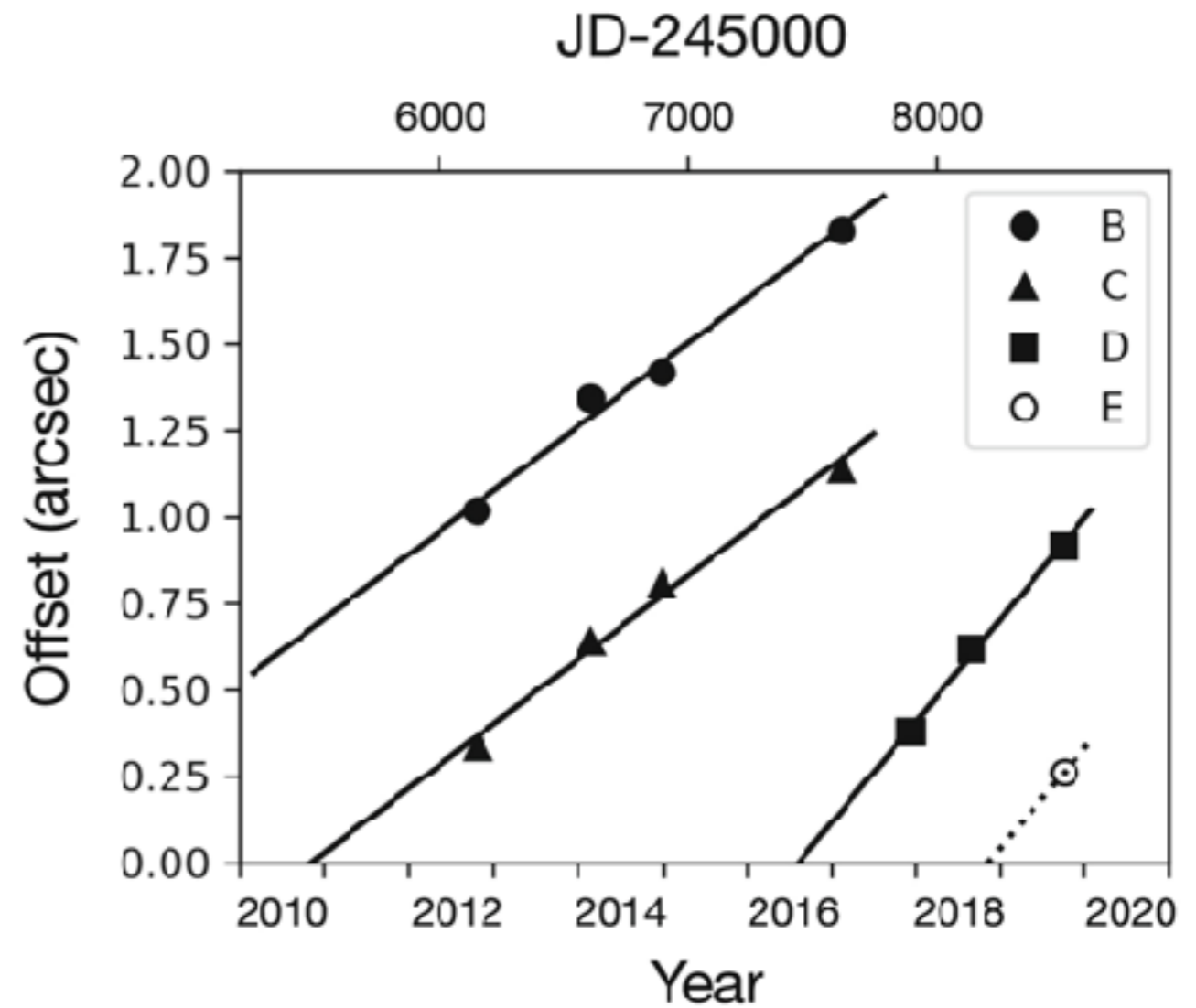
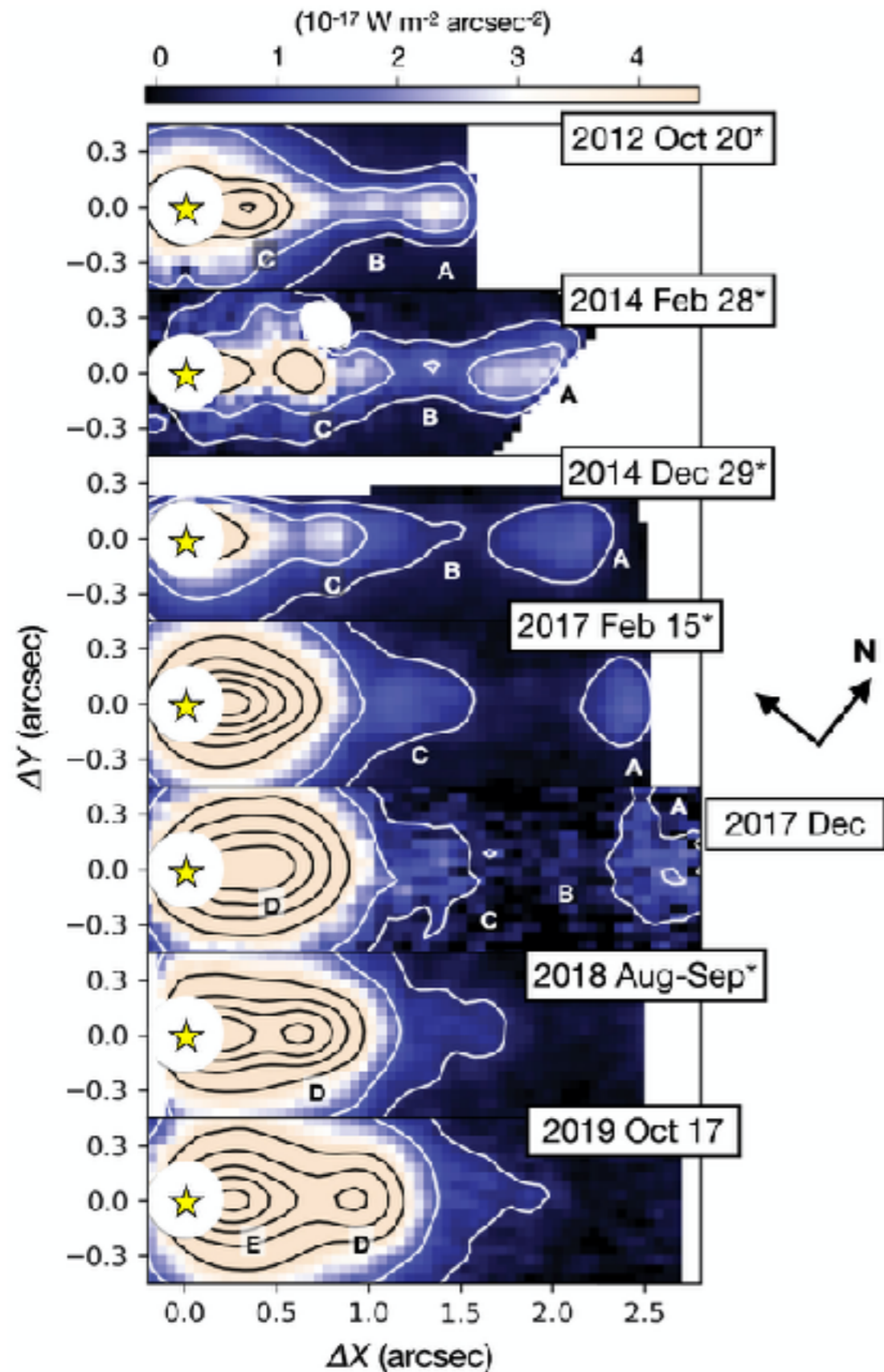
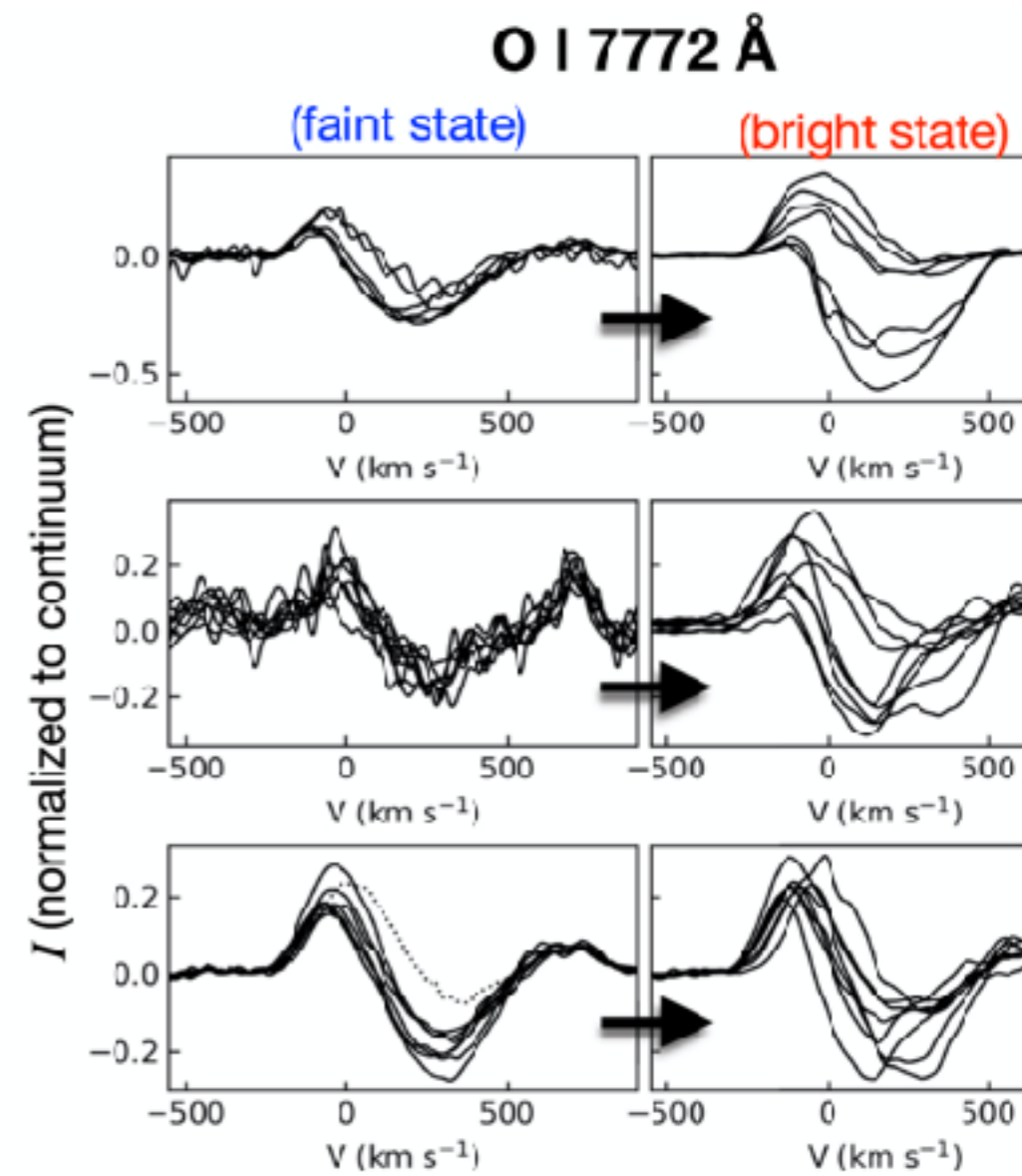
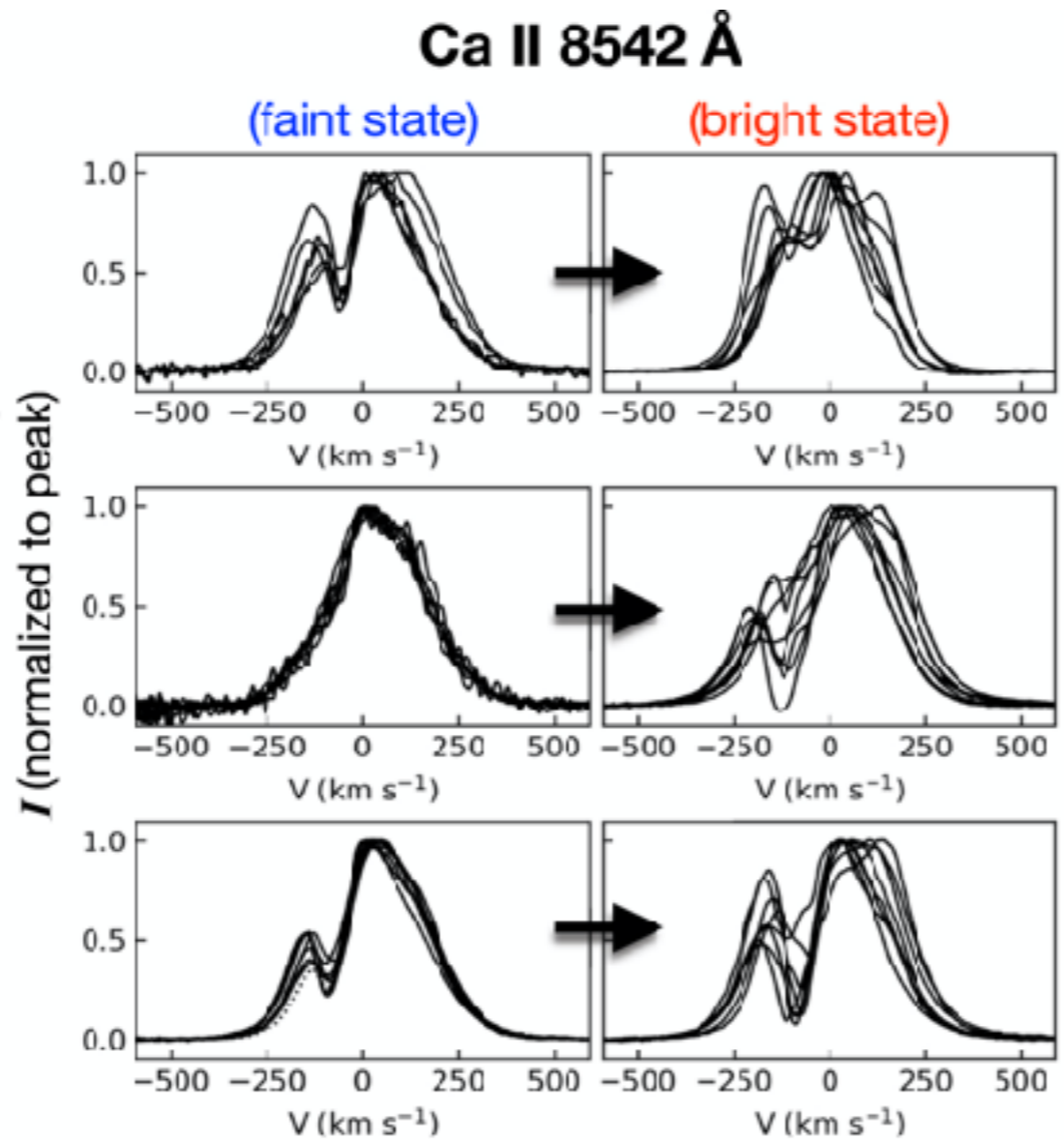
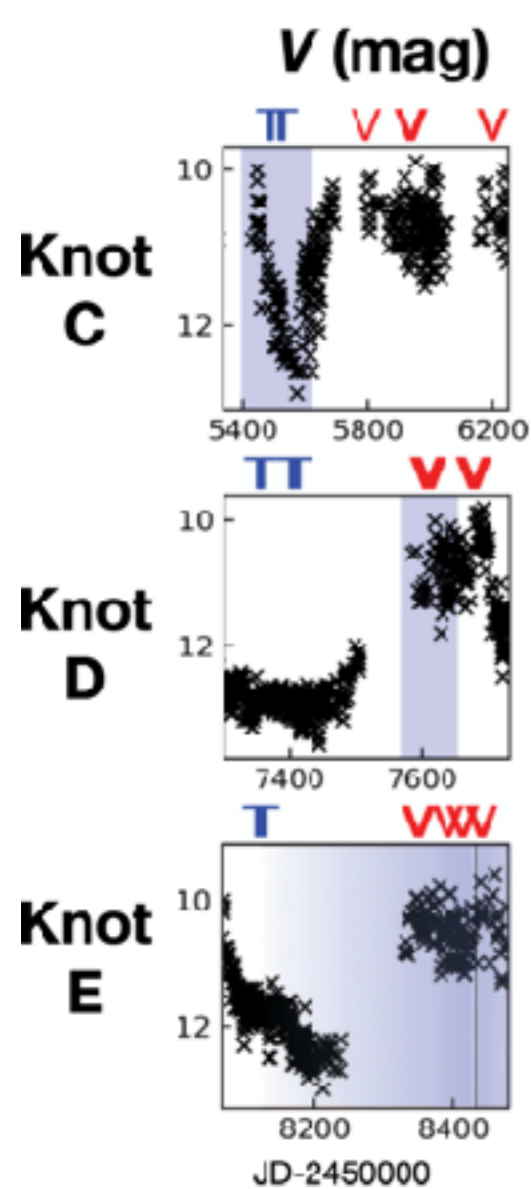
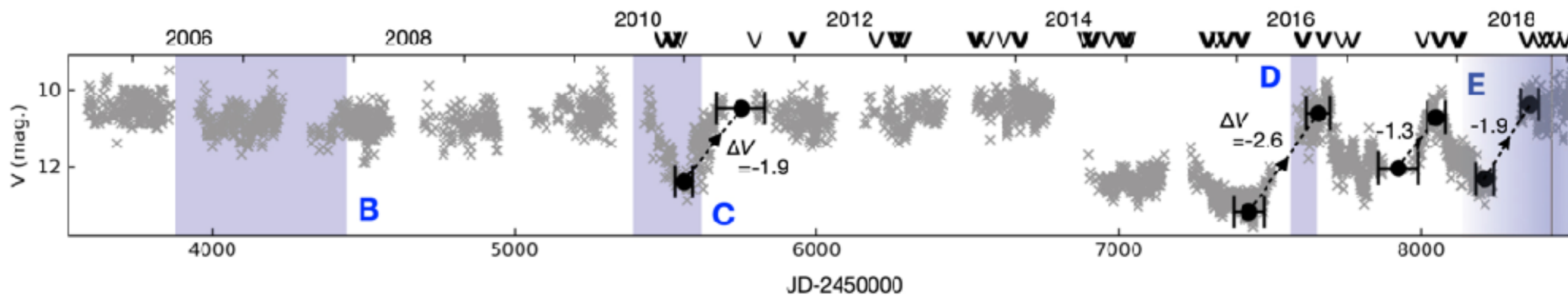


Star Formation Newsletter No. 332, #69-75

69. Possible Time Correlation Between Jet Ejection and Mass Accretion for RW Aur A, Takami et al., ApJ, 901, 24
70. The Excitation Conditions of CN in TW Hya, Teague & Loomis, ApJ, 899, 157
71. A wide survey for circumstellar disks in the Lupus complex, Teixeira et al., A&Ap, P. S Teixeira et al., A&Ap,
72. Giant planet formation models with a self-consistent treatment of the heavy elements, Valletta & Helled, ApJ, 990, 133
73. Measurements of the Ca II infrared triplet emission lines of pre-main-sequence stars, Yamashita et al., PASJ, 73,
74. Cloud-cloud collision as drivers of the chemical complexity in Galactic Centre molecular clouds, Zeng et al., MNRAS, 497, 4896
75. Fragmentation of star-forming filaments in the X-shape Nebula of the California molecular cloud, Zhang et al., A&Ap, 642, A76

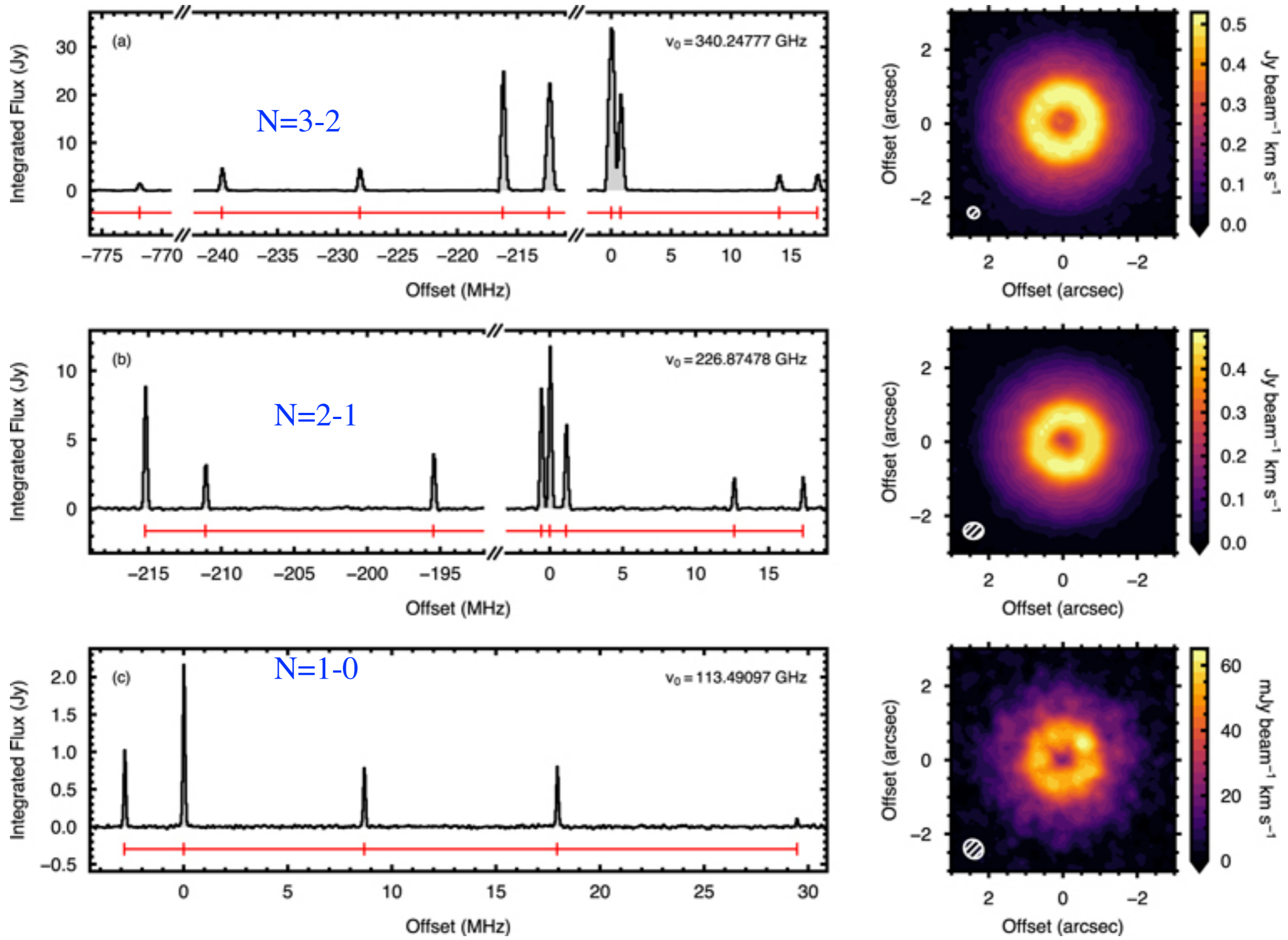
No. 69. Possible Time Correlation Between Jet Ejection and Mass Accretion for RW Aur A, Takami et al., ApJ, 901, 24

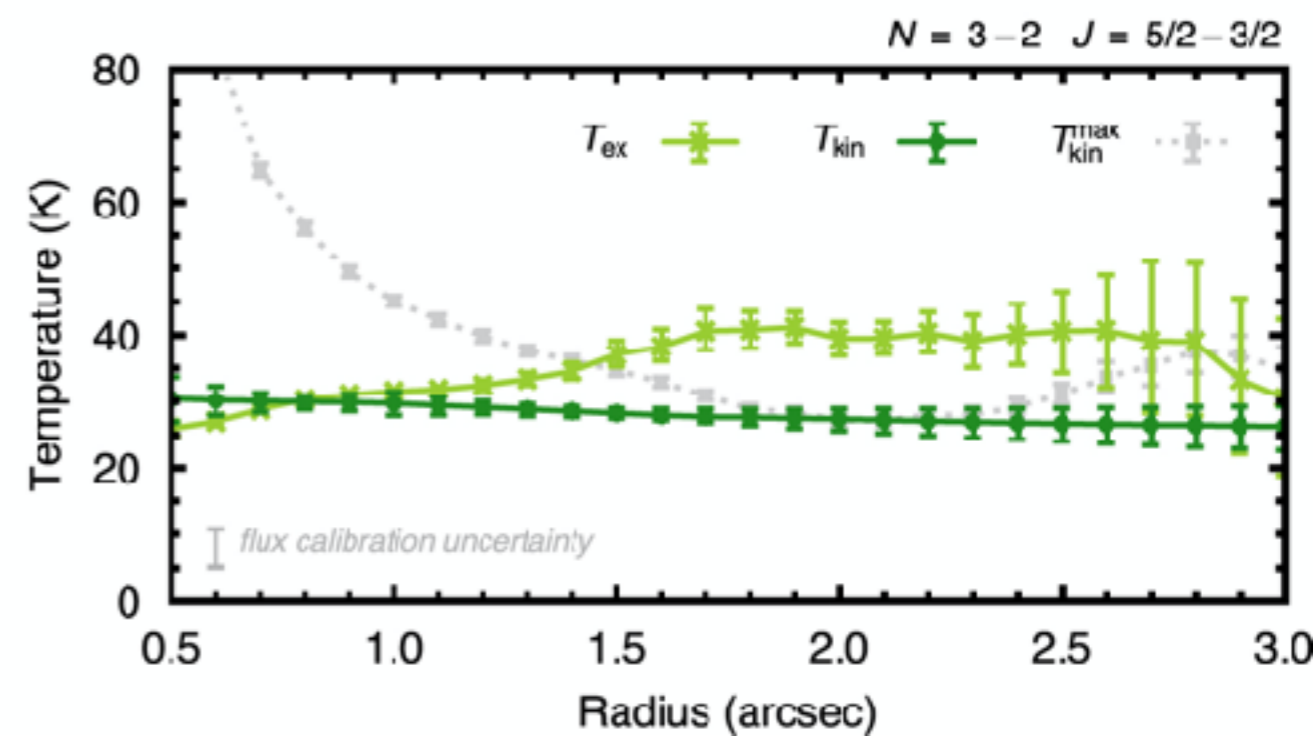
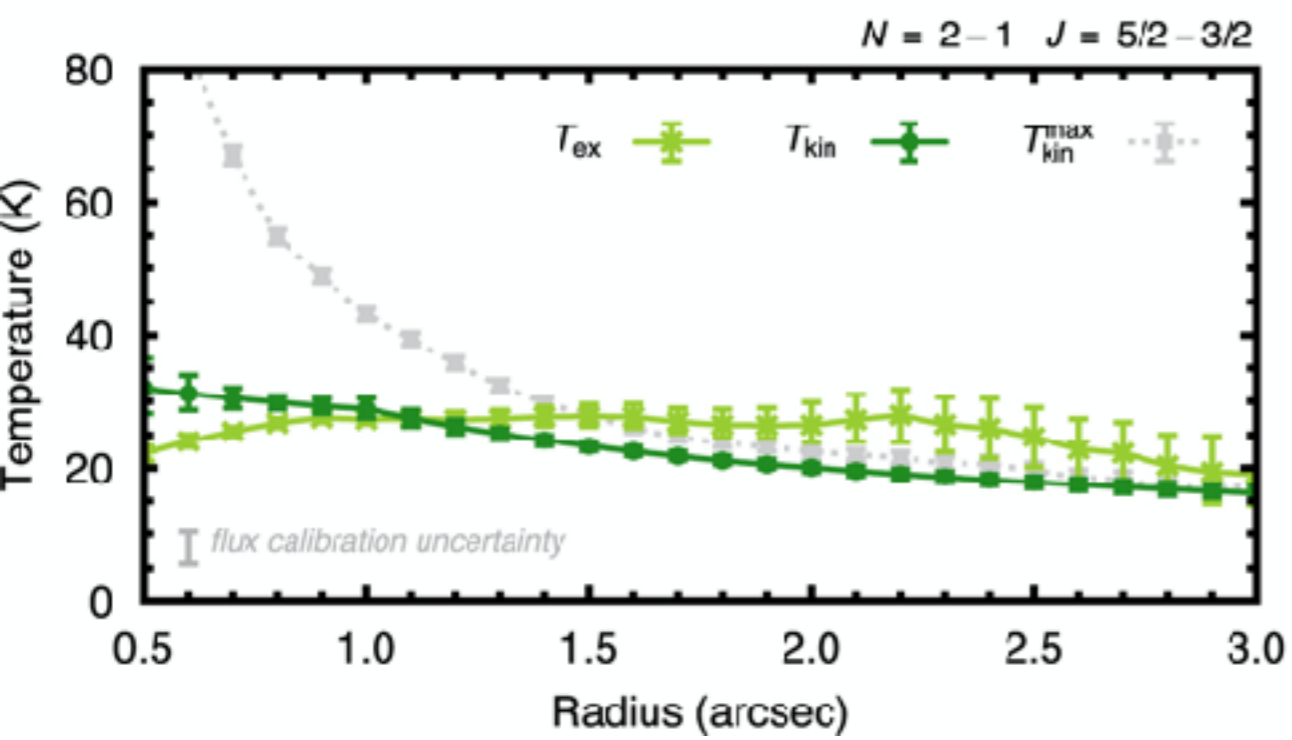
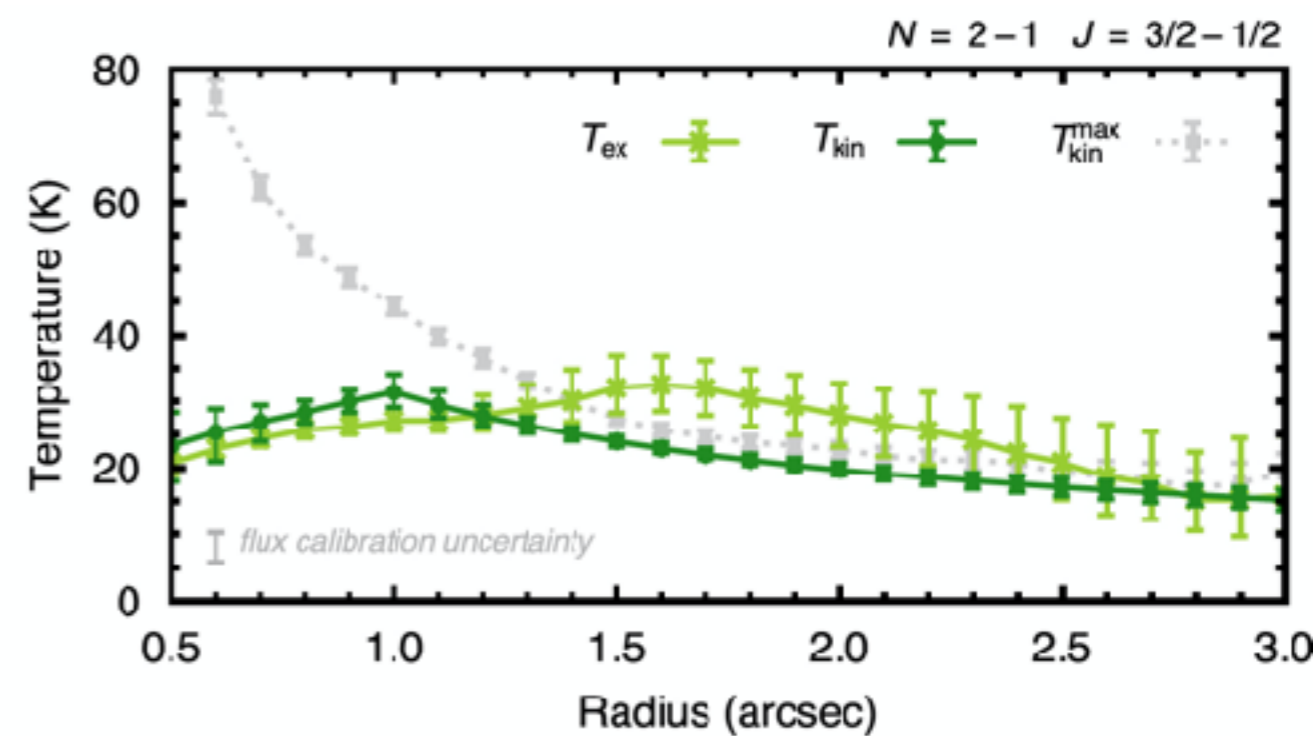
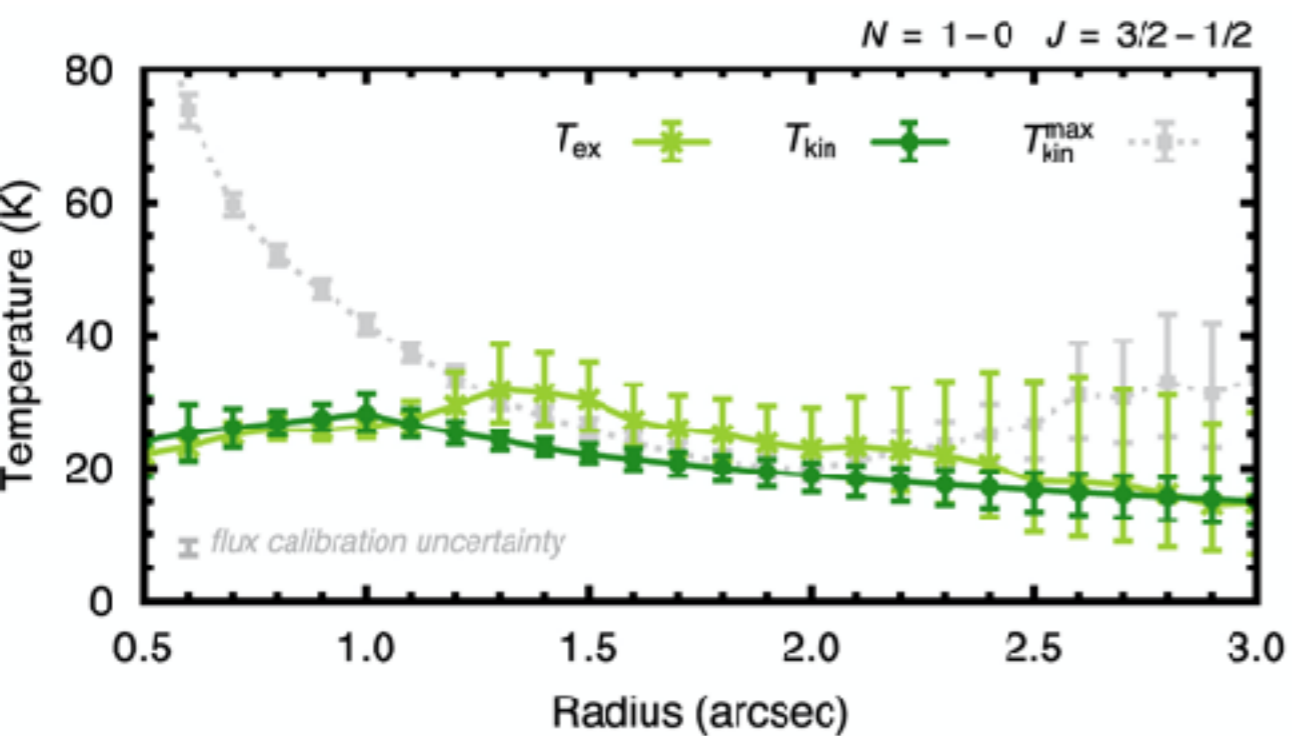


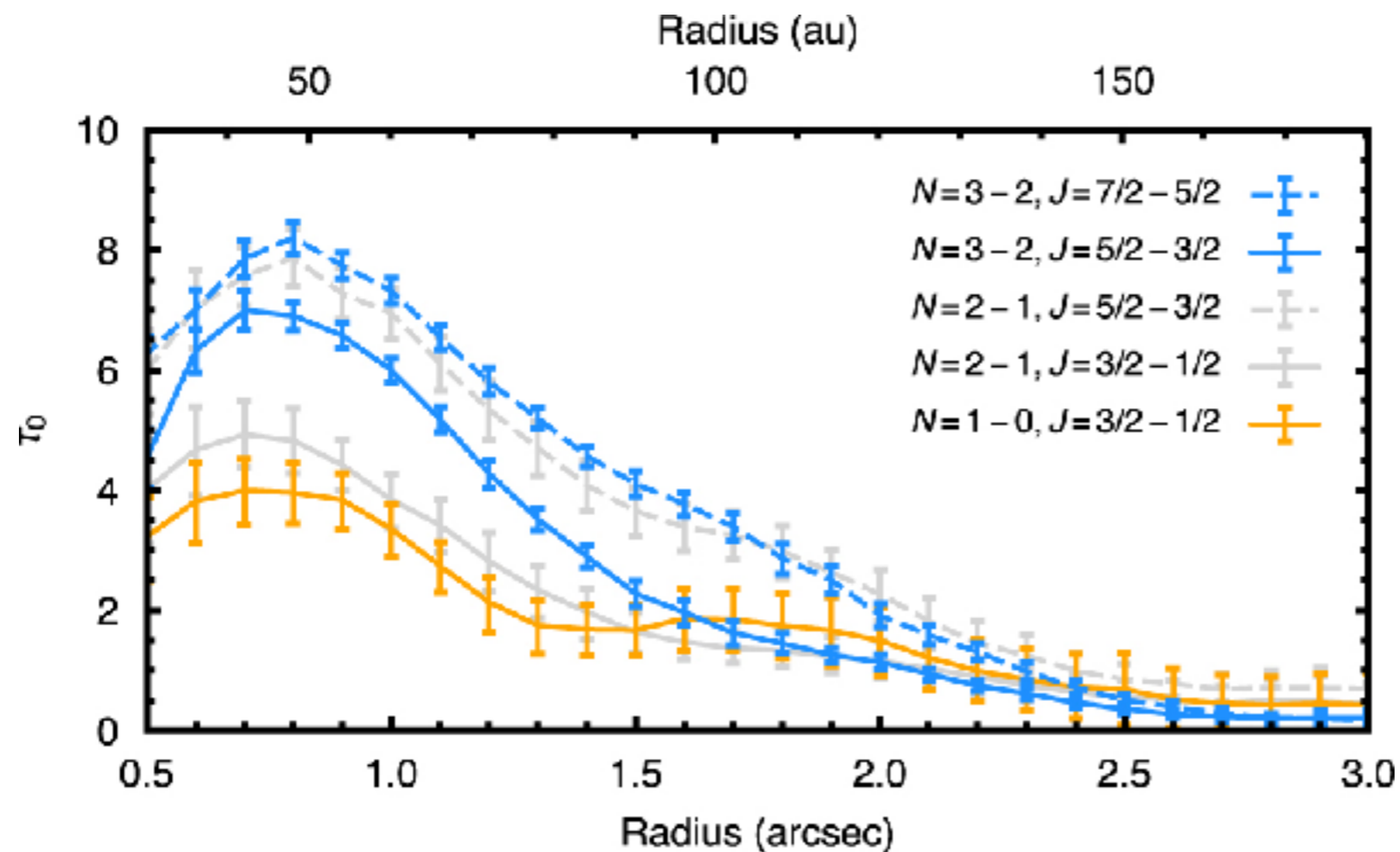


No. 70. The Excitation Conditions of CN in TW Hya, Teague & Loomis, ApJ, 899, 157

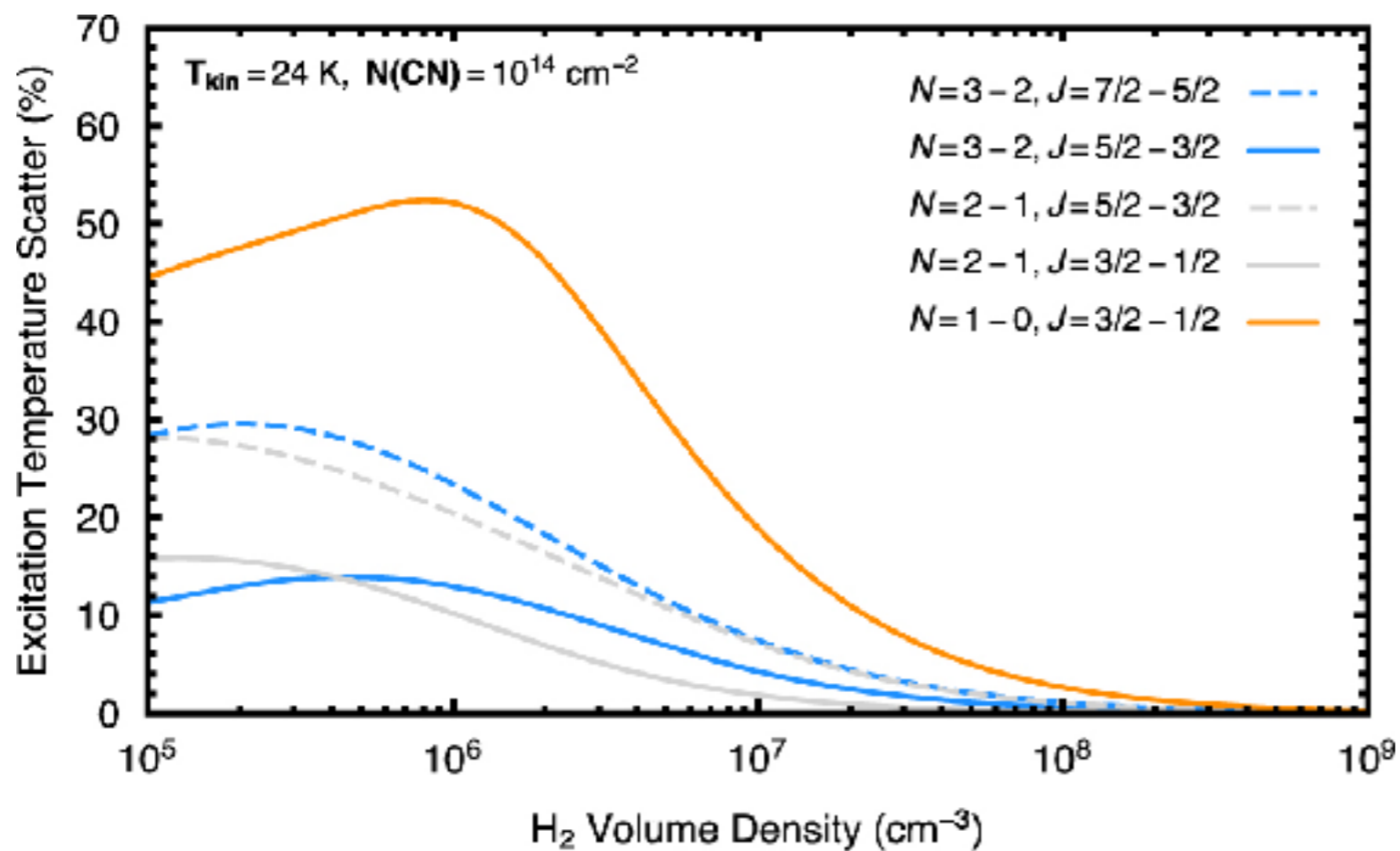
24 hyperfine transitions







LTE では合わない
 著者の年来の主張
 対立グループがいる



No. 71. A wide survey for circumstellar disks in the Lupus complex, Teixeira et al.,
A&Ap, P. S Teixeira et al., A&Ap, 642, A86

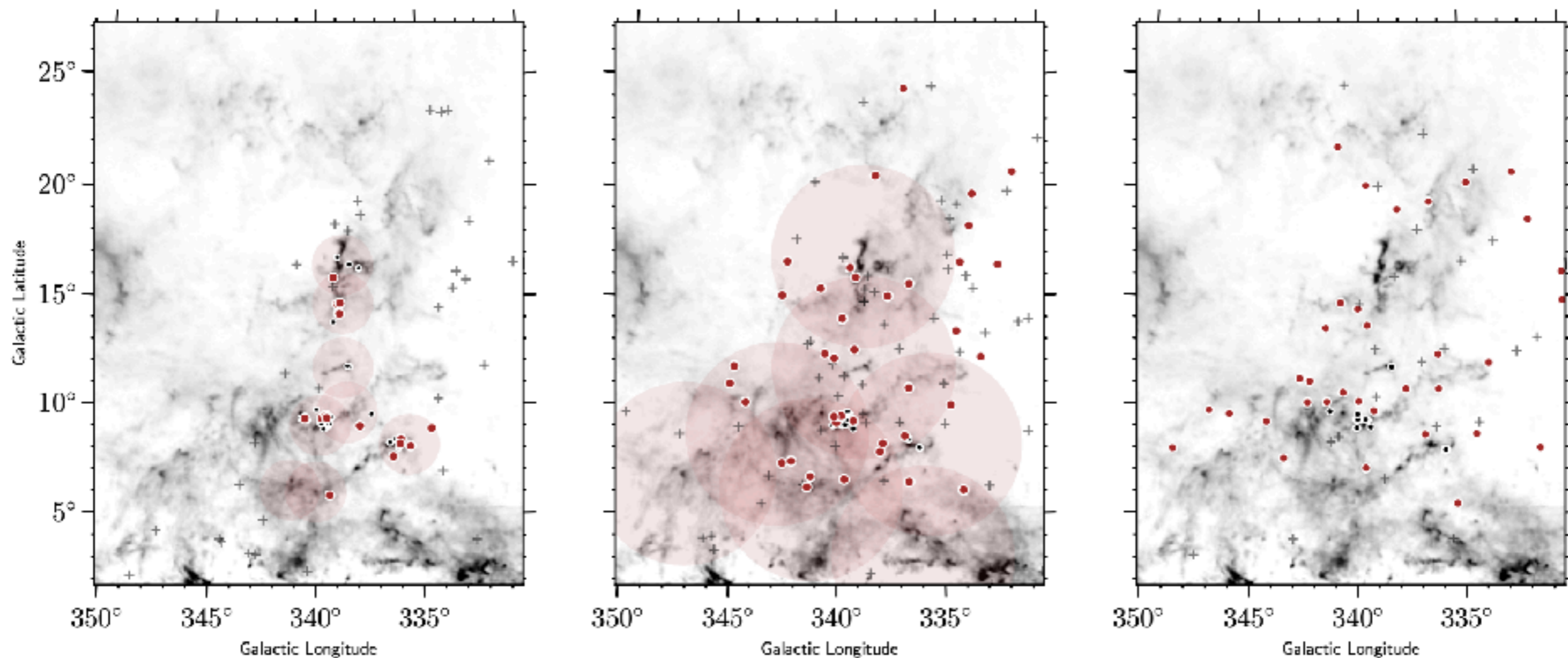
Gaia DR2 + WISE の color data をもとに 494平方度の領域で円盤をもつ星を
同定。56 new sources with thick disk 42 new sources with anemic disk.

これらの領域は繋がっている。

YSO age < 4 Myr

4 Myr < YSO age < 12 Myr

12 Myr < YSO age



$\lambda = 3.6, 4.6, 11.6 \mu\text{m}$

No. 72. Giant Planet Formation Models with a Self-consistent Treatment of the Heavy Elements, Valletta & Helled, ApJ, 900, 133

MESA (1次元, 恒星進化) を拡張

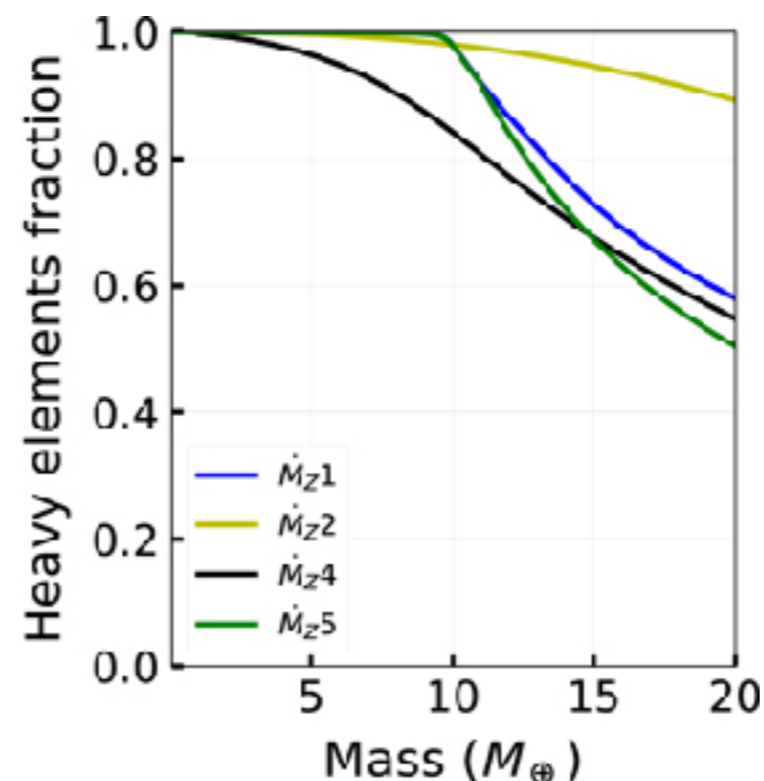
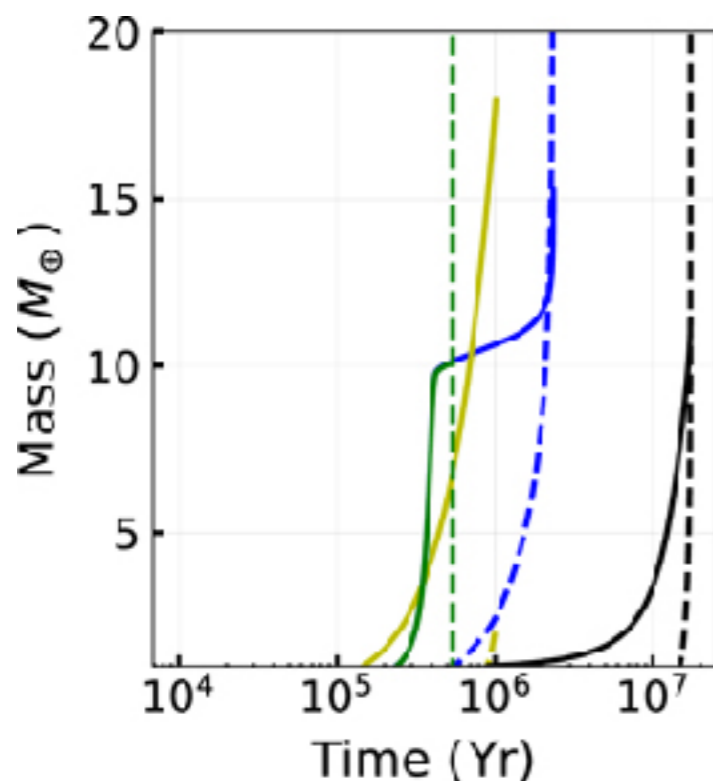
降着ガスに H_2O の pebble が混じる効果を取り込む

Opacity, 状態方程式(潜熱)の変化を取り入れる

重い元素は $\alpha_{\text{mlt}} = 0.1$ の Mixing length theory で計算

Table 1
The Various Heavy-element Accretion Rates used in This Work

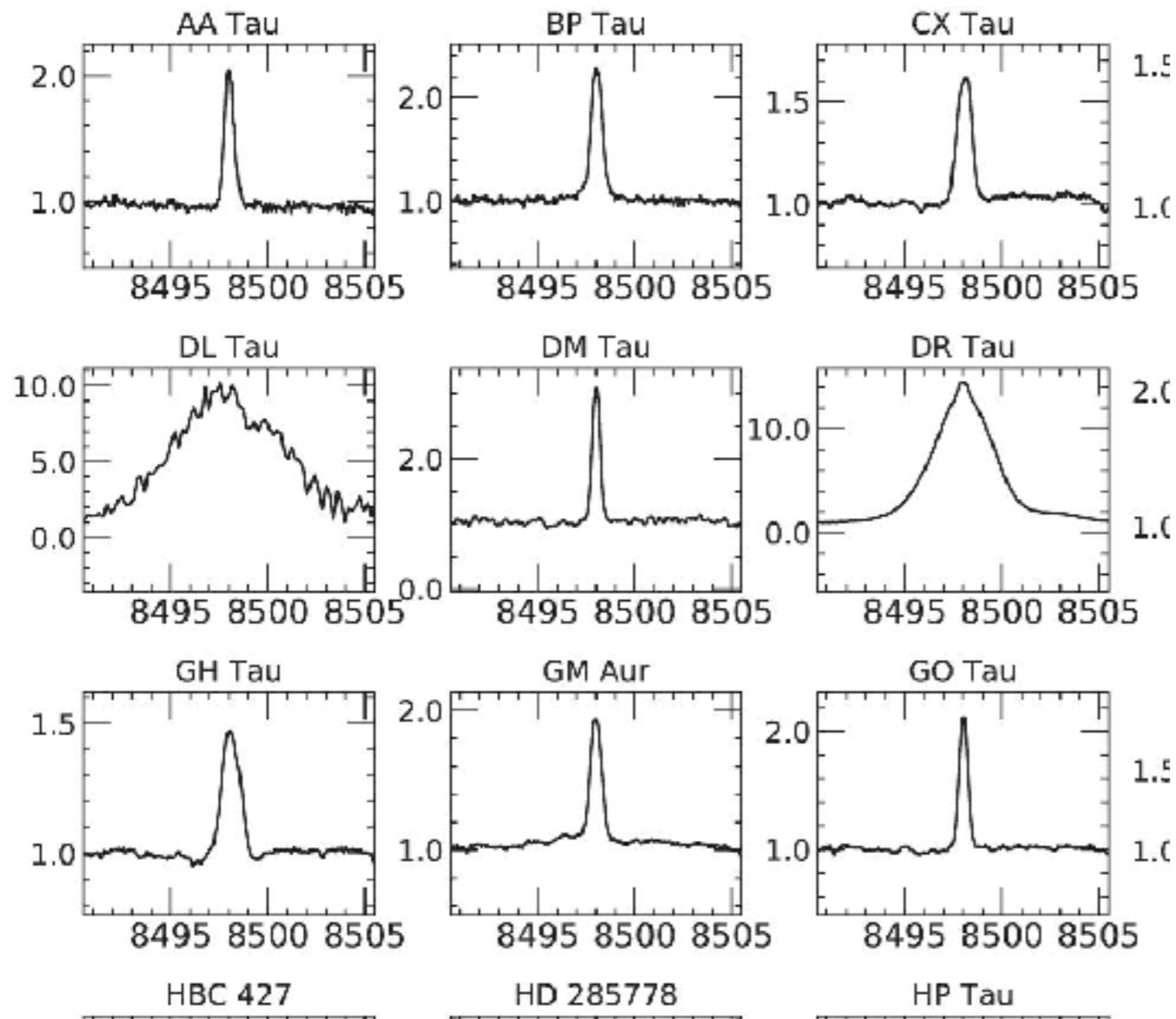
Heavy-element Accretion rate	Reference	Size	Density	Disk's Viscosity
\dot{M}_Z1	Pollack et al. (1996), their Equation (1)	100 km	$\sigma = 10 \text{ g cm}^{-2}$...
\dot{M}_Z2	Lambrechts & Johansen (2014), their Equation (31)	~1 cm	$\Sigma = 50 \text{ g cm}^{-3}$	$\alpha = 10^{-3}$
\dot{M}_Z3	Lambrechts & Johansen (2014), their Equation (31)	~1 cm	$\Sigma = 50 \text{ g cm}^{-3}$	$\alpha = 10^{-5}$
\dot{M}_Z4	Fortier et al. (2007), their Equation (10)	100 km	$\sigma = 10 \text{ g cm}^{-2}$...
\dot{M}_Z5	Shiraishi & Ida (2008), their Equation (24) and 25	100 km	$\sigma = 10 \text{ g cm}^{-2}$...



Heavy element により惑星形成の時間が短くなる(ただし既知の結果)

No. 73. Measurements of the Ca II infrared triplet emission lines of pre-main-sequence stars, Yamashita et al., PASJ, 72, 80

Ca II infrared triplet lines ($\lambda\lambda 8498, 8542, 8662 \text{ \AA}$) of 60 PMS stars.



$W_{\lambda 8542}/W_{\lambda 8498} = 1.0-2.0$, $W_{\lambda 8662}/W_{\lambda 8498} = 0.7-1.7$ は PMS stars と young open cluster 中の低質量星で共通。

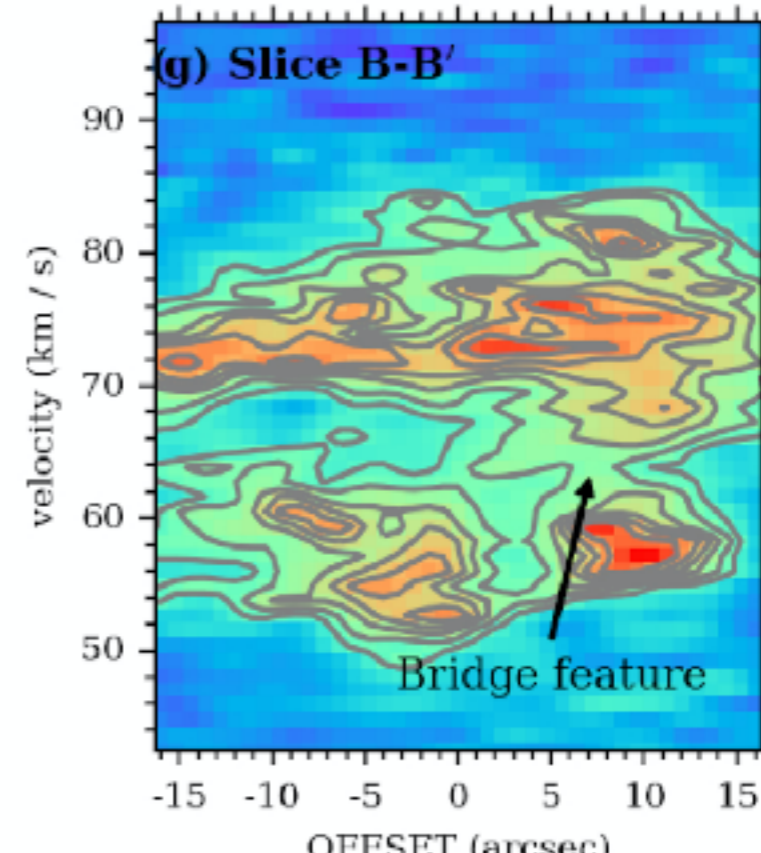
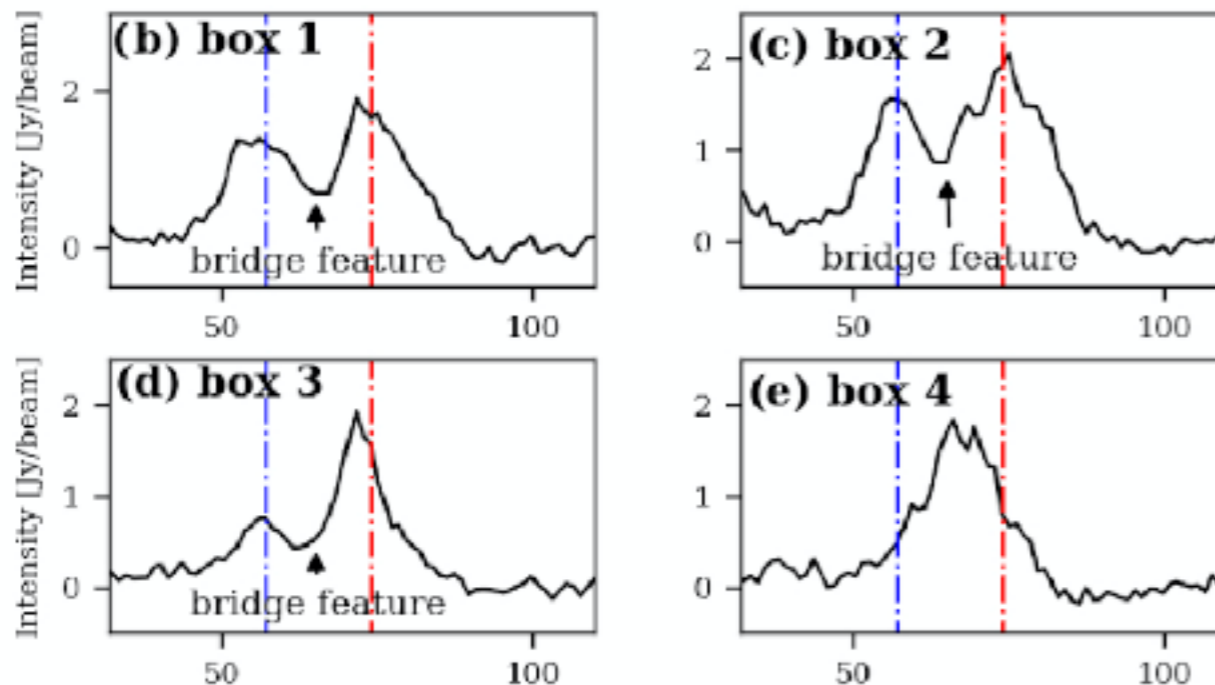
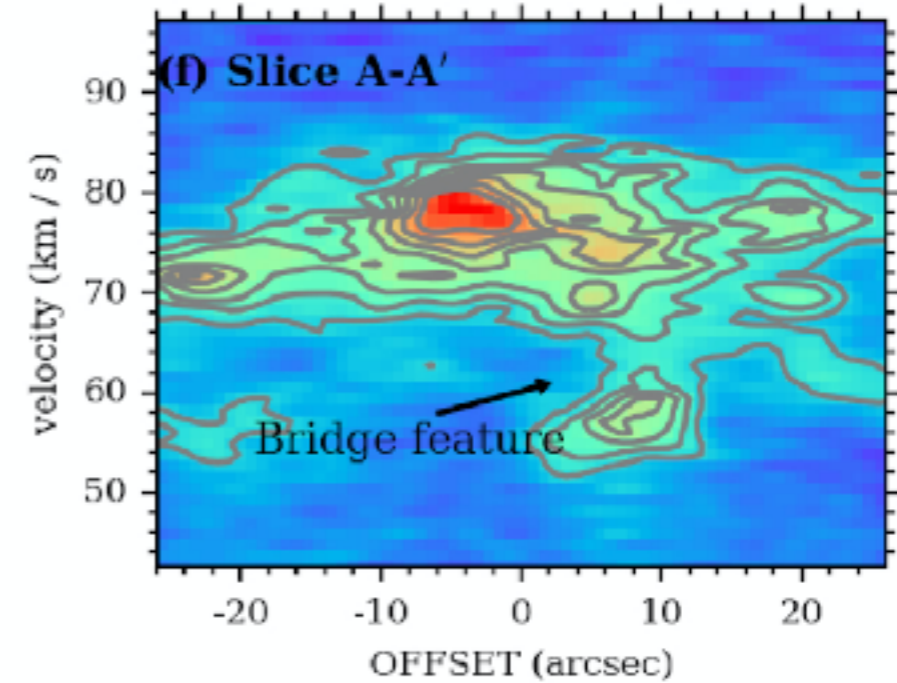
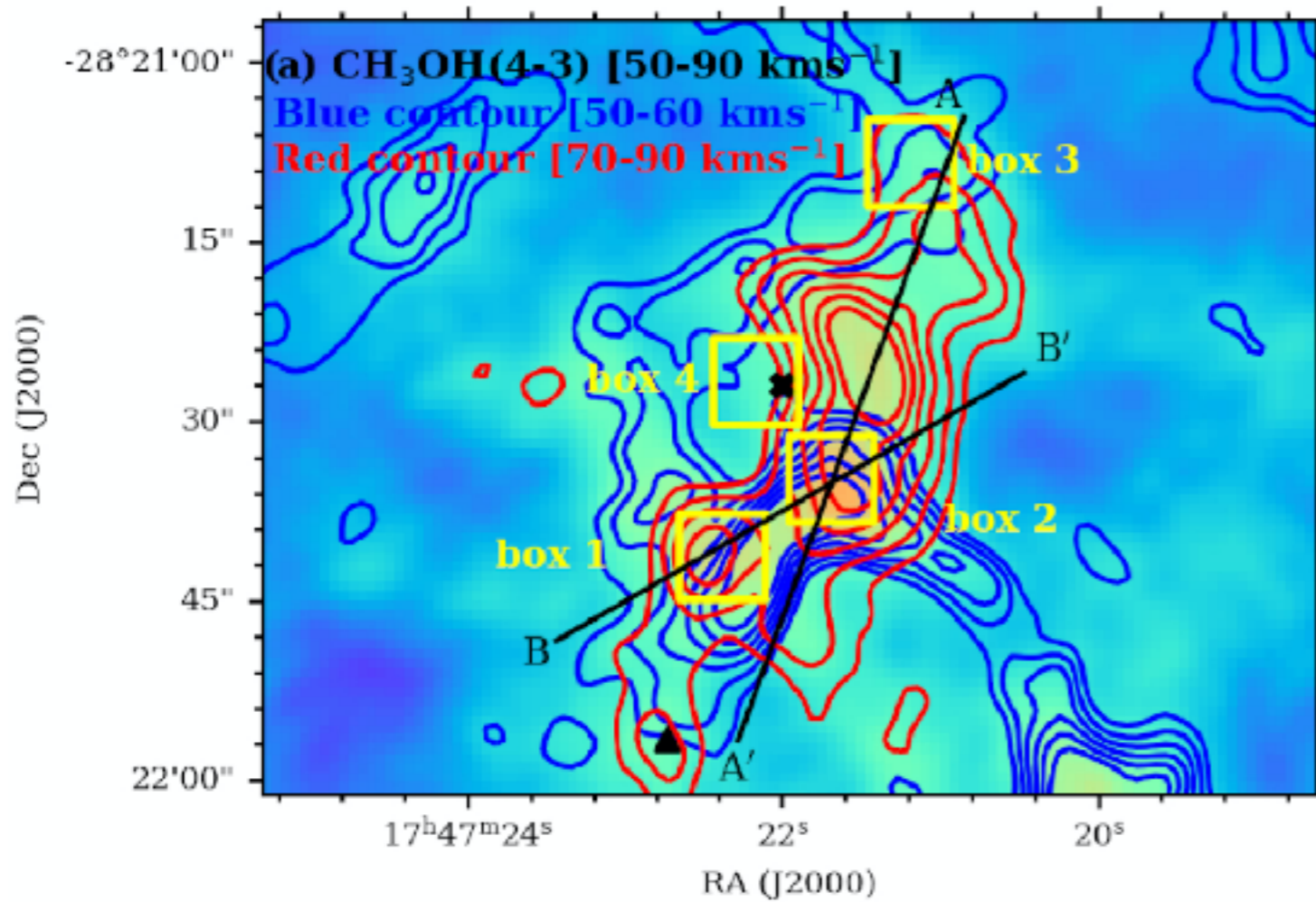
DG Tau, DL Tau, DR Tau, RY Tau, SU Aur, RECX 15, RXJ1147.7-7842 は広い輝線

赤外輝線はChromospheric activity によるものではないか

No. 74. Cloud-cloud collision as drivers of the chemical complexity in Galactic Centre molecular clouds, Zeng et al., MNRAS, 497, 4896

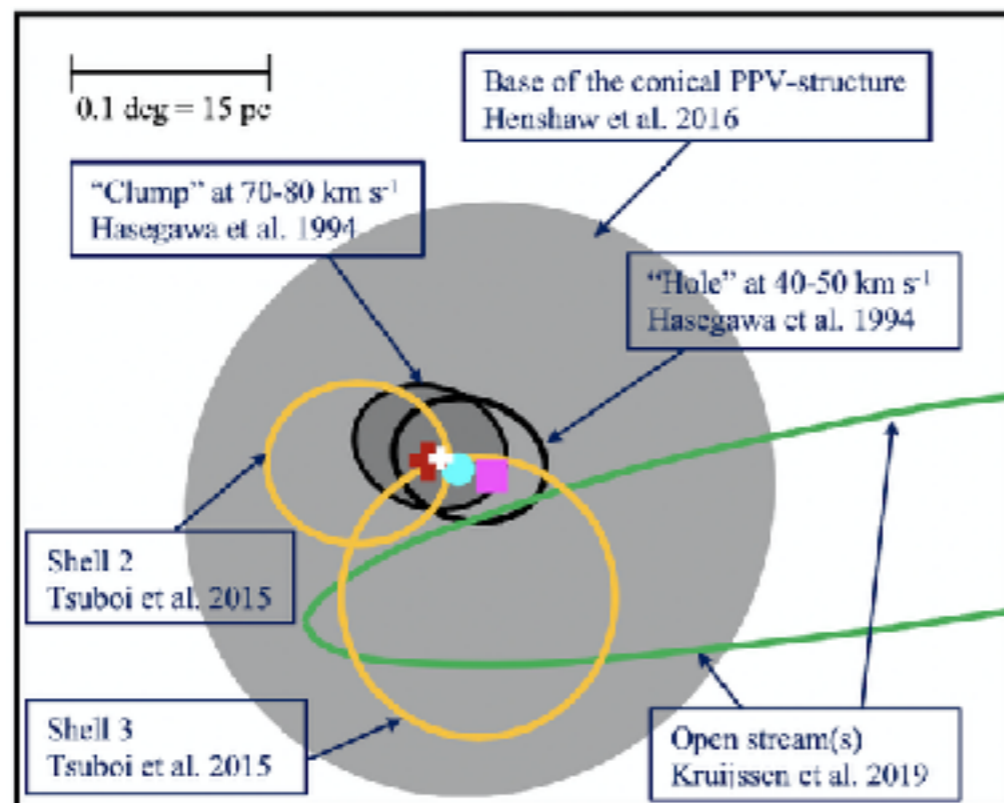
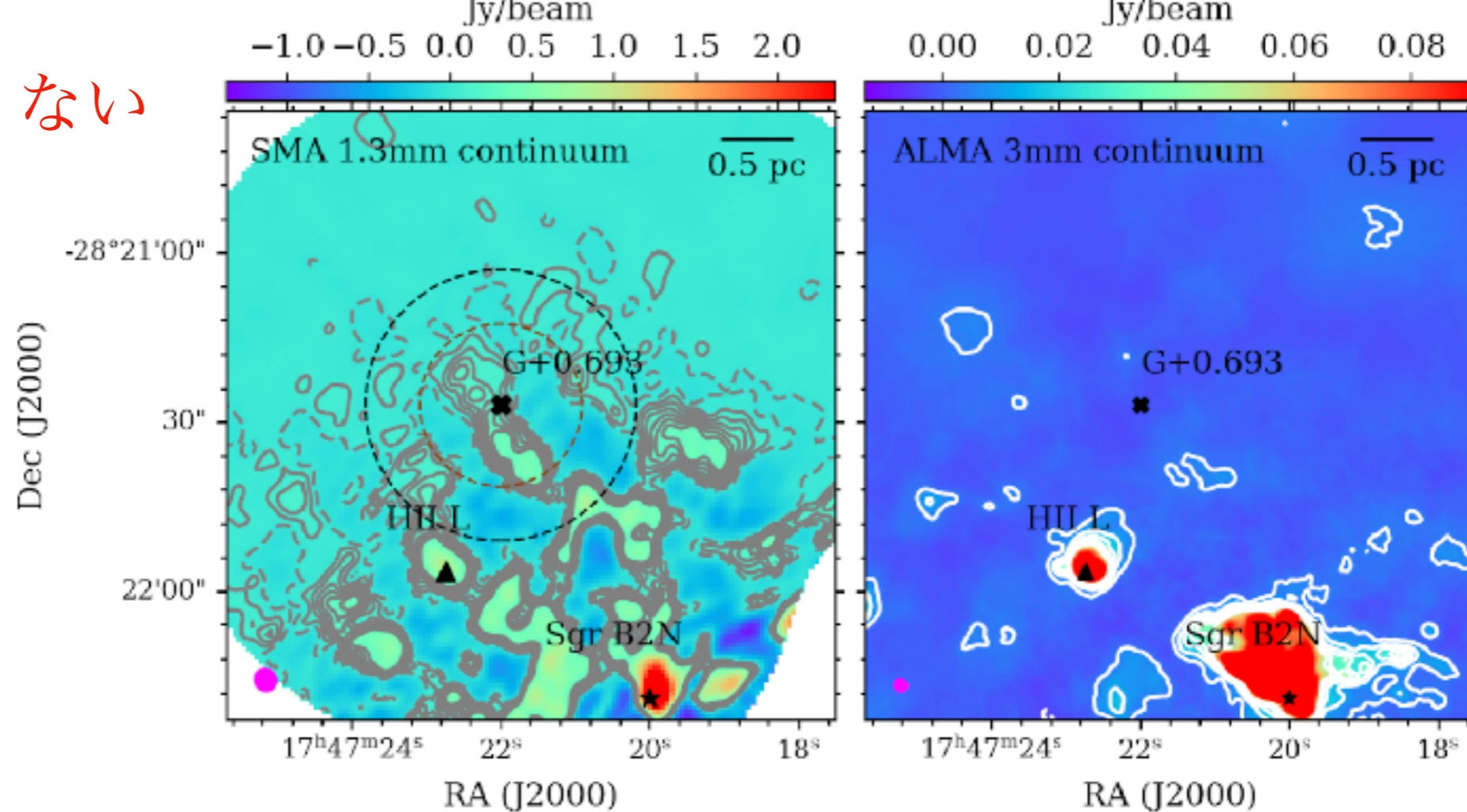
G+0.693-0.03はなぜCOMが豊富?

SMA, APEX



連続波は強くない

class I methanol maser

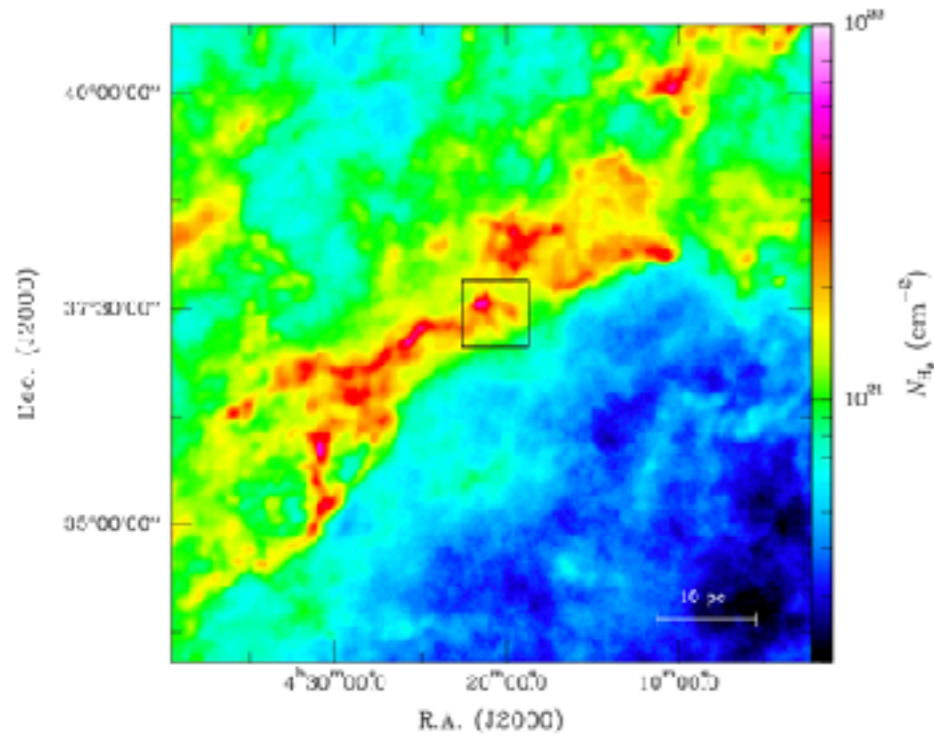


+ G+0.693

● Sgr B2N

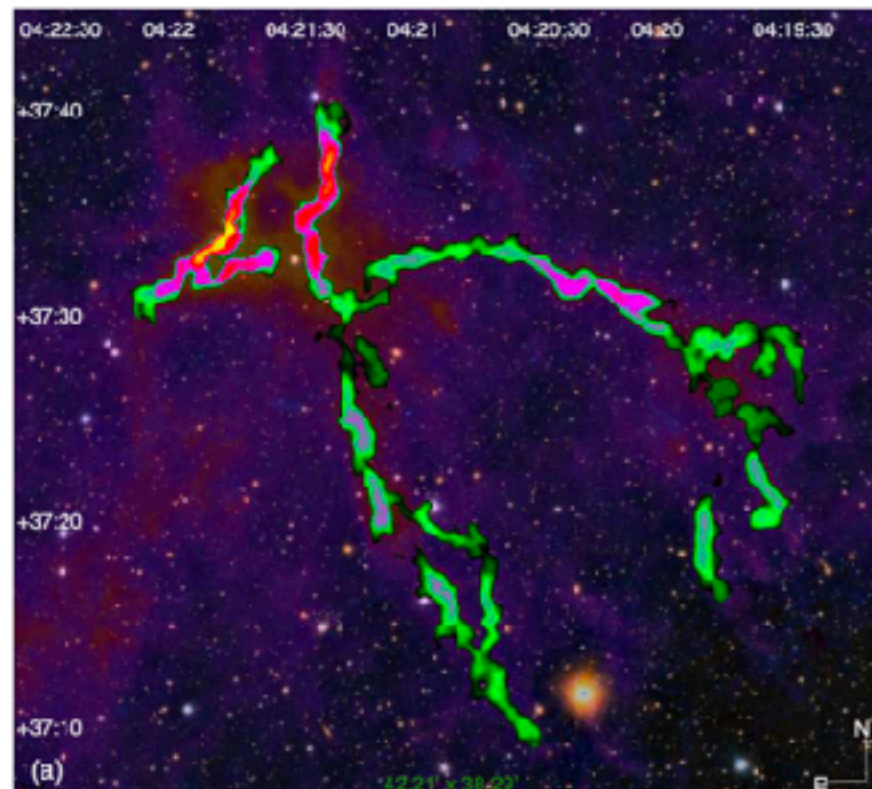
● Sgr B2M

No. 74. Fragmentation of star-forming filaments in the X-shape Nebula of the California molecular cloud, Zhang et al., A&Ap, 642, A76



Planck 850 μm optical-depth data (5' resolution).

Herschel



フィルタ
リング

