Abstract Submitted
for the SES13 Meeting of
The American Physical Society

Analyzing Images of Supernova 2010ih DOROTHY DICKSON-VANDERVELDE, GINGER BRYNGELSON, Francis Marion University — SN 2010ih is a type Ia supernova, which is thought to come from a binary star system in which at least one of the stars is a white dwarf. The white dwarf gains mass until it reaches the Chandrasekhar limit, where the pressure and temperature set off a runaway thermonuclear explosion. We plan to analyze the light curve of the supernova to characterize the late-time behavior of the supernova and also to figure out the distribution of the different radioactive isotopes. I reduced and combined images of the Supernova 2010ih and then analyzed it for brightness and began the formation of a light curve, which is a graph of magnitude verses time. SN 2010ih was observed on January 10 and 11, 2011, about five months after it was discovered, at Kitt Peak National Observatory with the 4m Mayall Telescope in the visible light bands B, V, R, and I. I used the software Image Reduction and Analysis Facility (IRAF) to analyze and reduce the images. I removed bad pixels and crosstalk, subtracted the darks and the zeros, divided out the flats, fit the image to a world coordinate system, and then combined the images into a final image, for each filter; B, V, R, and I. After achieving the four final images, I found the magnitude for the supernova and thirty field stars.

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Date submitted: 20 Sep 2013 Electronic form version 1.4