The Properties of Clumps in Different Evolutionary Phases in the Bolocam Galactic Plane Survey

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Recent surveys at far-infrared through millimeter wavelengths of the Milky Way Galaxy have made it possible to search for and study embedded sites of star formation in a much less biased way than previous studies. The Bolocam Galactic Survey (BGPS) is a 1.1 mm continuum survey at 30" resolution of over 200 square degrees covering the entire first quadrant and selected regions in the second, third, and fourth quadrants. More than 8000 dense clumps have been identified in the recently released version 2.0 maps. A follow-up spectroscopic survey in the dense gas tracers HCO^+ and N_2H^+ have identified unique velocities for 3126 sources in the BGPS. I shall describe a Bayesian technique developed by the BGPS team to quantify the probability that a source lies at a particular heliocentric distance for resolution of the kinematic distance ambiguity in the first quadrant. Using Distance Probability Density Functions (DPDFs) for a subset of nearly 2000 sources with well determined distances, I shall then characterize the physical properties of clumps (size, mass, kinetic temperature measured from NH_3, line width, etc.) observed in different evolutionary phases (starless clump candidates, deeply embedded protostars, clumps with H_2O and/or CH_3OH masers, and UCHII regions, etc.). The merged kinematic, DPDF, and clump evolutionary stage catalog is an important resources for systematic studies of star formation in the Milky Way.