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Joel Rogers

Wesley Cheek

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An Observational Study of Variable Stars

Joel Rogers, Wesley Cheek

Departmental Affiliation: Physics and Astronomy
College of Arts and Sciences

This past summer, we carried out an observational study of light variability in approximately 20 stars. Our goal was to document their changes in brightness, determine a period of the variability, and investigate whether their brightness changes were correlated with changes in color (and thus temperature). These stars are part of a special class of stars that have evolved beyond the red giant phase but have not yet become white dwarfs. Little is known about their variability during this phase. We observed them on almost every clear night during the summer of 2010. We then compared the data for this summer with that of the previous two years. We determined tentative periods for roughly half of these, and they ranged from approximately 40 to 200 days. The brightness changes ranged from 10 to 40% and the objects in general were redder and cooler when fainter. The variation in brightness is due to pulsation of the stars.

Information about the Authors:

Astronomy has always been of great interest to Joel Rogers and Wesley Cheek due to the extraordinary wonders of the universe. Being another branch of physics, astronomy provides a further education on a much larger scale. The objects they observed over the summer were not discussed in Astronomy 101, so it was interesting and beneficial to get a “hands on” experience with material not covered in class. Currently, they observe objects on clear nights as they did in the summer. Future goals include continuing to observe these objects on clear nights throughout the school year and possibly pursuing further research during another summer.

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Student Contact: joel.rogers@valpo.edu