

Palomar Transient Factory

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ABSTRACT

The Palomar Transient Factory (PTF) was designed to explicitly to chart the transient sky with a particular focus on events which lie in the nova-supernova gap.. With its innovative two-telescope architecture it achieves both high cadence and large areal rate of coverage. PTF was commissioned during the summer of 2009. PTF is now finding an extragalactic transient every 20 minutes and a Galactic (strong) variable every 10 minutes. Spectroscopy undertaken at Keck and Palomar has allowed us: identify an emerging class of ultra-luminous supernovae, discover luminous red novae, undertake UV spectroscopy of Ia supernovae, discover supernovae powered by something other than Nickel-56, clarification of sub-classes of core collapse and thermo-nuclear explosions, map the systematics of core collapse supernovae, a trove of eclipsing binaries and many others.