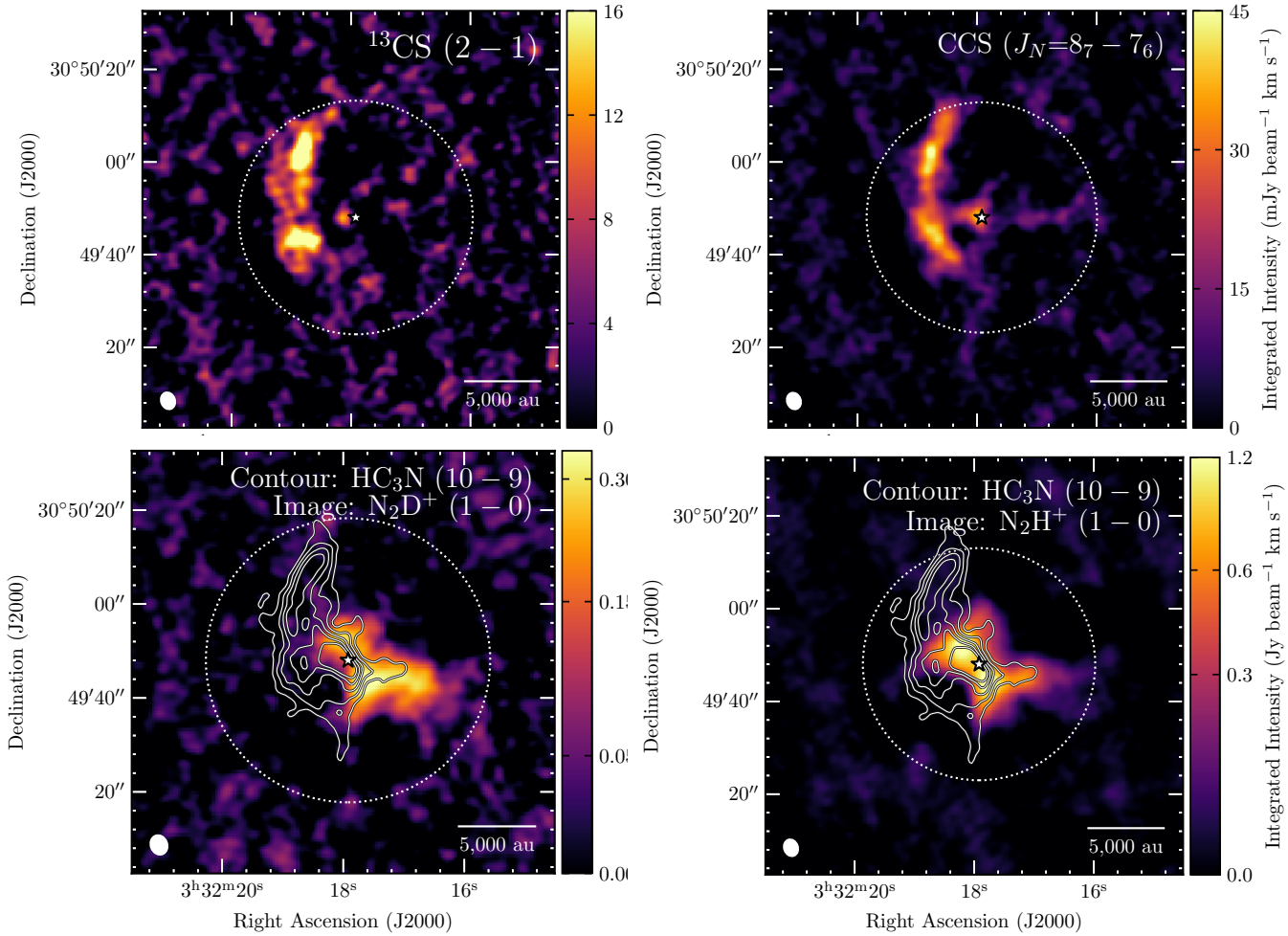
What are the best tracers of kinematic accretion flows/ streamers on different scales

Puzzles of Star Formation

July 14, 2021

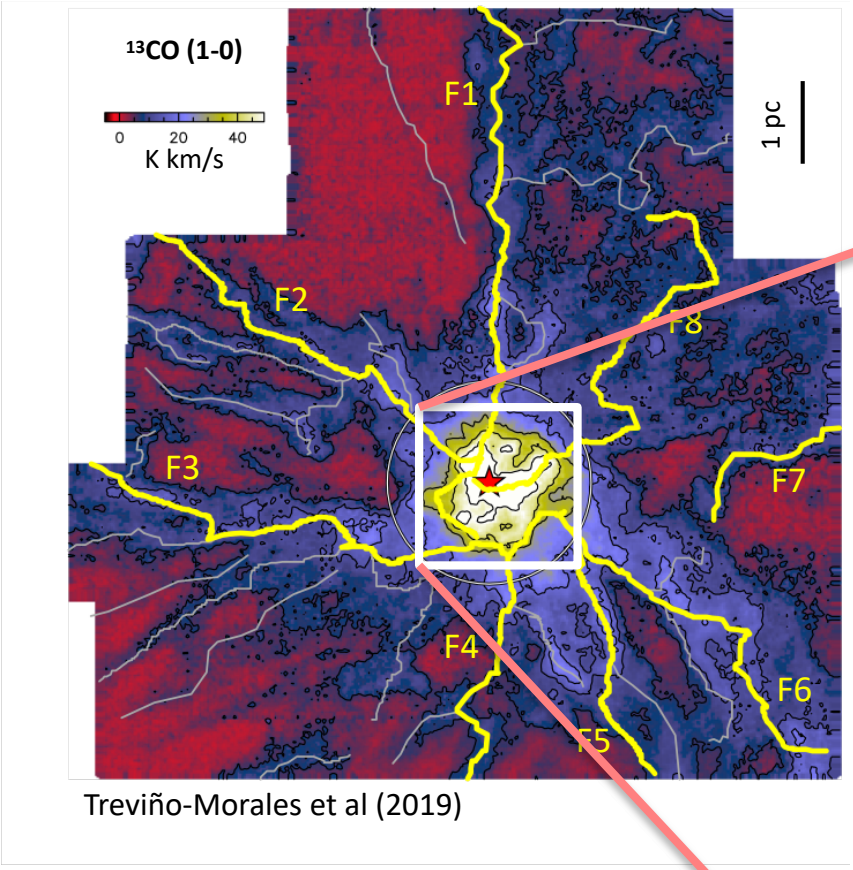
Why unseen before?



Pineda et al. (2020)

Accreting filaments at pc scales in high-mass star-forming regions

Monoceros R2 / MonR2

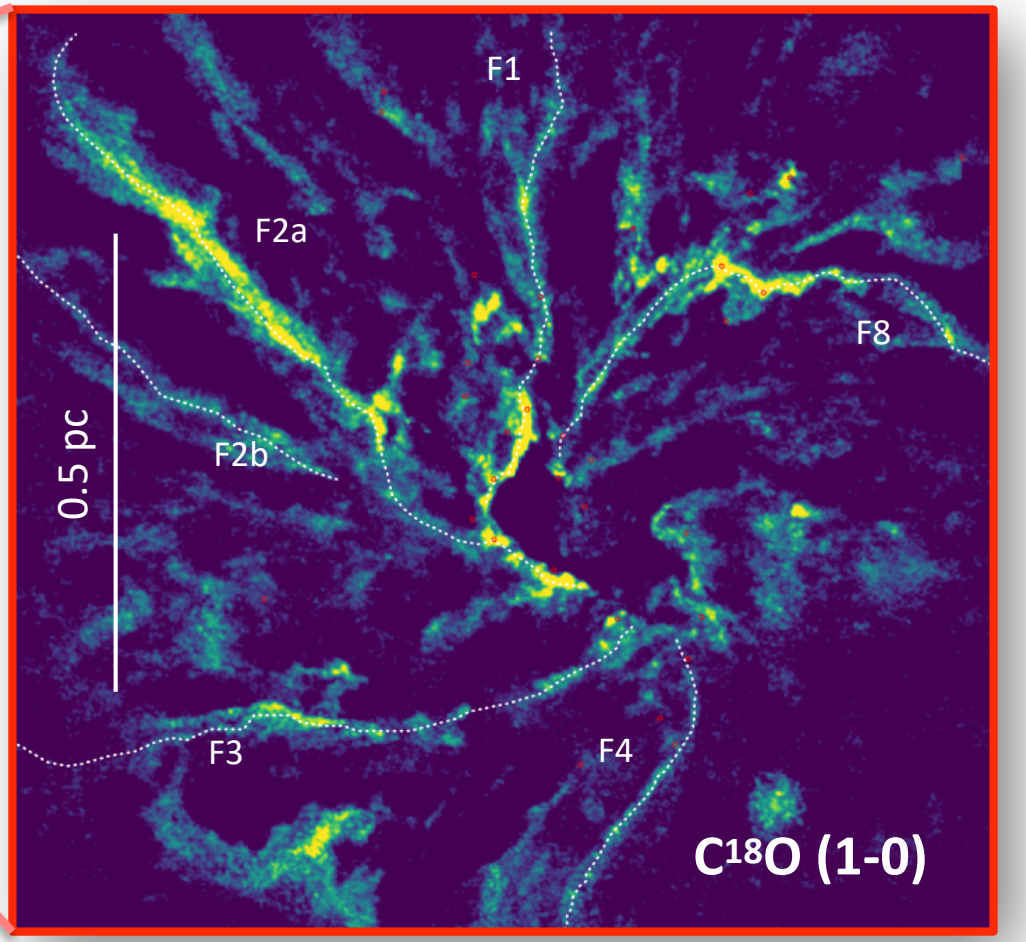


Treviño-Morales et al (2019)

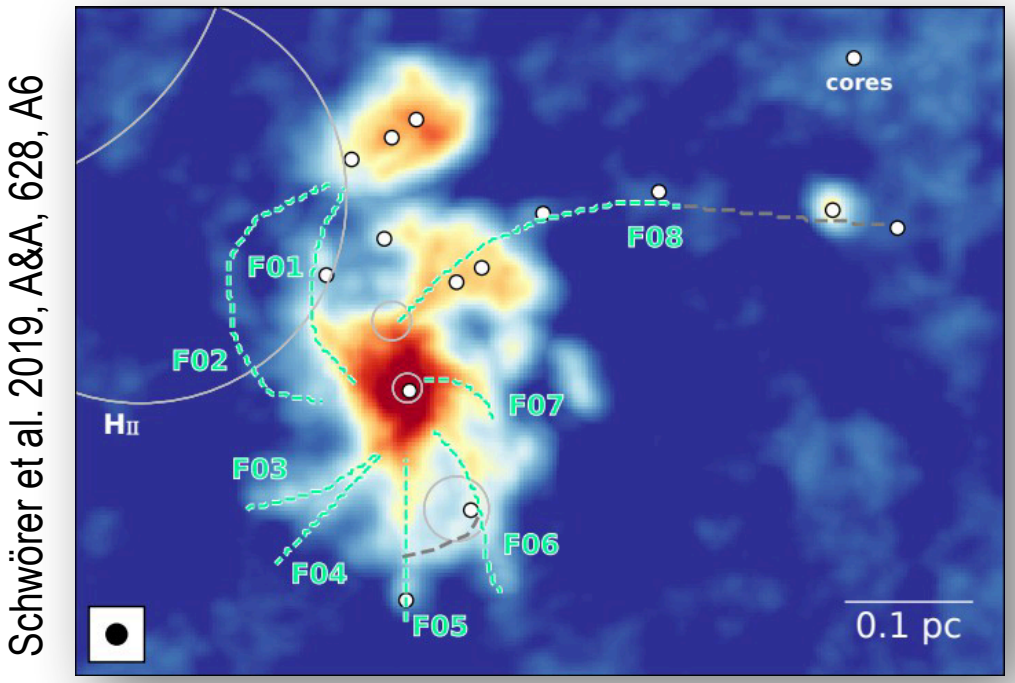
Usually visible in ^{13}CO, $C^{18}O$, N_2H^+, HC_3N

scales of about 1-10 pc

densities of about 10^3-10^5 cm^{-3}



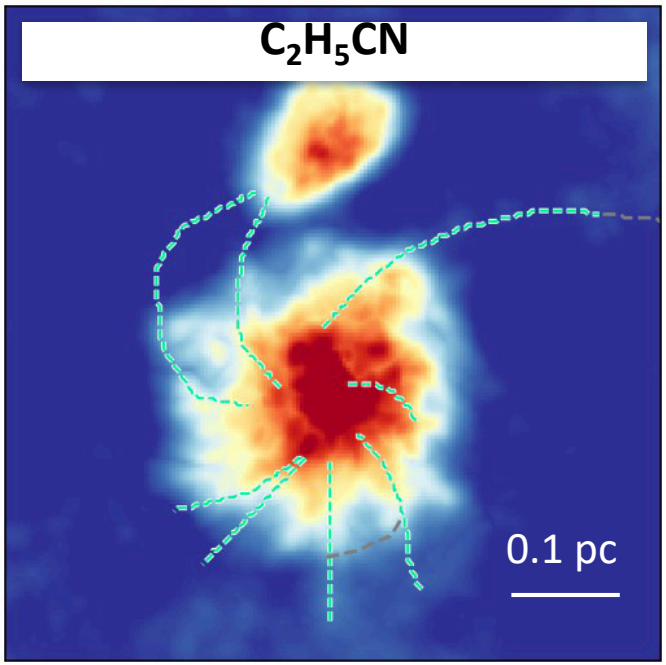
Accreting filaments at 0.1-pc scales in high-mass star-forming regions

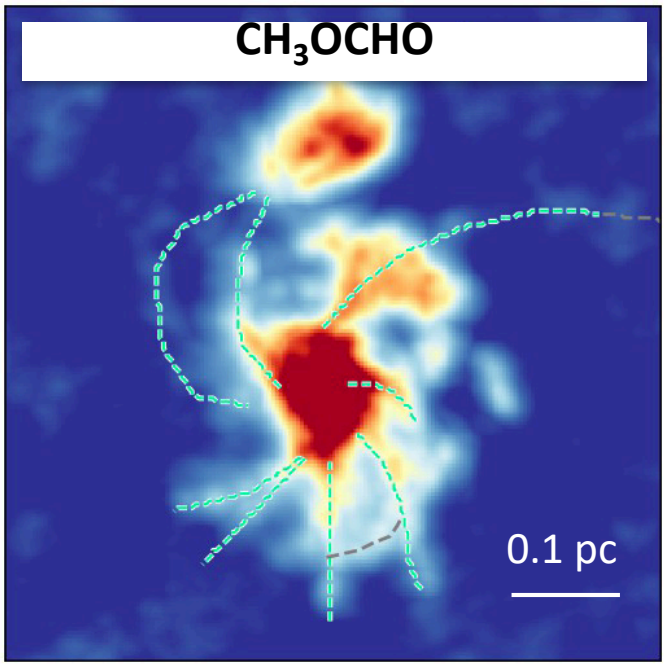


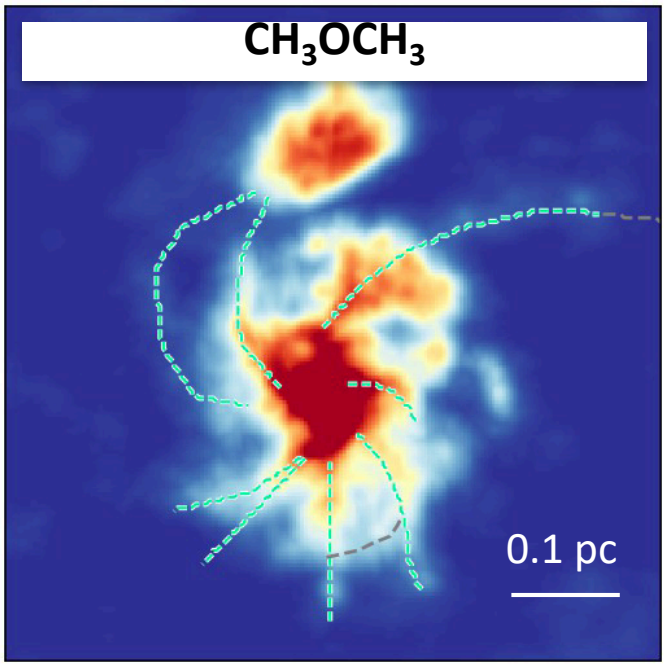
Schwörer et al. 2019, A&A, 628, A6

SgrB2(N)

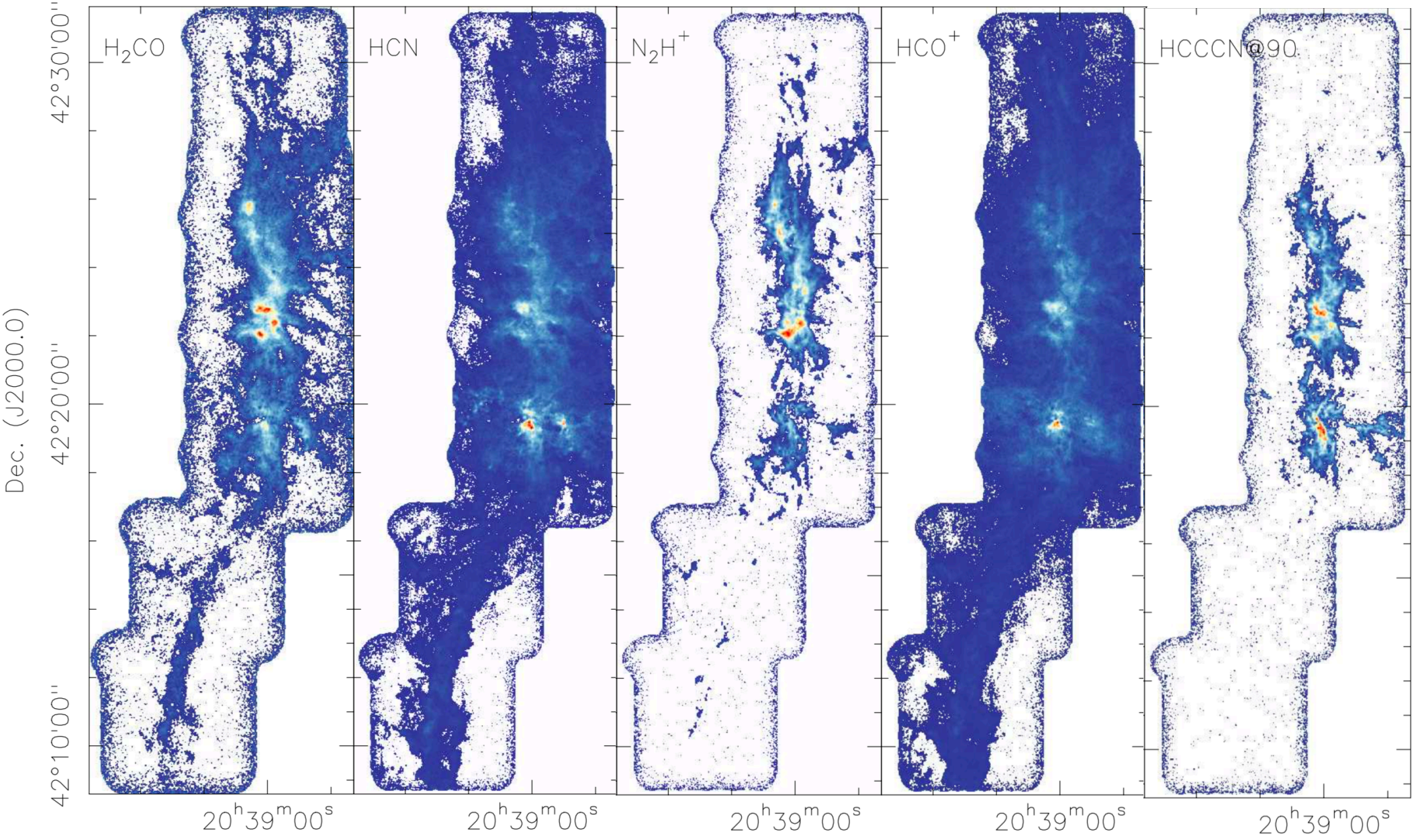
Usually visible in some COMs
scales of about 0.1 pc
densities of about 10^6-10^9 cm^{-3}







The DR21 filament



Max Planck IRAM Observatory Program on Star Formation