

Abstract Submitted  
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**Searching for Evidence of White Dwarf Core Crystallization in 47 Tucanae**<sup>1</sup> ALYSA C. OBERTAS, HARVEY RICHER, JEREMY HEYL, University of British Columbia — White dwarfs (WDs) are remnants of stars like our Sun. About 98% of all stars in the Galaxy will end their lives as white dwarfs. Young WDs are very hot, but lose energy initially by neutrinos and then by the emission of photons from the surface. Eventually, enough energy is lost that the core of the WD begins to crystallize. WD cooling is crucial for understanding a variety of issues from the formation of the Galaxy to the age of the Universe. Current cooling models incorporate crystallization of WDs and the release of latent heat that slows the cooling temporarily. In this poster, the cumulative luminosity function of white dwarfs in 47 Tuc is compared to modelled luminosity functions. The results suggest that crystallization is occurring at the expected age, verifying this component of current models used to age ancient star clusters.

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Alysa C. Obertas  
University of British Columbia

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