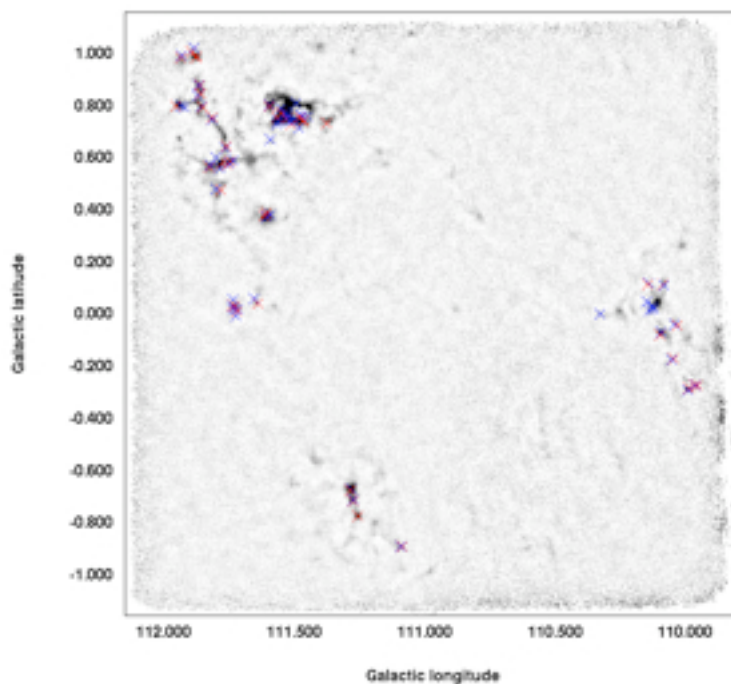


Star Formation in Perseus Arm Complexes

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We present James Clerk Maxwell Telescope HARP CO 3-2 and Caltech Submillimeter Observatory Bolocam 1.1mm continuum observations of the W5 and L111 star forming complexes at distances of ~ 2 and ~ 2.7 kpc. These complexes are the best locations to explore cluster and massive star formation because they are nearby and free of confusion with foreground and background emission. We use CO 3-2 and Spitzer data to identify the actively star-forming segments within W5 and CO 3-2 only in L111. While the millimeter sources trace the highest concentrations of Spitzer-identified Class I sources in W5, there is a significant distributed population of these youngest stars that is not associated with massive dusty clumps. Many of the most embedded Class I sources are associated with CO outflows. In both outer galaxy star-forming regions covering ~ 10 square degrees, nearly all compact 1.1mm sources are associated with CO 3-2 outflows, though there is substantial distributed CO emission that is not associated with 1.1mm emission and does not exhibit outflows.



Bolocam 1.1mm maps of the W5 and L111 star forming complexes. Red and blue X's mark the locations of outflows identified from JCMT HARP CO 3-2 data. Green circles in the W5 map indicate Class I objects identified in Koenig et al (2008) from Spitzer colors. Nearly all 1.1mm-bright objects are associated with outflows.

References:

Koenig, X. et al 2008, ApJ, 688, 1142