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ORGANIZATIONAL REVIEW OF HALF A CENTURY HISTORY OF ISAS

Abstract

On the basis of technological efforts since Pencil rocket in 1955, the first ISAS (Institute of Space and Aeronautical Science) was established in 1964 as an attached organization to the University of Tokyo. The ISAS was born by integrating space engineers and scientists of the University. It was placed in Komaba, Tokyo. In 1970, ISAS launched a small satellite “OHSUMI” by L-4S-5, and with this success, Japan became the fourth nation to launch a satellite, establishing a footing as a space agency in Japan. The first phase of ISAS was dedicated to research into space engineering and space science by challenging several scientific satellites using M-series, and remarkable technological advances had been made by 1981, when the first ISAS was reorganized to become the Institute of Space and Astronautical Science (second ISAS) as part of the Ministry of Education. It was the start of the nation’s first step in meeting the challenge of escaping from earth’s gravity toward Halley’s comet. The Comet exploration was undertaken through the close cooperation with other major space-faring countries, and with the M-3SII rocket which launched two Halley’s comet explorers, Japan made significant achievements by escaping Earth’s gravity with solid-propellant rockets. The M-3SII continued successful launches, and in 1989, ISAS relocated its main campus to the present location in Sagami-hara City, Kanagawa Prefecture. Rapid advances in the space science of Japan only with small and medium-sized scientific satellites were made possible by the strategy to pursue continuous advances in space science in an efficient manner by launching one satellite per year on average. Based on that strategy, large-scale missions including lunar and planetary exploration were planned for the latter half of the 1990’s. A newly developed M-V rocket enabled those missions and to ensure the sustainable advances of space technologies. Along a reform of the central government in Japan, the so-called “three space entities” in Japan (ISAS, NAL and NASDA) were reorganized to establish a new organization named Japan Aerospace Exploration Agency (JAXA) in October 2003. Now ISAS is one of JAXA’s branches, and continues to produce fruitful results in space science under tough competing and cooperating situation in the world. This paper summarizes the history of ISAS from organizational viewpoint, learning lessons from its almost half a century experiences.