

## **ASTRONOMY & ASTROPHYSICS DIVISION SEMINAR**

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**Title : Near-infrared spectral evolution of the 2011 outburst of recurrent nova T Pyxidis.**

**Speaker : Dr. Vishal Joshi, PRL**

**Date : 31. 10 . 2013 (Thursday)**

**Time : 16:00 Hrs**

**Venue : Room # 114 (Thaltej Campus)**

### **ABSTRACT :**

Recurrent Nova is a subclass of nova showing multiple outbursts in human life time. T Pyx is one of the only 11 known nova so far. Near-infrared spectroscopic and photometric observations of the recent 2011 outburst of T Pyx will be presented. Spectra, commencing from one day after outburst, are reported for a total of 18 epochs spread over the 50 days of the eruption. A major finding is the very rare transition of the nova from the He/N to the Fe II class within a few days after the outburst. T Pyx is only second nova to show such transition after V5558 Sgr in the long history of Nova research. The evolution in the strength and shape of the line profiles is presented and discussed. A Case B recombination analysis is done which shows that the Brackett lines are affected by optical depth effects from the start to the end of the observations. Based on the observation that the Br line is clearly optically thick, we are able to place lower limits on the emission measure and electron density of ejecta.

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All are welcome.....

Bus will be available from PRL main campus at 15:30 Hrs

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