members.