The Formation and Evolution of Planetary Systems: First Results from a Spitzer Legacy Science Program

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We present photometry from 3–160 μm obtained with the IRAC and MIPS instruments and low resolution spectro-photometry from 4–35 μm obtained with the IRS for the first targets observed from the Spitzer Legacy Science Program *Formation and Evolution of Planetary Systems*. We also present high resolution spectroscopic observations from the IRS for a subset of our sample capable of detecting emission features from warm circumstellar atomic and molecular gas. We report new detections at 70 and 160 μm of the candidate debris disk around HD 105 (G0V, approximately 30 Myr old) as well as a newly discovered debris disk surrounding HD 150706 (G3V, approximately 1 Gyr old). We also place preliminary upper limits on the remnant molecular gas in the disk surrounding HD 105. We discuss these preliminary results based on our first Spitzer observations in the context of a model for the evolution of our own solar system and speculate on the implications for the TPF and Darwin missions.