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TATA INSTITUTE OF FUNDAMENTAL RESEARCH

ICTS Seminar

Title : Predicting Supernova Rates Using iPTF: Estimating the transient detection efficiency

Speaker : Deep Chatterjee, University of Wisconsin–Milwaukee, USA

Date : Tuesday, 8 January 2019

Time : 4:30 PM

Venue : Chern Lecture Hall, ICTS Campus, Bangalore

Abstract : The intermediate Palomar Transient Factory (iPTF) was an optical survey that was in operation between 2013 and 2016. It located about 50,000 non-moving transients, confirmed about 1900 supernovae and also found some fast transients which evolve in timescales of a few days. Knowing the rates of such transients is important for studies of population and evolution of the universe. The crucial piece required for any statement on rates is to quantify the transient detection efficiency both in terms of intrinsic transient properties and also observing conditions. In this work, the transient detection efficiency for iPTF is calculated and type 1a supernova (SNIa) rates are estimated as a product.