

KEY MOMENTS IN THE HISTORY OF SUPERNOVA DISCOVERY

01. THE OLDEST RECORD OF A SUPERNOVA

Chinese astronomers witnessed the sudden appearance of a new star in the sky. In historical records the event is documented as a mysterious “guest star” that remained in the sky for eight months.

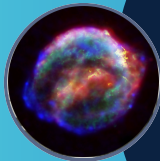
AD 185



02. THE UNIVERSE IS NOT IMMUTABLE

Johannes Kepler systematically observes a supernova that appeared in 1604. This is the most recent supernova seen in our galaxy and astronomers like Galileo used the observations to argue against the Aristotelian view that the universe beyond the moon and planets is immutable.

1604



03. SUPERNOVA FINDS A PLACE IN THE SCIENTIFIC DICTIONARY

Fritz Zwicky and his colleague Walter Baade coined the giant explosions Fritz has been observing as “supernova”. They correctly suggested that supernovae represent the final collapse of massive stars.

1934



04. A WORLD RECORD

Fritz Zwicky finds his last supernova, SN 1973K. Zwicky was the first to systematically search for supernovae with the same telescope at the Palomar Observatory that ZTF uses today. Over 52 years, Zwicky found 120 supernovae. This record wasn't defeated for 25+ years.

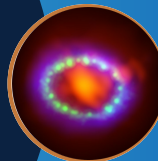
1973



05. THE LEAP

1987 treated astronomers to the spectacular discovery of SN 1987A, the closest supernova observed since the invention of the telescope. Exploding in the nearby Magellanic cloud, SN 1987A led to the first detection of neutrinos from dying stars, marking the beginning of neutrino astronomy.

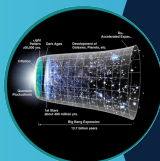
1987



06. THE BIG SURPRISE

In 1998, observations of distant Type Ia supernovae revealed an unexpected fact about the evolution of the cosmos. They indicated that the universe is not only expanding, but the expansion is accelerating. Saul Perlmutter, Brian Schmidt and Adam Riess were awarded the Nobel Prize in Physics for this discovery in 2011.

2011



07. NUMBERS MATTER

A cutting edge 600 Mpixel camera is installed on the same telescope used by Fritz Zwicky in the early 20th century. Dubbed the Zwicky Transient Facility, the program envisioned by astronomers from around the world began scientific operations in 2018. One of its key goals was to deliver the largest survey of supernovae.

2018



08. TEN THOUSAND AND COUNTING

After 6 years of continuous observations, ZTF has built the largest survey of supernovae having discovered over 10 thousand supernovae. Approximately 70% of all supernovae we know of today have been imaged or classified by ZTF.

2024

