

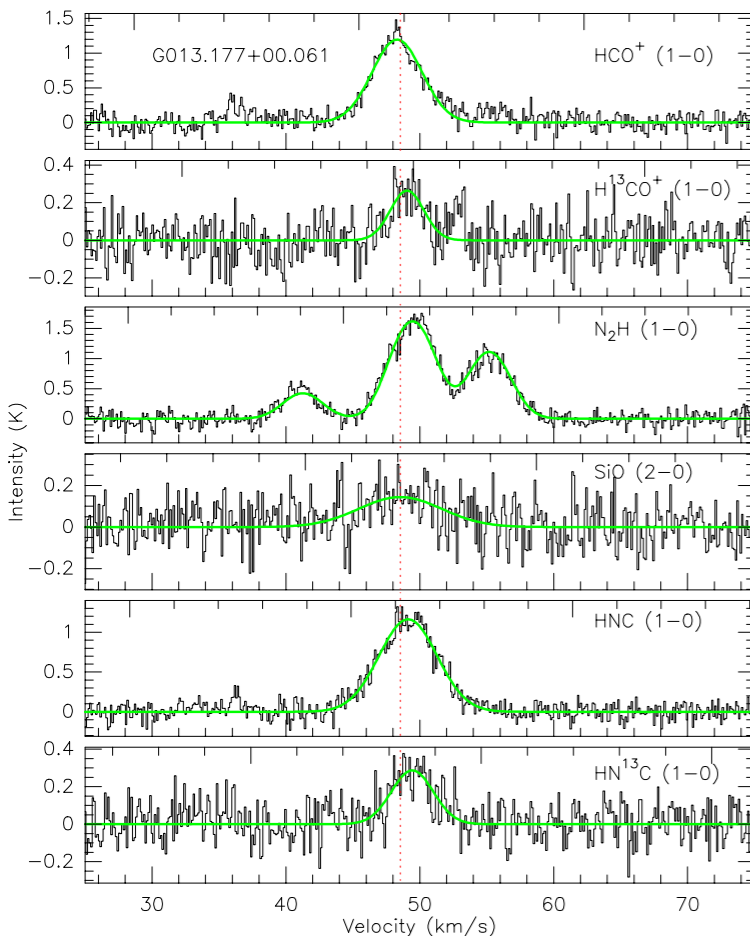
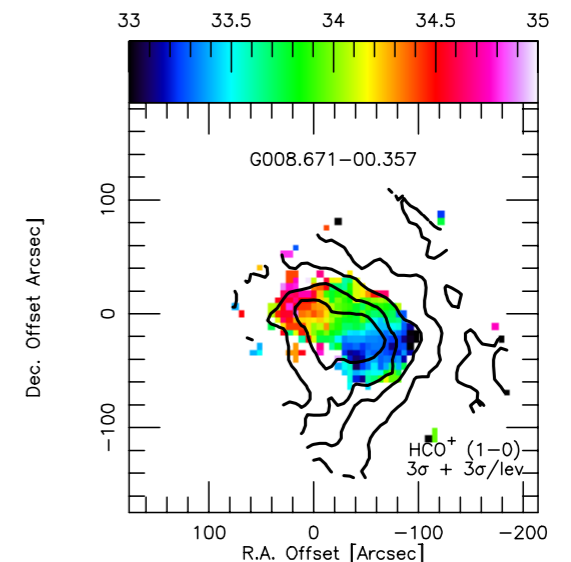
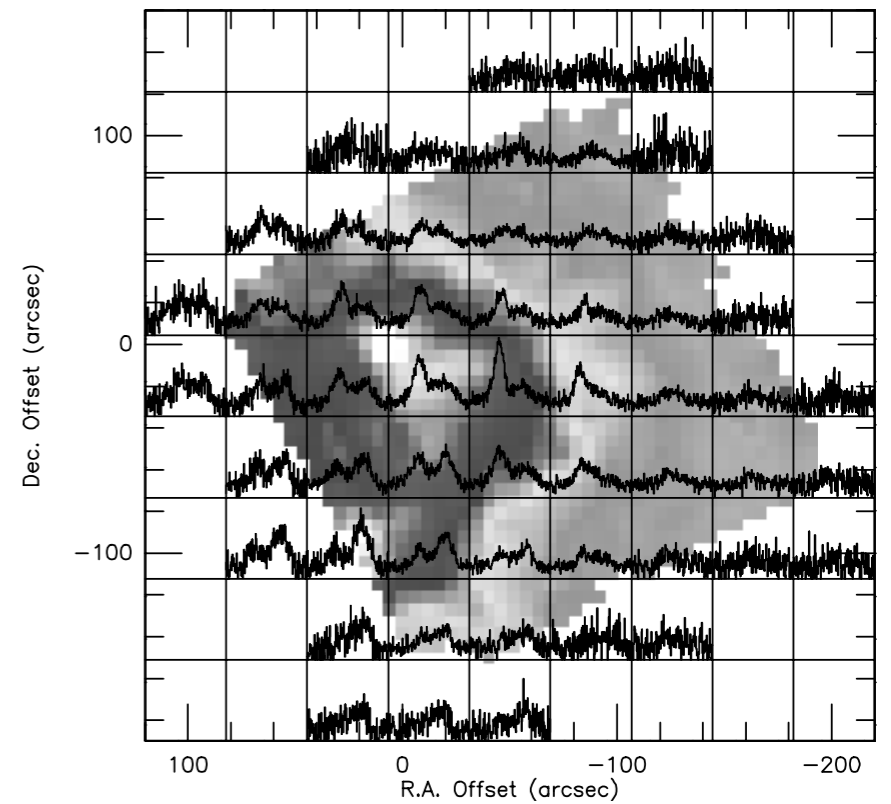
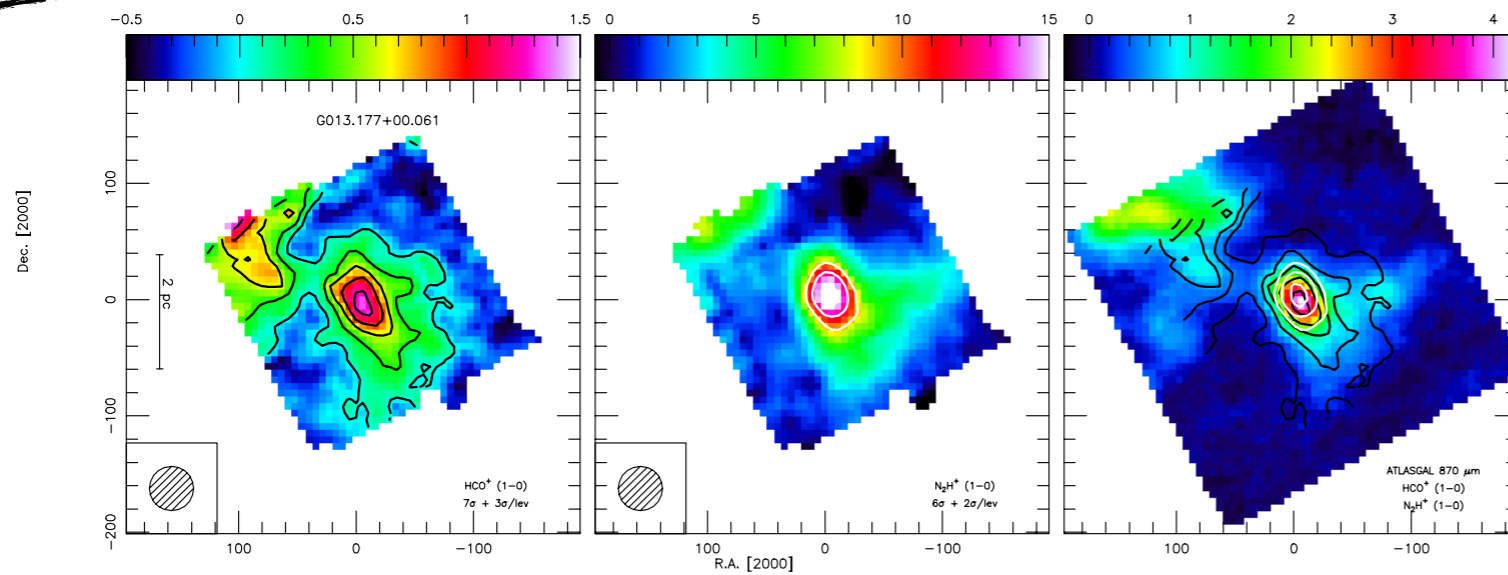
A MALT90 Study of Selected ATLASGAL High-Mass Clumps

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S5.14



- ~30 high-mass clumps ($M > 200 M_{\odot}$)
- spectral lines: $\text{HCO}^+(1-0)$, $\text{HCN}(1-0)$, $\text{HNC}(1-0)$, $\text{N}_2\text{H}^+(1-0)$, $\text{SiO}(2-0)$, ..
- isotopologues: H^{13}CO^+ , HN^{13}C , ...
- spectral line analysis, measurements of optical depths, column densities



velocity gradients
double/multiple line profiles
interesting targets
to investigate with ALMA