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Title: SpiKeS: Spitzer Kepler Survey
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Abstract: Co-Authors: C. Beichman, D. Ciardi, P. Plavchan, NExSci; V. Gorjian, J. Livingston, JPL; P. Lowrance, SSC; C. Stark, DTM; G. Kennedy, M. Wyatt, University of Cambridge.

We describe a proposed Warm Spitzer survey of the entire Kepler field to provide precision 3.6 and 4.5 μ m photometry of the 180,000+ Kepler Observed Objects (KOBs). We have already carried out a pilot project using Warm Spitzer which studied one 2.4x2.4 degree Kepler tile. These data have been analyzed and show that our observing strategy will allow us to achieve a photometric precision of 2% or better for half of the KOBs and 3% or better for more than 90%. The results from this pilot project will be presented in the poster. Based on these results, the principal scientific thrusts of the entire survey will be to:

1. Facilitate searches for infrared excess as small as 10% above the stellar photosphere, attributable either to warm dust or to cool companions. Either could be of great significance in understanding the properties of planets or planetary systems detected around these stars;
2. Provide fundamental data on the KOBs, already the best characterized group of stars in the sky, which can be used to test stellar models and to support the all-important determination of effective temperatures and radii, and thus exoplanet radii and densities;
3. Augment the Kepler archive with precision infrared photometry, which will be a vital ingredient in research using this archive to study both exoplanetary and astrophysical questions over the coming decades.

Portions of this work were carried out at the Jet Propulsion Laboratory, operated by the California Institute of Technology under a contract with NASA.