

[PIM-03] **Observations of Spatial Structure in the Dust Continuum
Emission from the Orion Molecular Cloud**

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We have performed the Fourier transform and obtained the power spectrum of the density structure in the 1.1 mm dust continuum emission arising from the Orion A molecular cloud, especially OMC-1 region. AzTEC observations of the Orion A molecular cloud at 1.1 mm have revealed dozens of cloud cores and a tail of filaments in a manner almost identical to the submillimeter continuum emission at 450 and 850 μm of the entire OMC-1 region. The density power spectrum provides size distribution of the structures. We report the slope of density power spectrum.

[PIM-04] **Molecular Outflows from Newly-formed Massive Stars**

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We mapped 7 massive young stellar objects (YSOs) in the CO J=2-1 line at 27'' resolution with Kitt Peak 12-m in order to study the physical and dynamical properties of their molecular outflows. We detect 8 outflows in the seven sources: 6 bipolar outflows and 2 monopolar outflows. All bipolar outflows but one are poorly collimated. They are all much more massive and energetic than outflows from low-mass YSOs. The mass outflow rates are in order of $10^{-4} M_{\odot} \text{ yr}^{-1}$, which are one or two orders of magnitudes greater than the rates of low-mass outflows. We discuss the implications for massive star formation.