

The Host Galaxies Properties of the PTF Core-Collapse Supernova Sample

The paradigm shift from galaxy-selected to quasi-synoptic surveys led to a revolution in the study of optical transients. The Palomar Transient Factory (PTF) has played an important role in this revolution. PTF was a fully-automated, wide-field survey using the 1.2-m Samuel Oschin telescope (P48) at Palomar Observatory (USA) and was operated between March 2009 and the beginning of 2017. During that period, PTF discovered almost 900 core-collapse supernovae. Here, I present the host galaxy properties of the core-collapse supernova sample. I obtained photometry from the rest-frame UV to the NIR for each host using GALEX, SDSS, PS1, 2MASS and WISE and modelled the spectral energy distributions to extract the mass and star-formation rate of each host. I will contrast the ensemble properties of each sub-class with expectations from field-galaxy samples to deduce whether different classes of core-collapse supernovae show a preference for particular galactic environments. Furthermore, I will show how we can use SNe to study extreme environments of star-formation.