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RUSSIAN SPACE SATELLITE

PATH OVER BRITAIN PLANNED

FROM OUR SPECIAL CORRESPONDENT

CRANFIELD, BEDFORDSHIRE, JULY 19

The satellite which the Russians plan to launch during the International Geophysical Year will pass directly over the length of Britain, according to details of the projected orbit given here to-day by Professor Boris Petrov, of the Academy of Sciences of the U.S.S.R.

He was making a statement on the Russian rocket and satellite programme for the I.G.Y. at a joint meeting on high altitude and satellite rockets organized by the Royal Aeronautical Society, the British Interplanetary Society, and the College of Aeronautics.

Professor Petrov said that the satellite would be launched from the U.S.S.R. at a small angle to the meridian. It would thus revolve around the earth—roughly north-south—and be observable in all parts, except in the central areas of the Arctic and Antarctic, because of the earth's own rotation.

He told your Correspondent later that no date had yet been fixed for the first launching of a satellite vehicle, and the number of attempts they made would depend upon their initial success in placing a satellite in orbit around the earth.

ROCKET FIRING ZONES

In his statement to this gathering of 150 engineers and specialists from Government research establishments, the universities, and industry—delegates from nine foreign countries are also present—Professor Petrov also described the programme for the vertical firing of rockets for the purpose of studying the upper layers of the atmosphere. Three zones have been chosen between the meridians 50deg. and 60deg. E.

In the first zone, the Arctic, Franz Joseph Land, 80deg. N., 25 firings will be made next year. In the second zone, the middle latitudes of the U.S.S.R., between 50deg. and 60deg. N., 30 firings will be made between now and December, and a further 40 in 1958. In zone three, the Antarctic, mainly in the area of Mirny, between 50deg. and 60deg. S., 30 rockets will be fired during the I.G.Y. which ends on December 31, 1958.

Looking ahead to the time when man might travel in a satellite, Lieutenant-Colonel J. P. Henry, of the United States Air Force Air Research and Development Command, said that the abnormal behaviour of animals in rocket flight suggested that the human operator's task should "be designed to avoid prolonged periods of exposure to an environment in which he can perceive nothing that he regards as significant."

Contemporary research was uncovering basic facts which threw light on the mechanisms underlying the disturbances that occurred when the normal variations in the sensory input from the environment were reduced. Quite apart from the formidable problems of protection from "environmental" stress, he said there was a very real psycho-physiological hazard in the operation of a satellite vehicle for a prolonged period.

Control of the environment by the engineering of a protective capsule was not the whole answer. It would be necessary to watch for trouble arising from the changed and reduced input of data into the biological "computer" from the environment. If prolonged sub-gravity states were to be combined with darkness and lack of meaningful information from the environment within the vehicle, mental breakdown could be expected in many men in a few hours.

However, the susceptibility to such breakdown was known to vary considerably and some could resist it for far longer than others. That variability was in itself a possible fruitful area for future research.