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国台学术报告 NAOC COLLOQUIUM

2017 年 第 29 次 / No. 29 2017

Time: Wed. 2:30 PM, Oct. 25th Location: A601 NAOC

The Restless Universe

An areal view of the Palomar Observatory

Prof. S. R. Kulkarni

California Institute of Technology, US

Prof. S. R. Kulkarni is the George Ellery Hale Professor of Astronomy at the California Institute of Technology. He obtained his undergradute degree from the Indian Institute of Technology, Delhi and his PhD from UC Berkeley. He served a brief period as a postdoc at UC Berekely and Caltech before joining the faculty rank at Caltech in 1987. He was elected as Fellow of the American Academy of Arts and Sciences (1994), Fellow of the Royal Society of London (2001), Fellow of the National Academy of Sciences (2003) and Honorary Fellow, Indian Academy of Sciences (2011). Since 2006 he has been the Director of the Caltech Optical Observatories (2006-present). He is also the Director of NASA Exoplanet Science Institute (NEXSCI) and the Chair of the Physical Sciences panel of the Infosys Science Foundation. His primary interests are the study of compact objects (neutron stars and gamma-ray bursts) and cosmic explosions. He is keenly interested in developing or refining astronomical methodologies. He won many awards and just recently he was elected as external member of the Royal Netherlands Academy of Arts and Sciences.

Abstract

The Universe began only with hydrogen and helium. It is cosmic explosions which build up the periodic table! Astronomers have now identified several classes of cosmic explosions of which supernovae constitute the largest group. The Palomar Transient Factory was an innovative 2-telescope, and its successor, the Zwicky Transient Factory (ZTF), is a high tech project with gigantic CCD cameras and sophisticated software system, and squarely aimed to systematically find "blips and booms in the middle of the night". The speaker will talk about the great retu rns and surprises from this project: super-luminous supernovae, new classes of transients, new light on progenitors of supernovae, detection of gamma-ray bursts by purely optical techniques and troves of pulsating stars and binary stars. ZTF is poised to become the stepping stone for the Large Synoptic Survey Telescope.

All are welcome! Tea, coffee, biscuits will be served at 2:15 PM