Abstract Submitted
for the CAL13 Meeting of
The American Physical Society

The Mid-Infrared RR Lyrae Period-Luminosity Relation MEREDITH DURBIN, Pomona College, VICTORIA SCOWCROFT, WENDY FREEDMAN, BARRY MADORE, ANDY MONSON, MARK SEIBERT, JEFF RICH, Carnegie Observatories — We present new period-luminosity (PL) relations for RR Lyrae variable stars in the globular cluster Omega Centauri in 3.6 and 4.5 microns, derived from time-resolved data from the Spitzer Warm Mission. We will discuss how these relations compare to previous work on RR Lyrae in other wavelengths and clusters, particularly with regards to the metallicity effect on the PL relation; as Omega Centauri contains over 100 RR Lyrae with literature values for metallicities spanning roughly 1.5 dex, it is the ideal cluster in which to study metallicity effects. Theoretical work has predicted no metallicity term in the mid-infrared PL relation, which this data corroborates.

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Date submitted: 04 Oct 2013 Electronic form version 1.4