

# "The experimental Space Stations"

## Forerunners - Programs: Salyut, Skylabs, ASTP, Spacelabs, launch and activation of the MIR

At the end of the 1960s, having lost the race to the moon, the Soviets decided to embark on the path of scientific research in space for both civil and military applications by launching the Salyut (Health) program which developed over 15 years with 7 stations (three of which were military). Previously there had been only one experience, at the dawn of astronautics, with Sputnik 3 which with its 12 scientific experiment was rudimentary space laboratory. With the Soyuz 4 & 5 the Soviets tested the docking systems between space vehicles and with the mission of the Soyuz 9 they had the certainty that, with due care man could remain in space for a long time and this provided the go ahead for the Salyut program. The space stations, launched by Proton rockets, were then gradually reached by crews of technical cosmonauts and researchers with the Soyuz spacecraft; since 1978, given the increase in the time spent in the space of the base crew and the increase in the number of occupants of the laboratories due to the Interkosmos Program, it was necessary to launch cargo carriers called Progress (modified Soyuz, not suitable for return ) to supply the laboratories with fuel, spare parts and everything necessary to support the crew. The United States responded by launching the Skylab in 1973, set up in the 3rd stage of the last Saturn 5, produced for the Apollo program, which was joined by 3 teams aboard Apollo capsules launched by some Saturn 1. During a visit to the USSR by the president Nixon, on 24 May 1972 an agreement was signed for the simultaneous launch of an Apollo spacecraft and a Soyuz in order to perform a space rendezvous and subsequent hooking into orbit for the joint performance of various experiments and to verify the possibility of rescue for a team in difficulty on either side. This happened in 1975 with the simultaneous launch of Apollo 18 and Soyuz 19, from which union the first binational scientific station took shape. In 1983 the United States brought into space the first laboratory set up on board space shuttles, created by a 1973 agreement between NASA and Esro (later Esa) followed after 1987, by many others. In 1986 with the launch by the Soviet main module MIR, the era of modular stations began.

### Plan of the Work

The work is developed in 8 chapters, so divided

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