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Title: THE TASK OF CONTROLLING "SALYUT-6" ORBITING STATION DESCRIBED

Primary source: Pravda, April 13, 1980, No. 104 (22534), p. 3, cols. 1-5

Abstract: The author discusses the general aspects of the task that the Space Flight Control Center accomplishes in controlling the flight of the orbiting scientific station "Salyut-6" and the dockings and joint flight of "Soyuz" and "Progress" spaceships with the station. Describing the process of docking of spaceships with the station, the author mentions the radiotechnical automatic rendezvousing system "Igla", which is activated when spacecraft are within 20 kilometers of one another. The active part of this system is located on the ship, and its passive part is on the station, as is the case with the docking mechanisms.

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Author: Ivakhnov, A., special correspondent at the Space Flight Center

Title: PHYSICAL EFFECTS OF PROLONGED WEIGHTLESSNESS DISCUSSED

Primary source: Izvestiya, April 24, 1980, No. 97 (19467), p. 2, cols. 4-6

Abstract: The article contains commentary on medical observations of the effects of prolonged space flight on the physical condition of cosmonauts, as well as measures that have been taken to counter or alleviate these effects. It is noted that cosmonaut Valeriy Ryumin's physical condition returned to its normal state fairly rapidly following the last space mission, which had a record duration of 175 days. Asked to comment on the medical implications of this fact for the current mission on

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board the orbiting station "Salyut-6", Anatoliy Dmitriyevich Yegorov, deputy flight director for medical support, stated: "Our work has not diminished, of course. We are overseeing the crew's health just as carefully as we did during the first flights, and subsequently during the first prolonged expeditions. But we can now predict with great confidence that no unexpected changes stemming from the effects of weightlessness will take place in the cosmonauts, either today or tomorrow. There are no grounds for assuming that if the body's reactions are in a certain condition on the 175th day of a flight, for example, they will become qualitatively different within another week."

Yegorov went on to discuss some of the changes in the body's systems that were observed in cosmonauts during past missions. During the earliest space flights, some loss of tone was observed in the cosmonauts' hearts as a result of weightlessness, for example. During the three most recent prolonged flights, this phenomenon manifested itself less and less, thanks to preventive measures. The effects of a 175-day space mission on the circulatory system were a matter of particular concern, said Yegorov, because the life of a red blood cell lasts only 120 days; consequently, the cosmonauts' blood would be totally replenished with 'space' blood in the course of the flight. (It was found that the behavior of blood cells that are born and pass through their entire cycle of development in zero gravity do not differ substantially from that of blood cells of earthbound organisms. A certain loss of calcium from the skeletal system was found to occur during prolonged flights, but this process appears to be self-limiting, Yegorov observed. The amount of calcium lost during a 175-day flight was found to be approximately the same as the amount lost during a 96-day flight. Muscular atrophy has been successfully controlled through the introduction of physical exercises; changes in the muscular system have become smaller and smaller with each successive flight, Yegorov reported.)

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