Abstract Submitted
for the TSF15 Meeting of
The American Physical Society

Variable Star Search Using ROTSE-I Data DANIEL GUM, FARLEY FERRANTE, ROBERT KEHOE, Southern Methodist University — I present the results of a variable star search using data from the Robotic Optical Transient Search Experiment–I (ROTSE-I) telescope. Variable stars fluctuate in magnitude as seen from Earth due either to changes in the star's luminosity or to changes in the amount of the star's light that reaches the Earth. My research focused on analysis of the time variation of optical light output as recorded in the ROTSE–I data sets. The data contained output from several types of variable stars, all of which are short period variables such as Delta Scuti stars, eclipsing binaries, and contact binaries. Amplitude variations for these classes of variables are on the order of one magnitude with periods on the order of 2 to 15 hours. These stars are relatively bright, with brightness values ranging between the 11^{th} and 14^{th} magnitudes. As such, they were ideal candidates for observation from the ROTSE-I telescope. The variable star discoveries are now listed in the International Variable Star Index (VSX) maintained by the American Association of Variable Star Observers (AAVSO).

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Date submitted: 09 Oct 2015 Electronic form version 1.4