

AGN Spectral Energy Distribution of GLAST telescope network program objects

June 2005 Update

Observations completed

On June 9 the Spitzer Space Telescope completed the second of two observations of our target 4C 29.45 (Ton 599) using the IRAC instrument. Also during June the data for both sets of observations from IRAC and MIPS was posted for downloading and is now accessible through Leopard.

We do not yet know how to extract values from the data but we do know we need to use software called MOPEX to do so. MOPEX only runs on Solaris and Linux. We do have the ability to install these operating systems and attempt to use the software, but the Spitzer Tools page reports that a Mac OS X version of MOPEX with a Graphic User Interface (GUI) will be available in September 2005, so it is likely we will not attempt to reduce the data until then.

Ground based observations were completed by a number of observers, although poor weather plagued many of the volunteers this month. Contributors to the GLAST call for observations made by Gordon Spear added data to the AAVSO database, and we have assigned a student to begin looking at this data. Our own observations managed through the New Mexico Skies program were again greatly assisted by Lynn Rice's patient and ongoing cooperation in providing proper filters and time on a special telescope not normally accessible to TLRBSE teachers. We have a rather large data set of dozens of images taken before and after each Spitzer observation. Students will be working on reducing this data this fall in Adkins' research class.

One thing to keep in mind is that for students to make these projects legitimate science fair projects, teachers and program scientists cannot do the data reduction and analysis and hand it over to a student. This means that reducing the data and generating reports may take a little longer than if teachers were to "dive in" and do it alone. Nevertheless, we hope to have reports available by late fall for use in papers and science fairs.

Student work

Students in Jeff's class are meeting with him over the summer for background training (they are doing the TLRBSE AGN and Stellar Spectroscopy packets as summer homework) and in August we will work on refining the ground-based light curves and those portions of the SEDS coming from our V,R, and I filtered images. Some preliminary light curves have been completed, but without error bars so they are not ready for distribution.

Workshops

Jeff did a workshop on the Spitzer research for the Mt. Diablo Astronomical Society on June 28. A brief overview of the proposal process was made plus an update on the data itself.

Linda is scheduled for a summer course on the Invisible Universe starting July 19. She is also planning several workshops in October for her state science convention including on October 6:

Teaching Multiwave Astronomy 8:30-9:30

DASLed by the Sun 10-11

Infrared Astronomy 2-3:30

SSC Meeting for data analysis and reduction

We have scheduled our visit to the SSC for data reduction and analysis on October 1-3. This is the earliest date that everyone is available.

Web Site

The web site has been updated with instructions on how to download Spitzer data using Leopard. A blog of interesting links related to AGN has been started. The Spitzer Science Center's page for our project has been posted at the SSC, and our site and their site contain mutual links to lead to each other.

Related Grants

Jeff got a \$10,000 grant from the California Department of Education to highlight student research, including Spitzer-and GLAST-related research, for visitors seeking to set up space academies at other schools. Visitors from Lake County, California, (already in possession of an observatory and planetarium) visited our site and were given a strong referral to TLRBSE and Spitzer projects and urged to apply.

This is the last year for Jeff's 4-year Specialized Secondary Program Grant, which supports student research projects and outreach projects. His school now has a completely functional and operational planetarium, and we have received donated camera equipment for our LX200 GPS telescope. We are going to purchase UVBRI filters and related equipment for continuing our research beyond this year.

Linda (5) and Jeff(3) have 8 submissions combined for this year's RBSE journal and we anticipate more next year.