The Spitzer Space Telescope Research Program for Teachers and Students: The Wiki

Abstract: The Spitzer Science Center (SSC) and the National Optical Astronomy Observatory (NOAO) have designed a program for teacher and student research using observing time on the Spitzer Space Telescope. (For more information on this program, please see our companion poster, Rebull et al.) As part of this program, we are developing a wiki, where the scientists, teachers, and students can share their materials they have developed and interact with each other. The wiki currently has background information, some general lessons and discussion pages; it also provides a place for the teams to continue working on their specific research projects. This poster will describe some of the wiki contents, and our plans for future development.

The Wiki as an informational and Tutorial Tool

Research Tools
- This section is designed to meet the needs of researchers at all stages of their project. It serves as a comprehensive tutorial covering a range of topics from basics, such as the nature of Spitzer data and information about the broadband R filter and a narrow band H-alpha filter. Since the H-alpha filter and a narrow band H-alpha filter is a narrow part of the broadband R filter, its photometric capabilities make it useful for objects with an H-alpha emission.

Color Composite Images
- This section includes a brief introduction explaining the benefits of creating a color composite image. It also provides instructions for creating a color composite image using several different image processing programs. Color composite images using Spitzer and other data are useful for studying various features of an object.

Student Research Communication Tool

Students Teaching Other Students
- Danielle 07:21, 19 December 2007 (PST) I think that Rachele S. is a wonderful example as to what the wiki is all about. I sat with her last night and threw all kinds of information at her about the project (IC2118 YSO Research) and everything it includes including the T-Tauri candidates identification. I used two pages of the wiki to help teach her. I used the “Finding Cluster Members” page as well as “Making Light Curves for our YSO Candidates” page.

Students Sharing Research Results
- Students involved in the IC2118 Research project are monitoring YSO candidates that have been identified using the Spitzer Space Telescope. The T-Tauri Candidate intensity value is compared to the average intensity value of the non-T-Tauri Candidates in the field, and using Microsoft Excel students plot light curves with this data. The plots can then be shared with other students via the Wiki.

Student Sharing New Data Analysis Techniques
- Two things we believe to be true about YSO’s or T-Tauri candidates is that they should have an excess of dust around the star, and the star itself should be active. The excess of dust around the object would be indicated by a higher than normal emission in the infrared, and highly active stars give off a strong H-alpha emission. Unfortunately high schools rarely have access to the sort of high end equipment necessary for spectral analysis of stars, however more and more lower end internet accessible telescopes are coming online. We believe we have developed and interact with each other. The wiki currently has background information, some general lessons and discussion pages; it also provides a place for the teams to continue working on their specific research projects. This poster will describe some of the wiki contents, and our plans for future development.