

国台学术报告 NAOC COLLOQUIUM

2011 年 第 61 次 / Number 61, 2011

TIME: Monday 3:00 PM, Nov. 7, 2011 **LOCATION: A601 NAOC**

Exploration of the Time Domain with the Catalina Real-Time Transient Survey



Prof. George Djorgovski (Caltech)

S. George Djorgovski is a Professor of Astronomy and a Co-Director of the Center for Advanced Computing Research at Caltech, and the Director of the Meta Institute for Computational Astrophysics, the first professional scientific organization based entirely in virtual worlds. After receiving his PhD from UC Berkeley, he was a Harvard Junior Fellow, before joining the Caltech faculty in 1987. He was a Presidential Young Investigator, an Alfred P. Sloan Foundation Fellow, among other honors and distinctions, and he is an author or coauthor of several hundred professional publications. He was one of the founders of the Virtual Observatory concept, and was the Chairman of the US Nat'l Virtual Observatory Science Definition Team. His e- Scientific interests include definition and development of the universal methodology, tools and frameworks for data-intensive and computationally-enabled science, various aspects of data mining, and virtual scientific organizations.

Abstract

Catalina Real-Time Transient Survey (CRTS) is systematically exploring and characterizing the faint, variable sky. It covers the total area of $\sim 33,000$ deg², down to $\sim 19 - 21$ mag per exposure, with time baselines from 10 min to 7 years (and growing); there are now typically $\sim 300 - 400$ exposures per pointing, and coadded images reach deeper than 23 mag. The survey has detected $\sim 4,000$ high-amplitude transients to date, including over 1,000 supernovae, hundreds of CVs (the majority of them previously uncatalogued), and hundreds of blazars / OVV AGN, highly variable and flare stars, etc. We have a complete open data philosophy: all transients are published immediately electronically, with no proprietary period at all, thus benefiting the entire astronomical community. CRTS is a scientific and technological testbed and precursor for the future synoptic sky surveys. I will describe the survey, some of the scientific results to date, and some of the astrophysics challenges we are addressing, notably the automated classification of transient events.



All are welcome! Tea, coffee, biscuits will be served at 2:45

You are welcome to nominate speakers to Shude Mao (shude.mao@gmail.com), Licai Deng (licai@bao.ac.cn), Xuelei Chen (xuelei@cosmology.bao.ac.cn).