

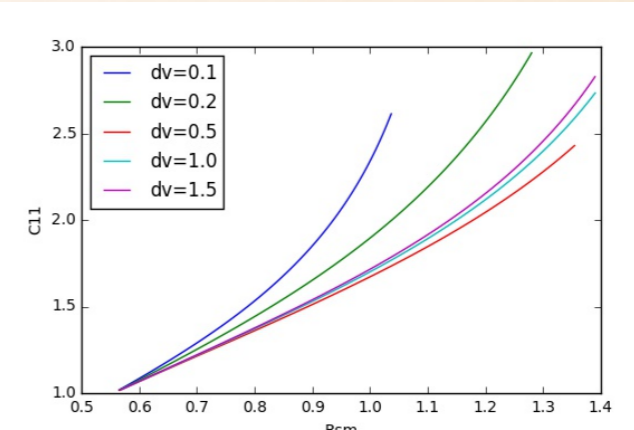
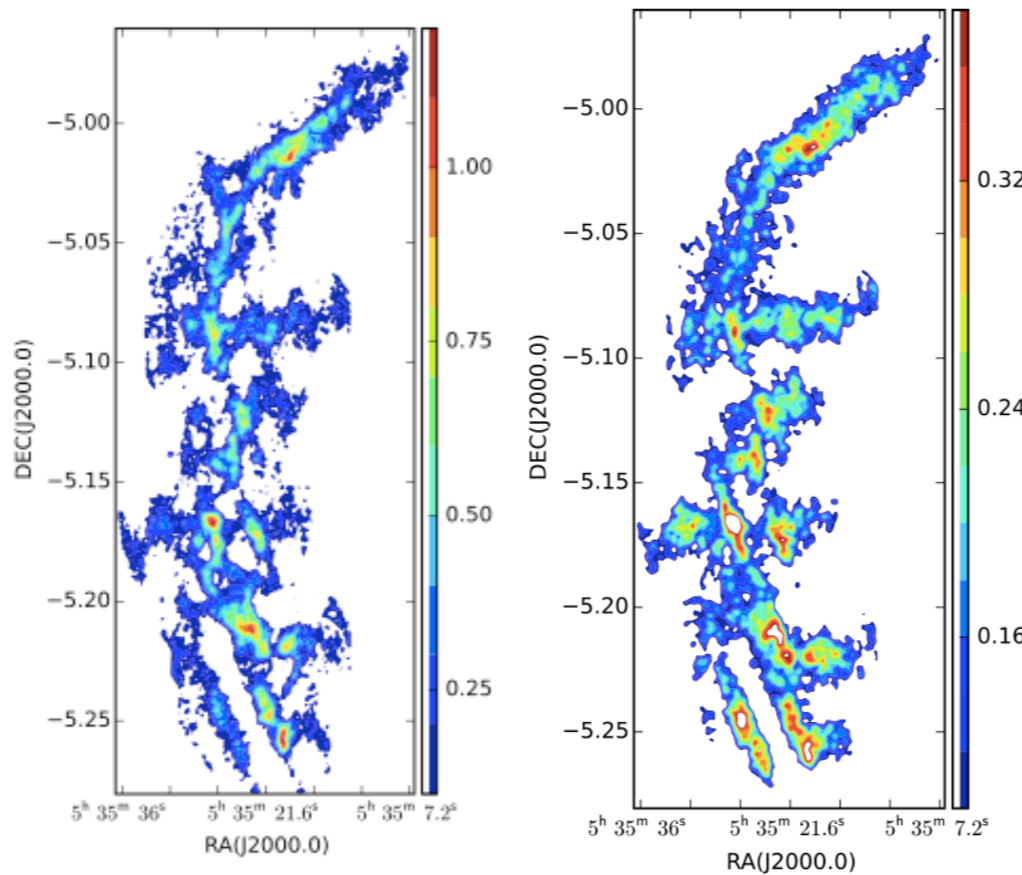
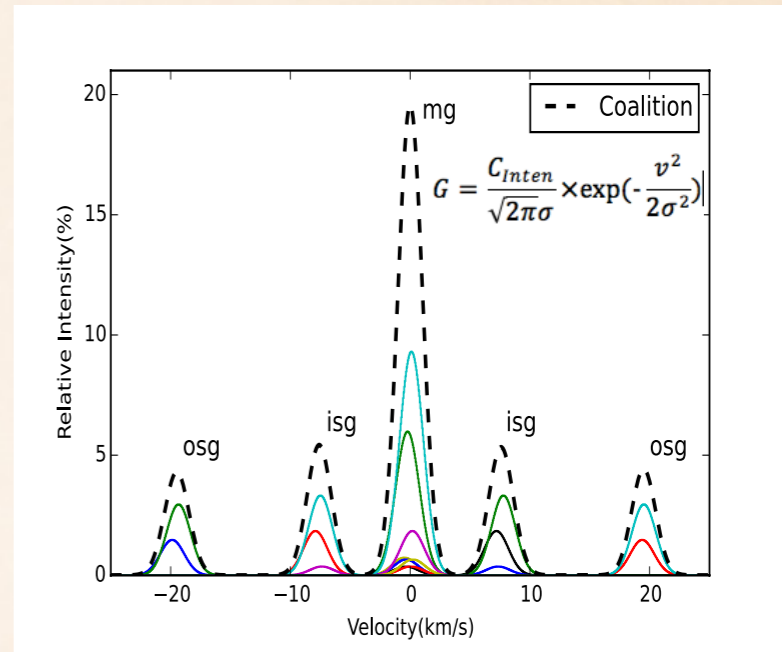
TEMPERATURE & CHEMICAL EVOLUTION IN ORION MOLECULAR CLOUD

❖ A Recipe for Deriving Kinetic Temperature from Ammonia Inversion Lines

❖ N_2H^+ Tracer and Chemical Evolution for NH_3 to N_2H^+

$$R_{sm} = \frac{\int T_{As}(1,1)dv}{\int T_{Am}(1,1)dv} = \frac{\int (1 - e^{-\tau_{vm}(1,1)})dv}{\int (1 - e^{-\tau_{vs}(1,1)})dv}$$

$$T_R = T_0 / \ln(0.816 \times C(1,1)) \times \frac{\int T_A^{m+s1}(1,1)dv}{\int T_A^m(2,2)dv}$$



$$C(1,1) = A_1 R_{sm}^2 + A_2 R_{sm} + A_3 + A_4 \exp(A_5 R_{sm})$$

