

ICTS Seminar

- Title : Dynamical contributions in the rate of change of the periods of radio pulsars
- Speaker : Dhruv Pathak, Institute of Mathematical Sciences, Chennai
- Date : Tuesday, 26 February, 2019
- Time : 3:30 PM
- Venue : Amal Raychaudhuri Meeting Room, ICTS Campus, Bangalore
- Abstract : Precision timing analysis of radio pulsars gives many interesting results and is expected to contribute further in many areas of fundamental physics in the future. In this connection, it is important to understand the external factors affecting the values of parameters estimated in the timing analysis. Among various possible external factors, in this talk, I will discuss different dynamical effects affecting the observed values of the rate of change of the orbital and the spin periods of pulsars. I will also point out the limitations of existing methods to evaluate these effects and argue the need for improved methods. Afterward, I will describe improved methods to do so, which have been recently introduced by us. I will demonstrate the use of ‘GalDynPsr’, a python based publicly available package we have made to perform these tasks. I will also demonstrate with some examples when conventional methods would be just fine and when our improved methods will be the necessity.