

Astronomical Data-based Education and Public Outreach at CAsDC

Chenzhou Cui

Chinese Astronomical Data Center

ccz@bao.ac.cn

The Chinese Astronomical Data Center (CAsDC), or Chinese Virtual Observatory (China-VO), is a data-intensive, online astronomical research and education environment, taking advantage of advanced information technologies to achieve seamless, global access to astronomical information. In addition to providing professional support for astronomical research, CAsDC has designed and hosted a number of astronomical data-based education and public outreach projects and events, which are collected in the China-VO Public Channel. Two specific projects, WWT (Worldwide Telescope) and PSP (Popular Supernova Project) are discussed in detail here.

WWT is a visualization environment that enables one's computer to function as a virtual telescope—bringing together imagery from the world's best ground- and space-based telescopes for the exploration of the universe. WWT blends terabytes of images, information, and stories from multiple sources into a seamless, immersive, rich media experience. Since 2008, a series of lectures, nationwide teacher training courses, WWT tour competitions, and WWT interactive digital planetarium exhibitions have been carried out by CAsDC. A revolution in planetarium and astronomical education has been raised by these efforts in China.

PSP is an open science project in which the general public can search for supernova using astronomical images. Designed and created by Xingming Observatory and China-VO, PSP provides a platform for anyone worldwide to make real astronomical discoveries. Every clear night, the Xingming Observatory runs a quick sky survey in Xinjiang, China, and transfers all the images to the China-VO server in Beijing. After some processing, the images are released to the public for supernova search. Only basic computer skills and a little astronomy knowledge are needed to join the project. With proper design and simple guidance documents, over 17,000 people have registered online to participate in the search. On 3 October 2015, a 10-year-old student discovered a supernova candidate. Later, on 4 October, the object was successfully confirmed by a professional astronomer as a type IIP supernova. Eleven candidate supernova have been found in total since September 2015. Among these, six discoveries were confirmed as supernova, and one was confirmed as nova.