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# 国台学术报告 NAOC COLLOQUIUM

2014年 第31次 / Number31 2014

**Time: Wednesday 2:30PM, July 23 Location: A601 NAOC**

## Origin of Gamma-Ray Emission from Supernova Remnants

**Prof. Wei Cui (Purdue University)**



Wei Cui is a professor in the Department of Physics and Astronomy at Purdue University. He received his PhD in physics from the University of Wisconsin-Madison in 1994, before taking up a Research Scientist position at MIT Center for Space Research. Being an experimentalist, he has worked on a number of major projects in high-energy astrophysics and particle astrophysics, including a sounding rocket experiment employing the first microcalorimeter for high-resolution X-ray spectroscopy, the Rossi X-ray Timing Explorer, the Very Energetic Radiation Imaging Telescope Array (VERITAS), and the Large Synoptic Survey Telescope. He also holds a joint appointment of Chief Scientist in the Chinese Academy of Sciences Key Laboratory of Particle Astrophysics at the Institute of High Energy Physics, and is involved in the Hard X-ray Modulation Telescope project, as well as in the discussion of future space projects in China. Professor Cui has published extensively on microquasars, accreting pulsars, supernova remnants, and active galactic nuclei, as well as on clusters of galaxies and the cosmic X-ray background. In connection with his involvement in the VERITAS project, he has recently focused on gamma-ray emission from supernova remnants and active galactic nuclei, exploring its connection with cosmic rays.

### Abstract

Over the past decade, an increasing number of supernova remnants (SNRs) in the Galaxy have been detected in gamma rays at GeV-TeV energies, thanks to the improved observational capabilities offered by state-of-the-art gamma-ray experiments. This is reassuring to the cosmic ray community, as such sources are generally thought to be responsible for producing cosmic rays at least up to the “knee” of the measured cosmic ray spectrum (at  $\sim 10^{15}$  eV).



However, observational attempts to associate the detected gamma rays directly with relativistic protons in SNRs have proven challenging. In this talk, I will describe some of the recent efforts, as examples, to show that we are probably on the verge of solving the century-old puzzle regarding the origin of cosmic rays (at least that of those that are believed to originate in the Galaxy).

*All are welcome! Tea, coffee, biscuits will be served at 2:15 P.M.*