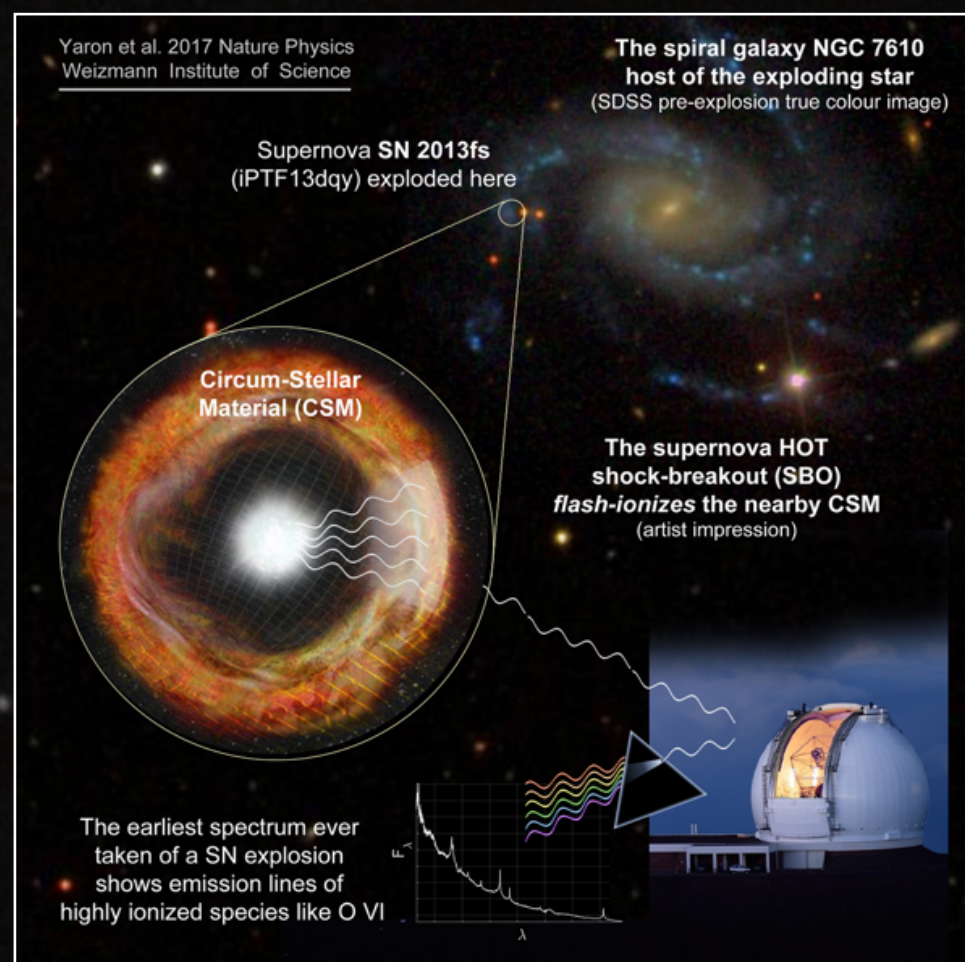


# EXPERIMENTAL ASTROPHYSICS GROUPS

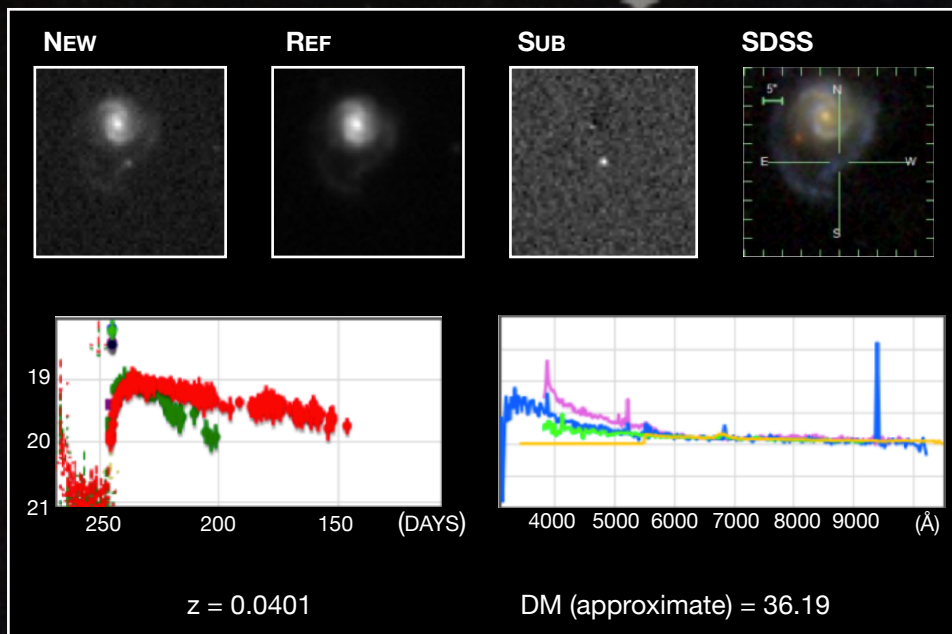


## Cosmic Transients and Explosions

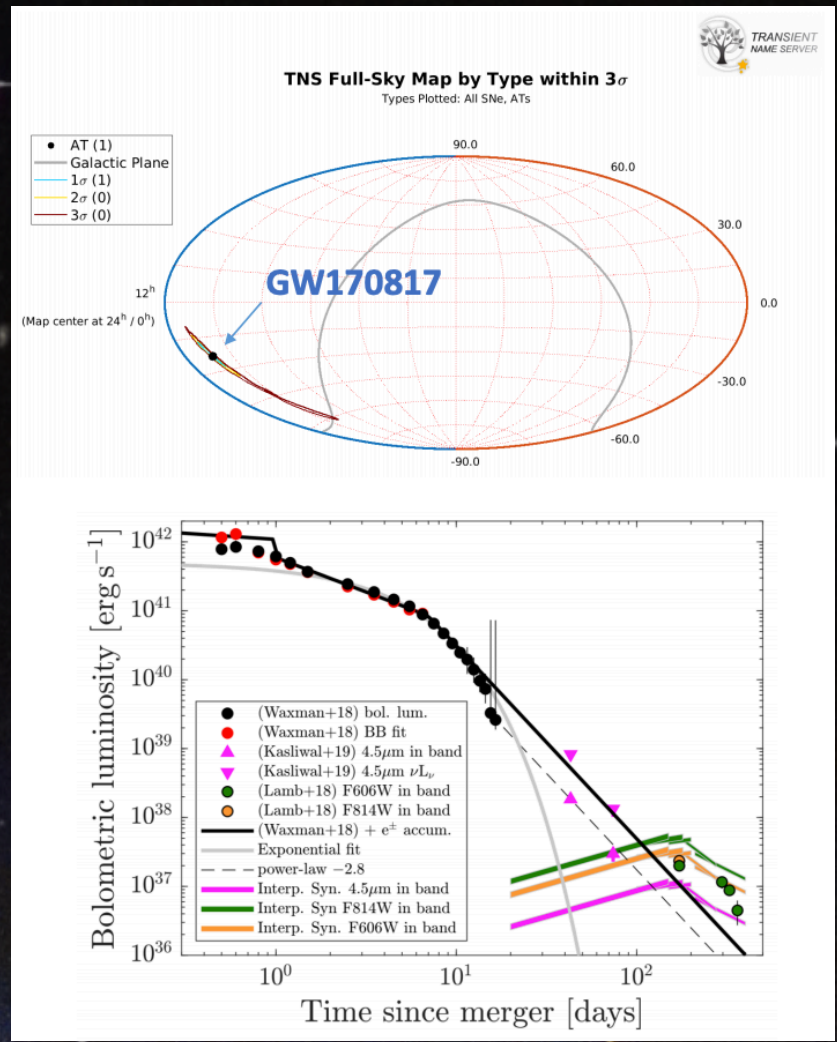
Studying the catastrophic deaths of stars, utilizing the most advanced robotic wide-field sky surveys, world-wide ground and space-based facilities.



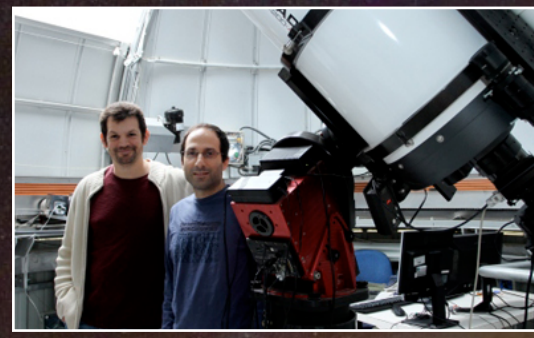
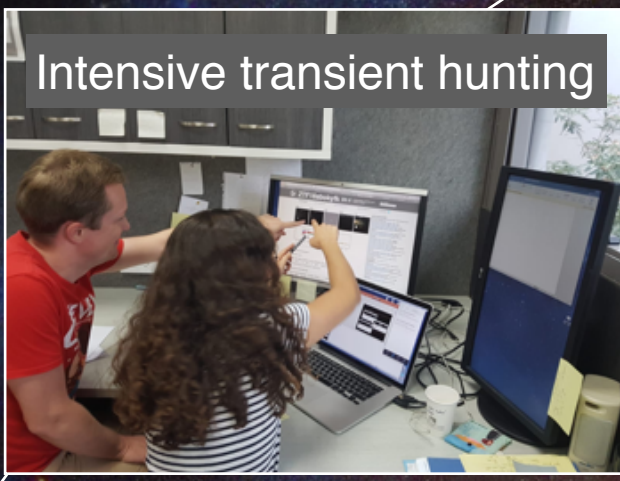
Early spectroscopic observations of SNe pioneered by our group are a powerful tool to probe the circumstellar material around SN progenitors.



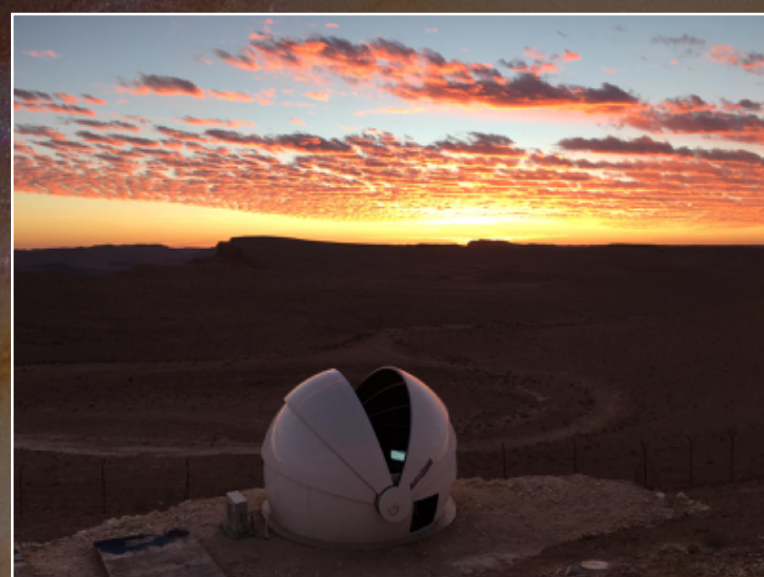
The Zwicky Transient Facility (ZTF) survey is discovering new Supernovae every night. Early UV-optical observations of SNe uniquely probe the properties of the stellar explosions.



Search and follow-up of the electromagnetic emission of gravitational wave events allow us to study the physics of neutron star mergers, and the production of heaviest elements.



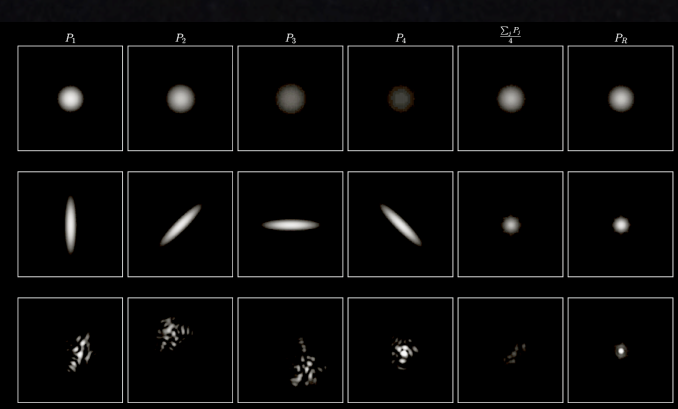
Palomar Mt. - the 5m Hale Telescope



Building W-FAST

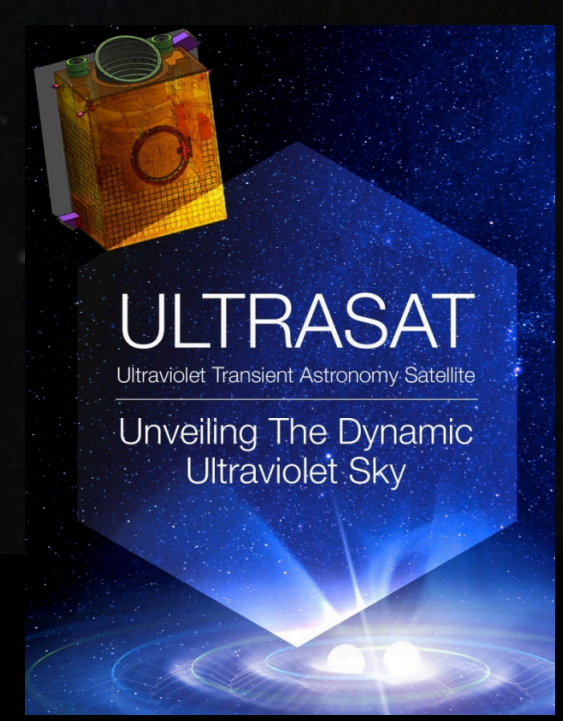


Development of efficient and optimal algorithms for research, such as: the fast de-dispersion measure transform, fast Radon transform streak detection, image co-addition and subtraction.



## Astronomical Algorithms

Design and construction of astronomical instruments and instrumental concepts. Among our instrumental projects: the W-FAST Schmidt telescopes designed to search for and characterize small bodies in the Kuiper belt and Oort cloud, imaging multiplexer prototypes, high throughput spectrographs for large facilities and a planned wide field UV space explorer.



## Instrumentation