

W49A: A Forming Massive Star Cluster in the Galactic Disk

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I summarize our current results of the MUSCLE survey of W49A, one of the most luminous star formation regions in the Milky Way. Our approach emphasizes multi-scale, multi-resolution imaging in dust and free-free continuum, as well as in molecular- and hydrogen recombination lines, to trace the multiple gas components from < 0.1 pc (core scale) all the way up to the entire giant molecular cloud (GMC), ~ 100 pc. The $10^6 M_{\odot}$ GMC is structured in a radial network of filaments that converges toward the central few-pc ‘hub’ with $\sim 2 \times 10^5 M_{\odot}$, and which contains an embedded young massive cluster (YMC) of $\sim 5 \times 10^4 M_{\odot}$. We also discuss the dynamics of the filamentary network, the role of turbulence, and use W49A to link Milky Way and extragalactic star formation relations.