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First Results from DEBASS and the Importance of Low-z Supernova Samples in Validating Thawing Dark Energy

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Recent results from DES and DESI find evidence for a thawing model of dark energy at the ˜4 sigma level. However, this evidence largely depends on a heterogenous collection of low redshift supernovae that were obtained over several decades. Using DECam on the 4m Blanco telescope in Chile, and WiFeS on the ANU 2.3m telescope, we are assembling a sample of 500 low redshift supernovae that will replace this historic anchor to the Hubble diagram. This will allow us to test whether the recent results about the time-varying nature of dark energy are real, or whether they are driven by systematics in current low-redshift SN Ia samples. We present the initial findings of DEBASS, and the concurrent host galaxy follow-up program with WiFeS, which aims to investigate the impact of host galaxy properties in estimating distances.

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