Abstract Submitted
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Search For Variable Stars with ROTSE JASMINE LIU, ROBERT KEHOE, FARLEY FERRANTE, None — Our research group at SMU employs the SMU owned Robotic Optical Transient Search Experiment (ROTSE)-IIIb telescope sited at McDonald Observatory in West Texas to study the most extreme cataclysmic events – supernovae and gamma-ray bursts. These studies rely on an accurate understanding of the variable star background, which can mimic these stellar death phenomena. Since 2007, the Variable Star Project (VSP) has involved SMU undergraduates in extracting variable star discoveries from the data sample of the ROTSE-I and ROTSE-III telescope. Briefly, we search for potential variable stars and phase light curves of multiple nights together to gain a complete measurement of period and amplitude. When necessary, we augment ROTSE database measurement with additional data from other survey telescopes. The final identification step involves submission of the analysis to the International Variable Star Index (VSX) for referee consideration and potential approval as a variable discovery. VSX is sanctioned by the International Astronomical Union, so resulting discoveries and measurements are publicly available to the astronomical research community. Over the last summer, I successfully submitted three variable stars identified using data from two different telescopes, ROTSE-I and ROTSE-III, for VSX referee approval. These variable stars were all eclipsing binary stars, including one Beta Lyrae (EB) variable and two W Ursae Majoris (EW) variables. An exceptionally rare high amplitude delta scuti triple mode pulastor found by other members of our research group will also be included.

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None

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