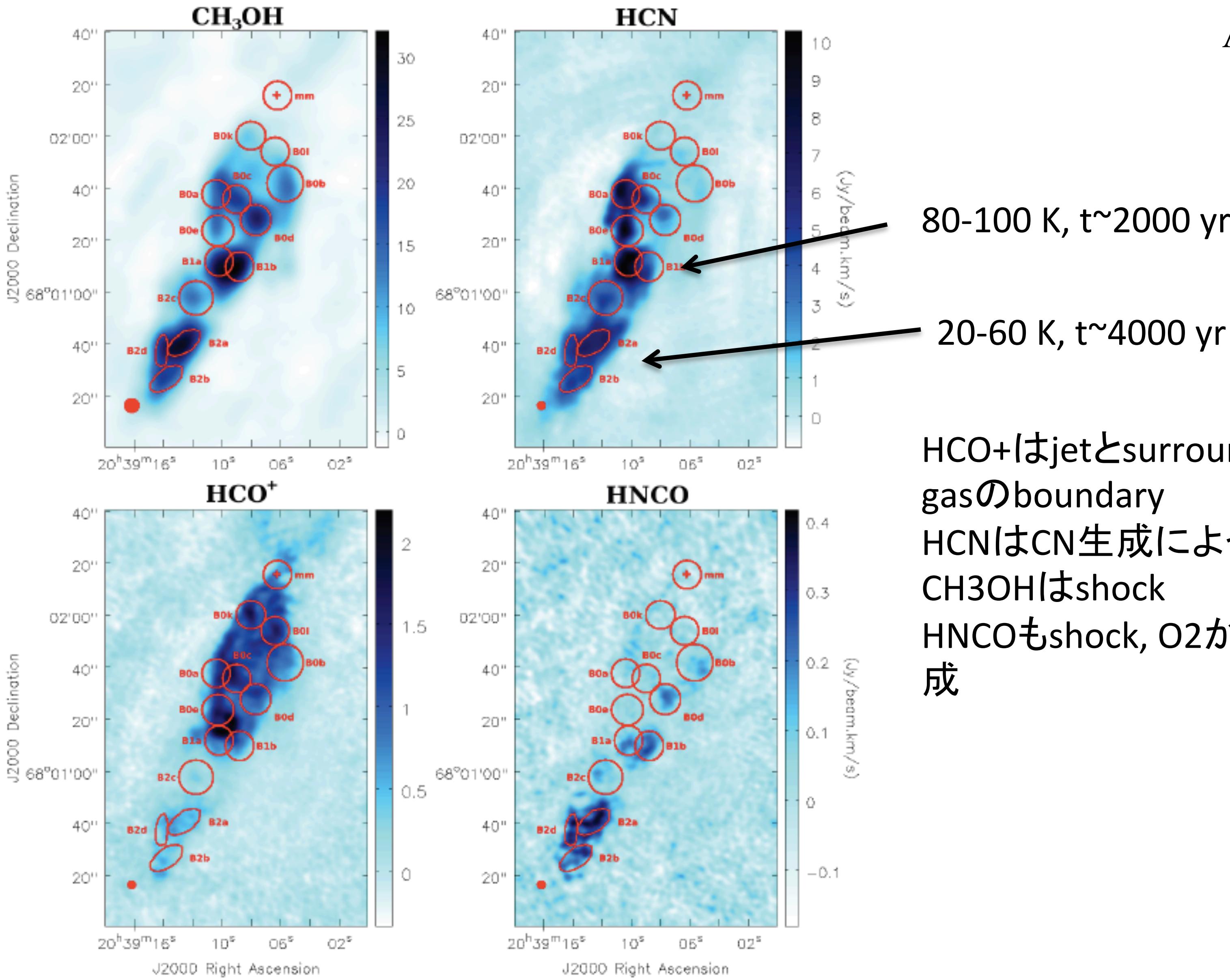
Star formation news letter
282 6-10本目

大橋聡史

CSO and CARMA Observations of L1157. II. Chemical Complexity in the Shocked Outflow

Andrew M. Burkhardt[1], Niklaus M. Dollhopf[1], Joanna F. Corby[1], P. Brandon Carroll[2], Christopher N. Shingledecker[3], Ryan A. Loomis[4], Shawn Thomas Booth[1], Geoffrey A. Blake[2,5], Eric Herbst[1,3],

Accepted by ApJ



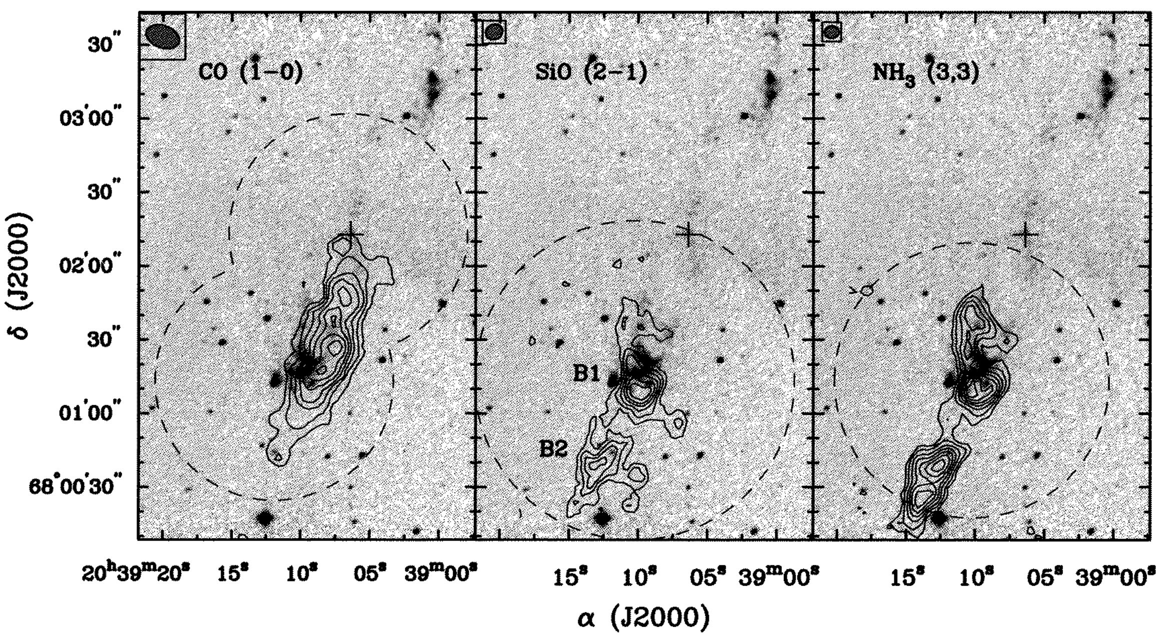
HCO+はjetとsurrounding ambient gasのboundary
HCNはCN生成によって派生
CH3OHはshock
HNCOもshock, O2が早いshockで生成

CSO and CARMA Observations of L1157. II. Chemical Complexity in the Shocked Outflow

Andrew M. Burkhardt[1], Niklaus M. Dollhopf[1], Joanna F. Corby[1], P. Brandon Carroll[2], Christopher N. Shingledecker[3], Ryan A. Loomis[4], Shawn Thomas Booth[1], Geoffrey A. Blake[2,5], Eric Herbst[1,3],

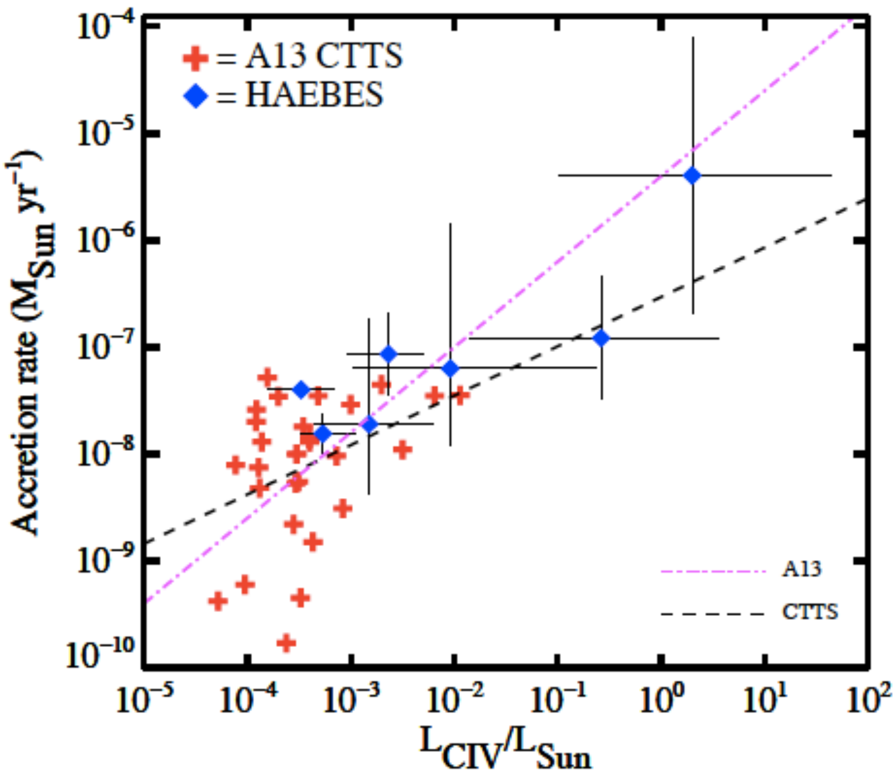
RADEX LVGでアバンダンス

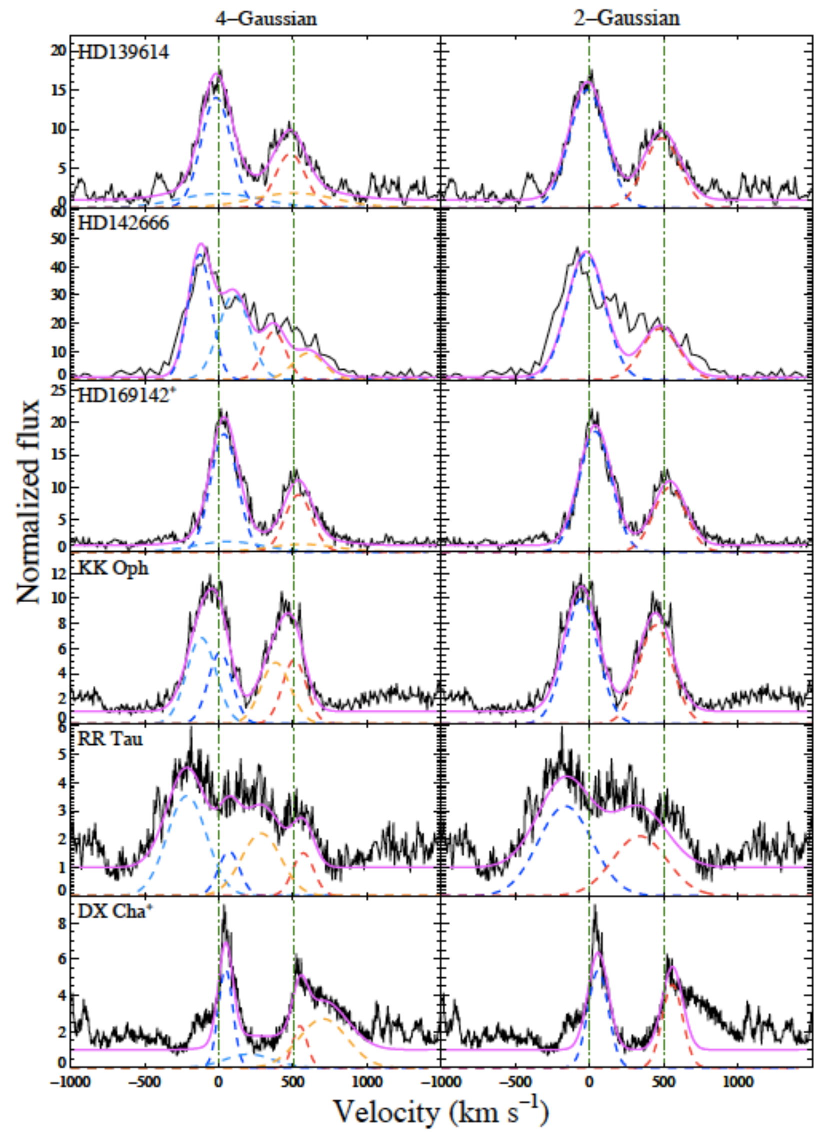
	CH_3OH		HCN			HNCO		
	N (10^{15} cm^{-2})	$\frac{N}{N_{H_2}}$ (10^{-6})	N (10^{13} cm^{-2})	$\frac{N}{N_{CH_3OH}}$ (10^{-2})	$\frac{N}{N_{H_2}}$ (10^{-8})	N (10^{13} cm^{-2})	$\frac{N}{N_{CH_3OH}}$ (10^{-2})	$\frac{N}{N_{H_2}}$ (10^{-8})
B0d	1.5	1.5	2.6	1.7	2.6	2.5	1.6	2.5
B1a	1.9	1.9	10.	5.3	10.	3.2	1.7	3.2
B1b	2.1	2.1	5.3	2.5	5.3	3.8	1.8	3.8
B2a	2.7	2.7	9.9	3.7	9.9	8.0	3.0	8.0
B2b	1.6	1.6	6.6	4.2	6.6	5.5	3.5	5.5
B2d	2.1	2.0	8.0	3.9	7.9	7.5	3.6	7.5



Investigating the origin of hot gas lines in Herbig Ae/Be stars

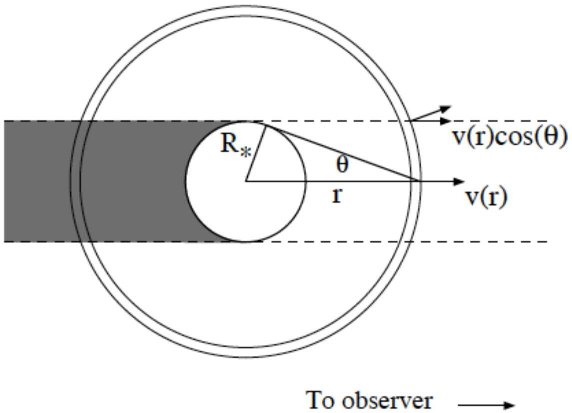
P. Wilson Cauley[1] and Christopher M. Johns-Krull[2]

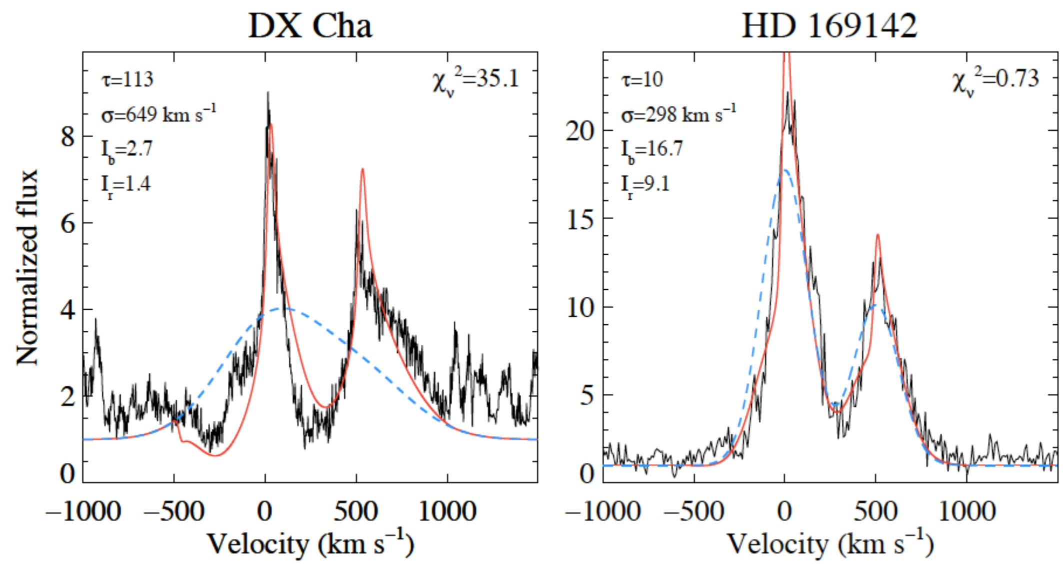




Investigating the origin of hot gas lines in Herbig Ae/Be stars

P. Wilson Cauley[1] and Christopher M. Johns-Krull[2]





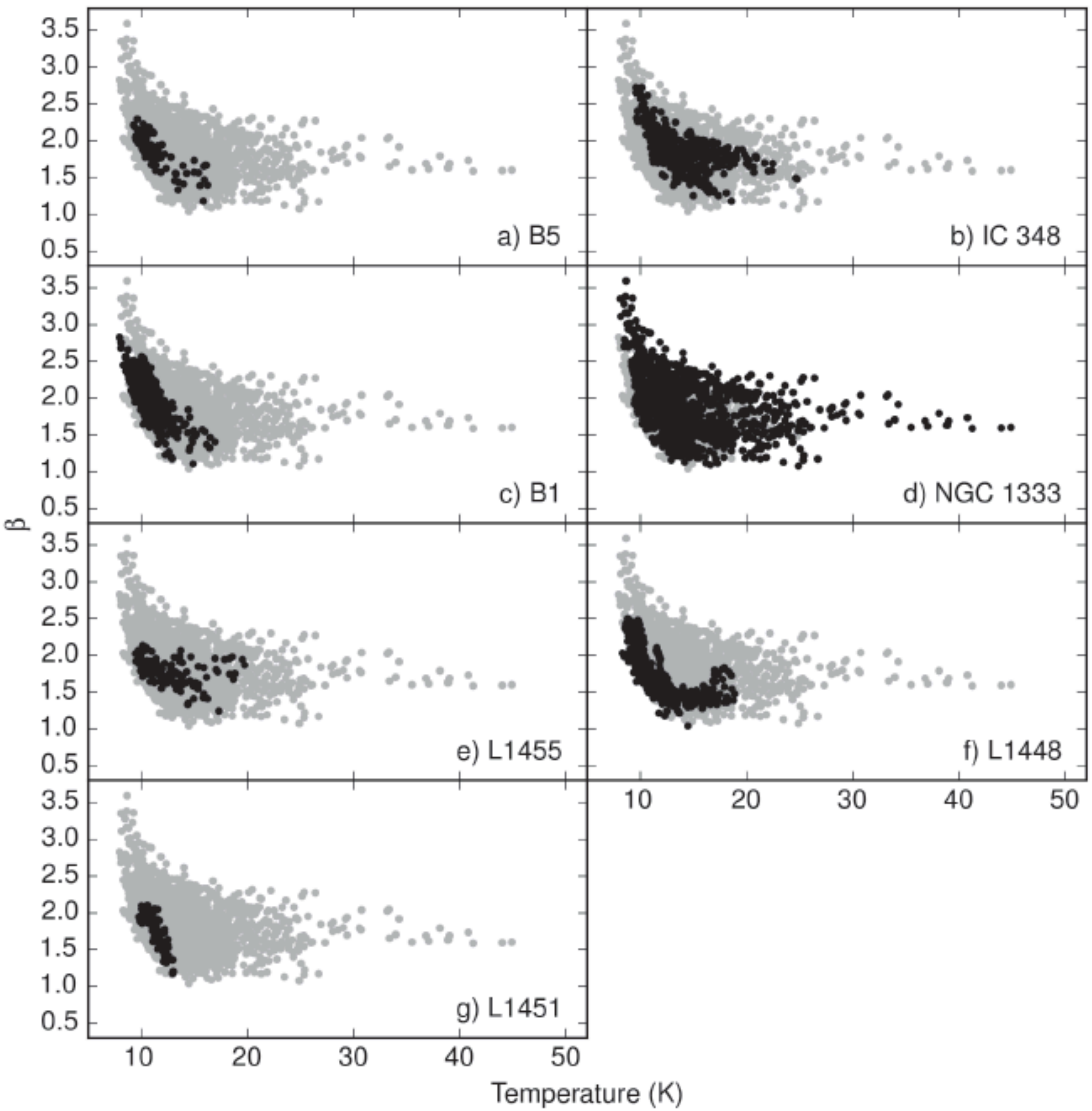
$$\tau(r_v) = \frac{\rho_r \Delta r}{\sum_i \rho_i \Delta r_i} \qquad (4)$$

$$v(r) = v_o + (v_\infty - v_o)(1 - \frac{R_*}{r})^\beta \qquad (2)$$

Stellar windによるoutflow
CTTSsとは違い、C IVが弱い
→磁場が弱い or shock heatingが弱くC IVが生成されない

The JCMT Gould Belt Survey: Evidence for Dust Grain Evolution in Perseus Star-forming Clumps

Michael Chun-Yuan Chen[1], J. Di Francesco[2,1], D. Johnstone[3,2,1], S. Sadavoy[4], J. Hatchell[5],.C. Mottram[6], H. Kirk[2], J. Buckle[7,8], D.S. Berry[3], H. Broekhoven-Fiene[1] plus 49 authors

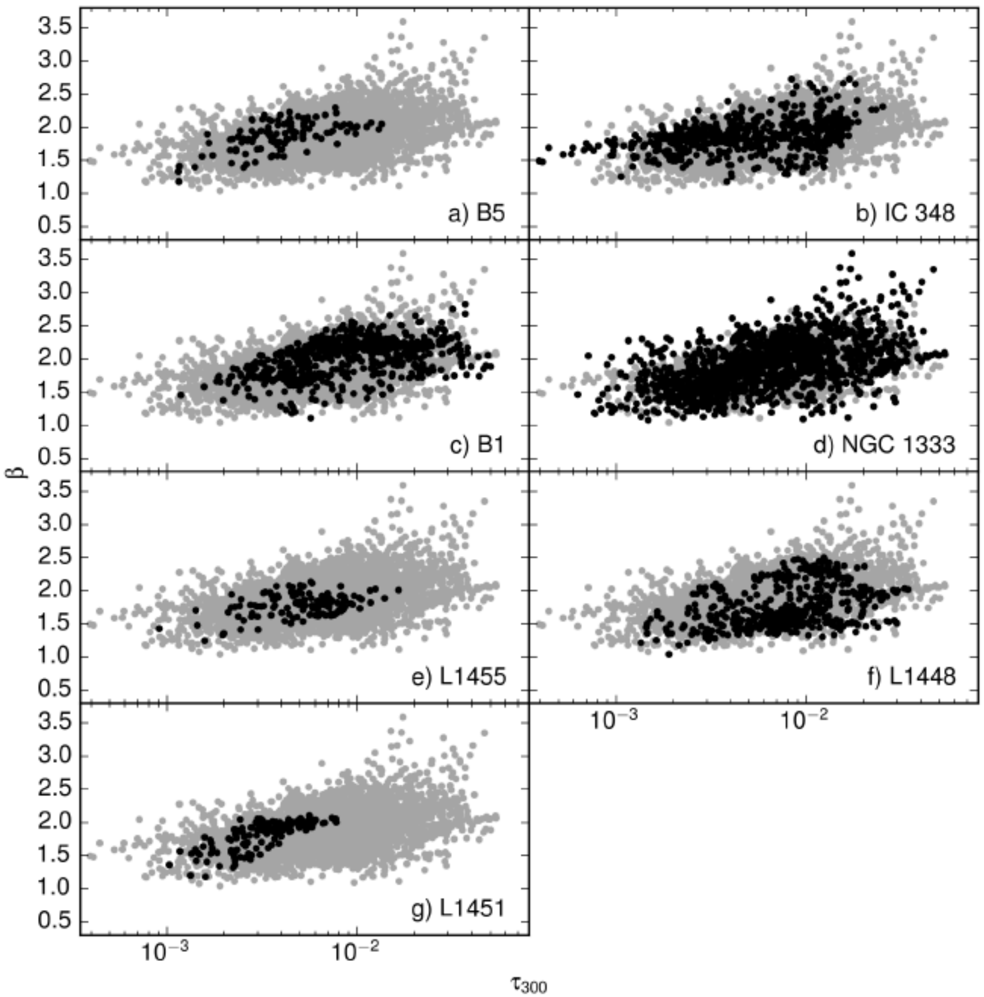


領域ごとに変化し、
その中のclumpごとにも大きく変化
→ダストがローカルに変化

ダストのsublimationでβが減少
ダスト成長でも減少

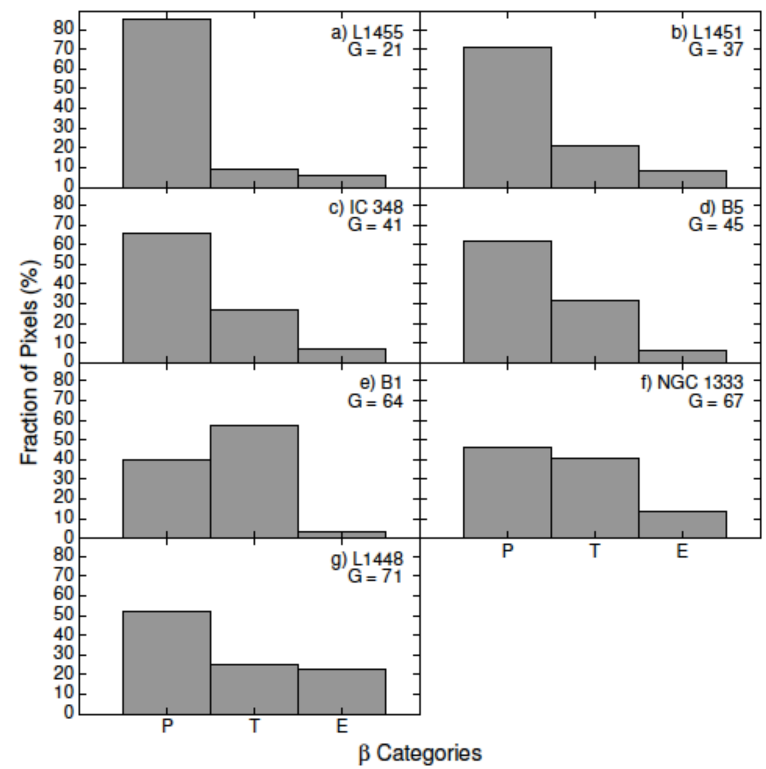
The JCMT Gould Belt Survey: Evidence for Dust Grain Evolution in Perseus Star-forming Clumps

Michael Chun-Yuan Chen[1], J. Di Francesco[2,1], D. Johnstone[3,2,1], S. Sadavoy[4], J. Hatchell[5],.C. Mottram[6], H. Kirk[2], J. Buckle[7,8], D.S. Berry[3], H. Broekhoven-Fiene[1] plus 49 authors



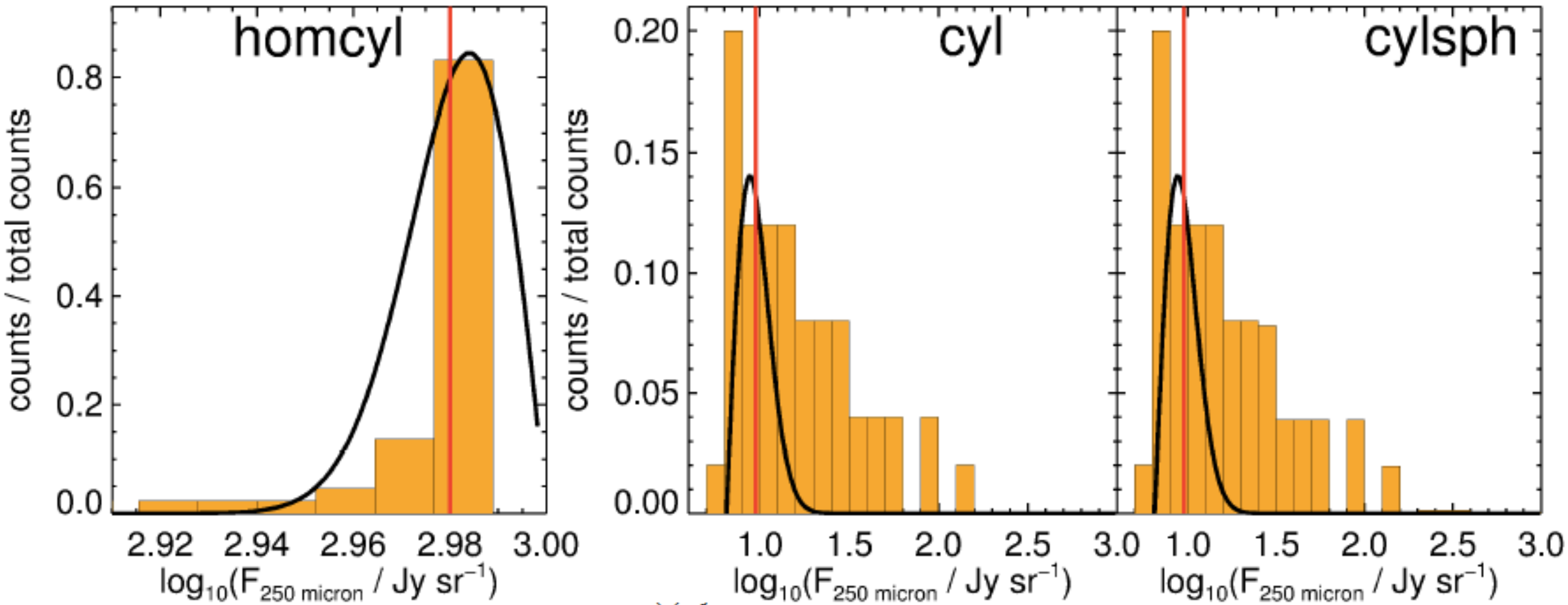
低音、高密度ではβは増加、
ダスト成長は考えにくいかも、

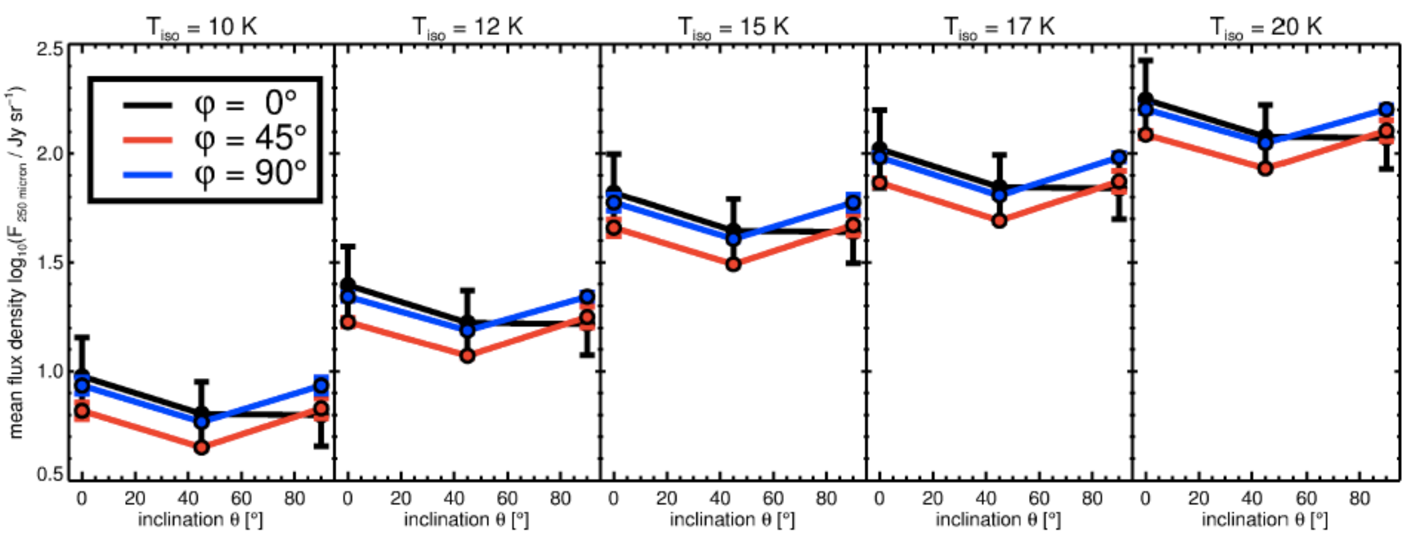
領域ごとにダストの分布が違う



Appearance of Dusty Filaments at Different Viewing Angles

Roxana-Adela Chira[1,2], Ralf Siebenmorgen[1], Thomas Henning[2] and Jouni Kainulainen[2]

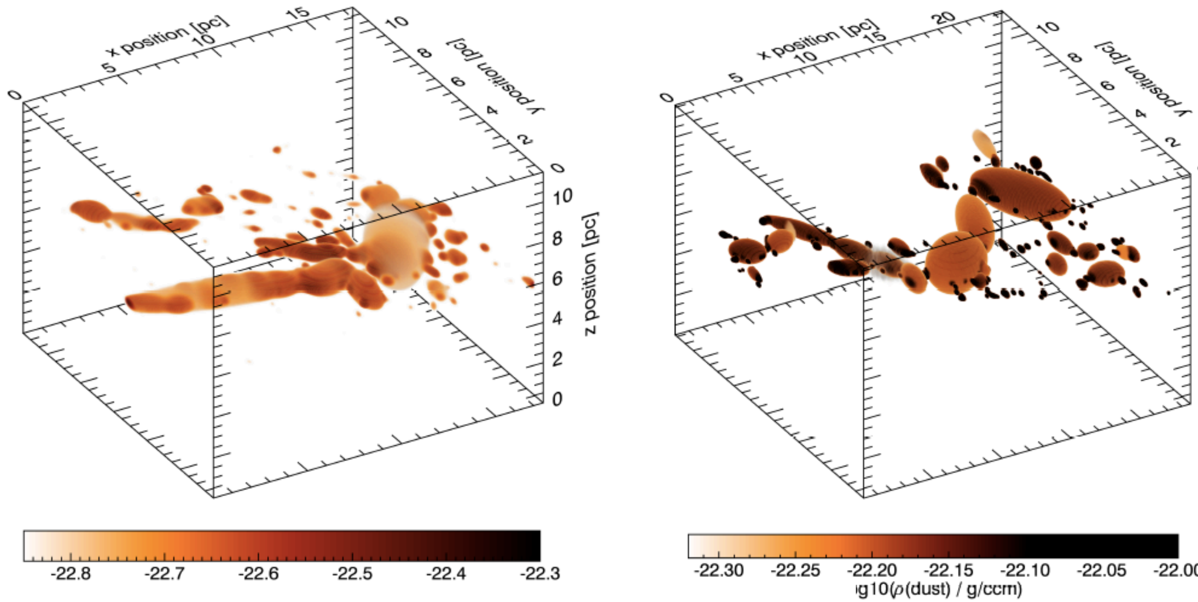




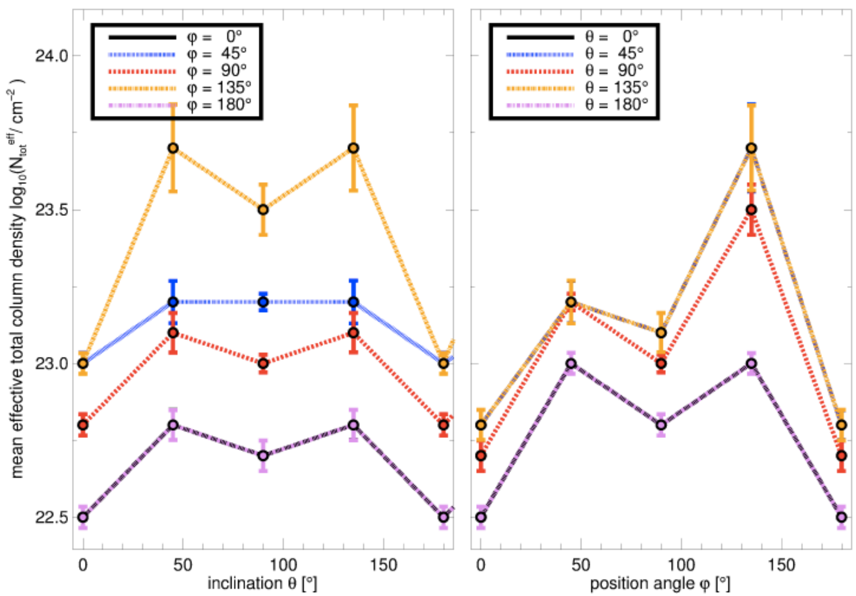
(c) cylsph

Appearance of Dusty Filaments at Different Viewing Angles

Roxana-Adela Chira[1,2], Ralf Siebenmorgen[1], Thomas Henning[2] and Jouni Kainulainen[2]



3Dの輻射輸送を解く
Viewing angleを変えて
擬似観測

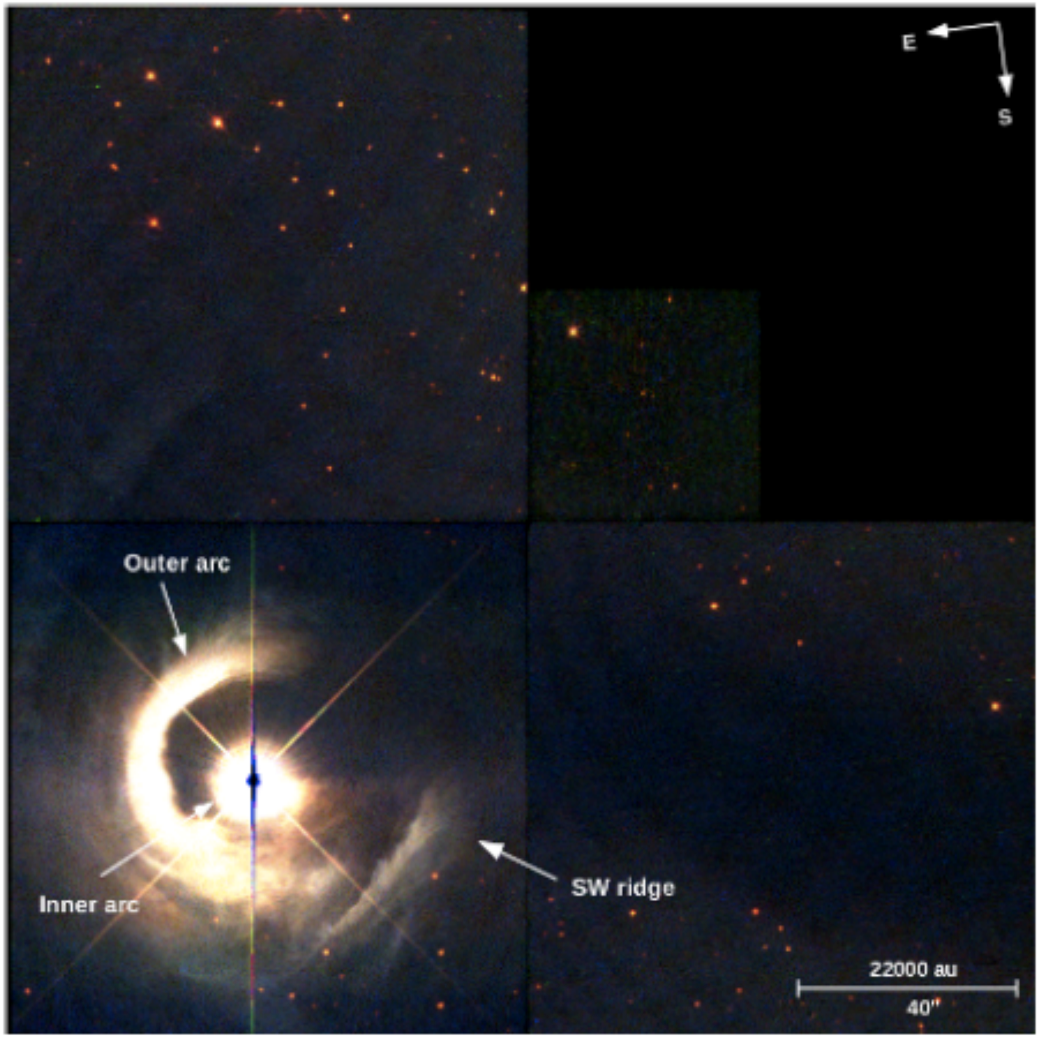


11.11 filament, the *Snake*.

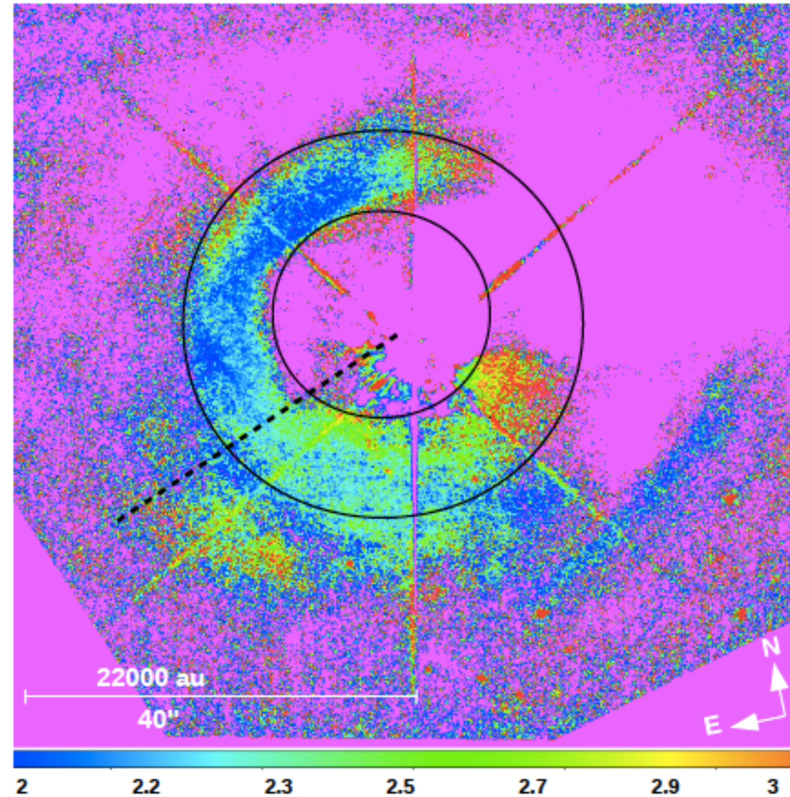
Filamentが視線方向に平行の場合fluxは上がり柱密度も高くなる
温度はあまり変わらない
Dustのみではfilamentの構造を難しい
→輝線の情報

Hubble imaging of V1331 Cygni: proper motion study of its circumstellar structures

Arpita Choudhary[1,2], Bringfried Stecklum[1] and Hendrik Linz[3]



[F450W-F814W]

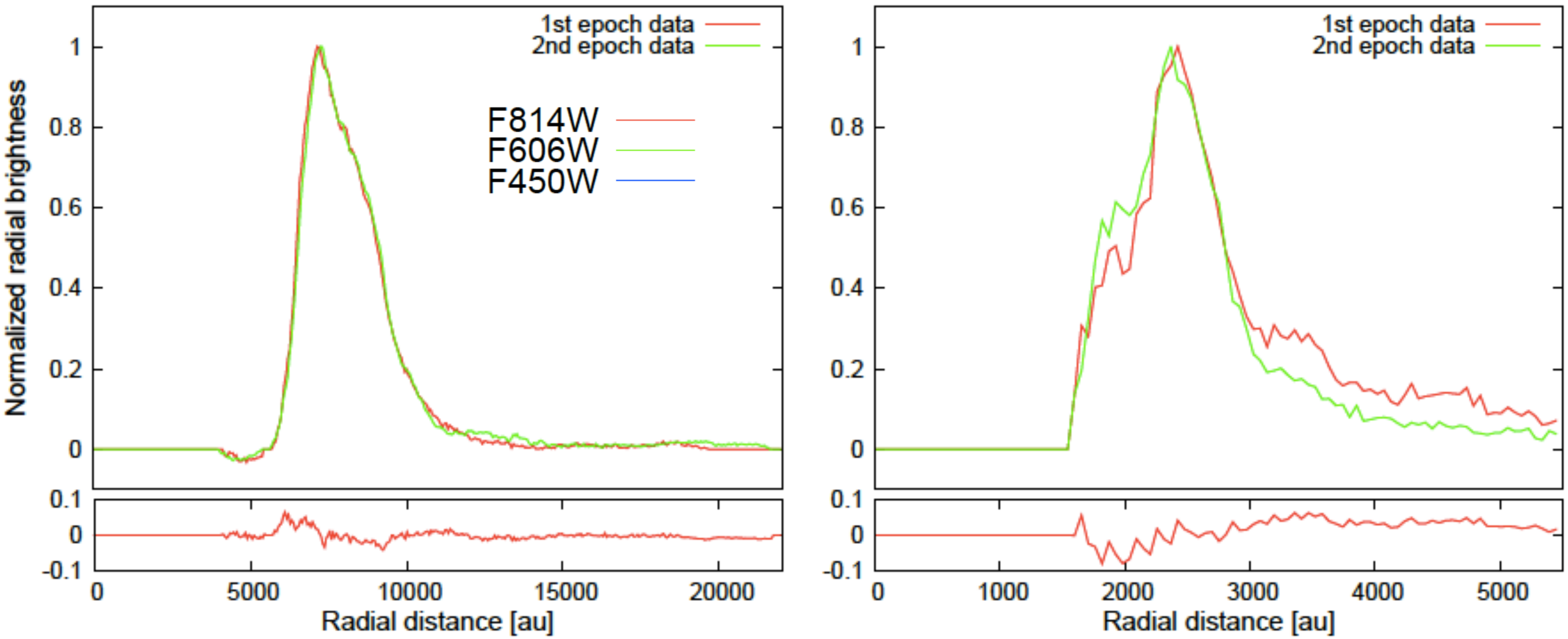


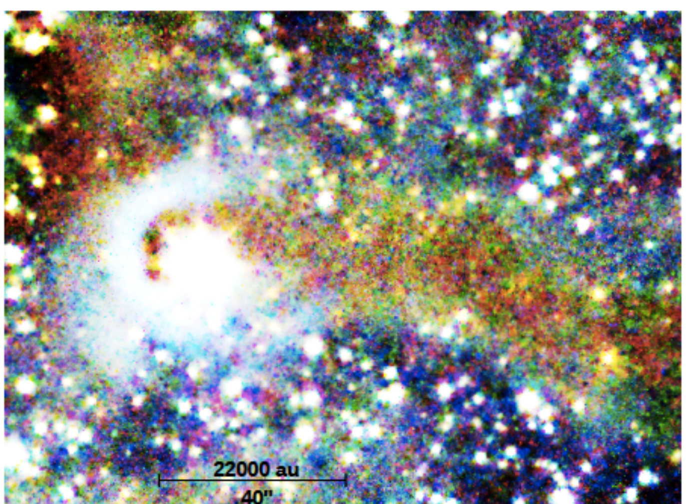
ダストの散乱→arcのgeometry

FUOR天体を2000, 2009年にHSTで観測

Hubble imaging of V1331 Cygni: proper motion study of its circumstellar structures

Arpita Choudhary[1,2], Bringfried Stecklum[1] and Hendrik Linz[3]





Outer ring ~ 14.8 km/s
Inner ring ~ 0.8-3.0 km/s

Outburstで物が吹き飛ばされている
CO torusの速度22 km/s, implantation time~4000 yr
と一致