

Overview and History of Space Science in Japan

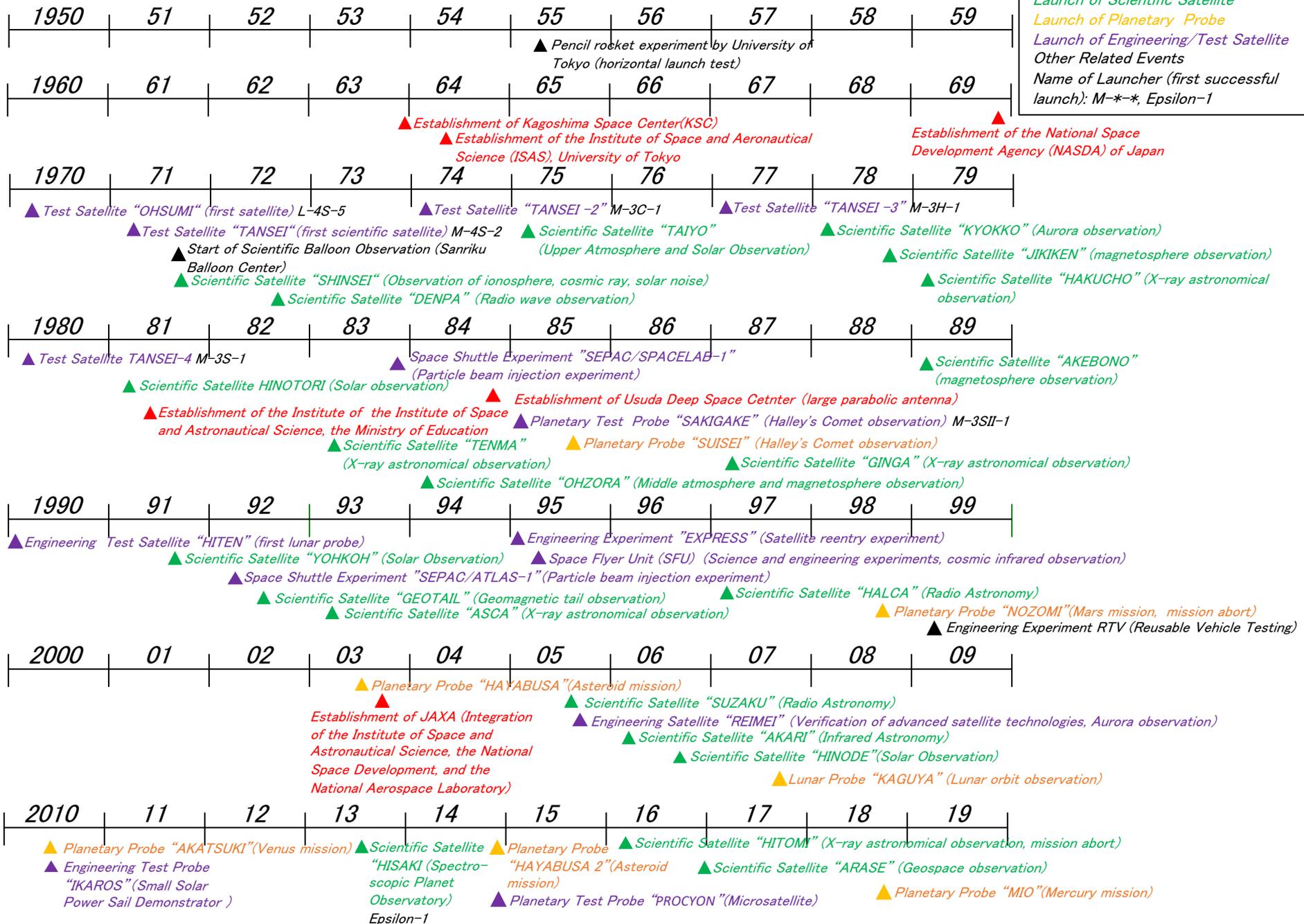
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Overview of Space Science in Japan

- *In the 1960s, the rocket launch site at Uchinoura in Kagoshima was built, and the Institute of Space and Aeronautical Science, University of Tokyo, was established as the main body of space science and engineering research.*
- *In 1970, the first satellite was successfully launched into orbit by the solid fuel rocket, L-4S-5. After that, satellites orbiting around the earth were sequentially launched to observe the ionosphere, magnetosphere, astronomy, and the sun.*
- *In the 1980s, the capabilities of solid rockets were improved and made it possible to explore the Halley's Comet. Scientific observations by earth-orbiting satellites were conducted in the research field of astronomy, sun, and geomagnetic tail. In 1981, the Institute of Space and Aeronautical Science, University of Tokyo, was reorganized, and the Institute of Space and Astronautical Science, the Ministry of Education, was established as a central research institute specializing in space science.*
- *Since 1990s, the capabilities of solid rockets have increased further, and larger satellites and planetary probes have been launched. International cooperation in space science was further activated.*
- *In 2003, JAXA was established through the integration of three organizations (the Institute of Space and Astronautical Science, the National Space Development Agency of Japan, and the National Aerospace Laboratory of Japan). Space science research has been promoted within the framework of JAXA. Since 2000s, scientific satellites and planetary probes, which require high launch capability, have been launched by the large rocket H-2 developed in the 1990s by the former National Space Development Agency. Since 2000s, the weight of lunar and planetary exploration has increased in the space science research.*
- *Since the 2010s, medium-sized scientific satellites such as Hisaki and Arase have been launched using the advanced and compact solid rocket system Epsilon.*

History of Space Science in Japan

▲ Establishment of Agency and Facility
▲ Launch of Scientific Satellite
▲ Launch of Planetary Probe
▲ Launch of Engineering/Test Satellite
 Other Related Events
 Name of Launcher (first successful launch): M-*-* , Epsilon-1



Japan's Spacecraft Launch Vehicles for Space Science (Science and Engineering)

In the 1970s and 1980s, satellites were launched mainly by M series solid rockets developed by ISAS. Since 1990s, foreign launch vehicles have also been used, reflecting the progress of international cooperation. Since the beginning of the 2010s, large satellites and planetary probes have been launched by the liquid rocket H-2 series, and medium-sized satellites have been launched with the new solid rocket Epsilon.

L/M-series and Epsilon solid rocket
 H2-series large liquid rocket
 Foreign rockets and Space Shuttle

