

A space station is a spacecraft capable of supporting a human crew in orbit for an extended period of time, and is therefore a type of space habitat. It lacks major propulsion or landing systems. An orbital station or an orbital space station is an artificial satellite (i.e. a type of orbital spaceflight). Stations must have docking ports to allow other spacecraft to dock to transfer crew and supplies. The purpose of maintaining an orbital outpost varies depending on the program. Space stations have most often been launched for scientific purposes, but military launches have also occurred.

As of 2022, there are two fully operational space stations in low Earth orbit (LEO) – the International Space Station (ISS) and China's Tiangong Space Station (TSS). While the ISS has been permanently inhabited since October 2000 with the Expedition 1 crews, the TSS will do so with the Shenzhou 14 crews in June 2022. The ISS is used to study the effects of spaceflight on the human body, as well as to provide a location to conduct a greater number and longer length of scientific studies than is possible on other space vehicles. China's Tiangong Space Station is scheduled to finish its phase 1 construction by the end of 2022 with the addition of two lab modules. India has also proposed to build a space station in the coming decades. There have been numerous decommissioned space stations, including USSR's Salyuts, Russia's Mir, NASA's Skylab, and China's Tiangong 1 and 2.

In the present book, twelve typical literatures about the space station published in international authoritative journals were selected to introduce the worldwide newest progress, which contains reviews or original research on the space station. We hope this book can demonstrate advances in the space station as well as give references to the researchers, students, and other related people.¹

¹ https://en.wikipedia.org/wiki/Space_station