

Hubble Space Telescope Science

The Hubble Space Telescope is one of NASA's most successful and long-lasting science missions. Launched in 1990, Hubble has revolutionized our understanding of the universe through its observations of distant galaxies, nebulae, and other celestial objects.

Hubble's key contributions include determining the rate of expansion of the universe, discovering that most galaxies contain supermassive black holes, and providing evidence for the existence of dark energy. The telescope has also captured stunning images that have become iconic representations of space exploration.

Hubble operates in low Earth orbit and has been serviced by astronauts on five occasions. The telescope continues to make groundbreaking discoveries and remains one of the most important tools in astronomy.

The telescope's successor, the James Webb Space Telescope, was launched in 2021 and is designed to observe the universe in infrared wavelengths, complementing Hubble's visible and ultraviolet observations.

Hubble has made over 1.5 million observations and published more than 18,000 scientific papers. The telescope has observed everything from nearby planets to the most distant galaxies, providing insights into the formation and evolution of the universe.

The telescope's instruments have been upgraded several times during servicing missions, allowing it to observe in wavelengths from ultraviolet to near-infrared. This versatility has made Hubble an invaluable tool for astronomers studying everything from exoplanets to cosmology.

Hubble's discoveries have fundamentally changed our understanding of the universe, from the age and expansion rate of the universe to the formation of galaxies and the diversity of planetary systems. The telescope continues to operate and make new discoveries, cementing its legacy as one of the most important scientific instruments ever built.