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THE EARLY GERMAN SCIENCE SATELLITE PROJECTS. FROM AZUR TO ROSAT.

Abstract

Soon after the start of the space age, institutes in the Federal Republic of Germany started the development of small research satellites. The first was Azur launched end 1969 into a sun-synchronous orbit to study the upper atmosphere and the radiation belt. 1974 and 1976, Helios 1 and 2, respectively were launched on a highly elliptic orbit, that came as close as 0.3 au to the Sun. As the last big national science project, ROSAT, the German X-ray observatory was launched in 1990. The main institutes involved in the early years were the MPI fur Extraterrstrische Physik, Garching, the then MPI fur Aeronomie in Lindau; Inst fur Geophysik und Meteorologie, Univ. Braunschweig; Inst. Fur Angewandte Kernphysik, Univ. Kiel; the MPI fur Kernphysik and the MPI fur Astronomie in Heidelberg. However, Germany did not develop their own big science satellite program as most of the funding traditionally went into projects of the European Space Agency (ESA). Here the German contribution to the Giotto Mission to explore comet 1P/ Halley in March 1986 was most significant. Giotto was ESA's first planetary probe and the exploration of Halley's comet was a truly international effort. Germany provided key instruments to the soviet VEGA1 and VEGA2 probes. In addition, we will address in a wider context the German participation in NASA projects, like Voyager and Galileo.