

Star Formation Project (PI: R. Kawabe (NAOJ/JAO))

Region: Orion A (contact: Y. Shimajiri (CEA/Saclay))

map area (J2000) ++(BLC)=(5 37 30.0, -6 40 00.0)

++(TRC)= (5 32 55.2, -4 36 58.00)

Obs. line: 12CO(1-0)

Sensitivity (rms noise): 1 K (at T_{mb}), resolution 1.0 km/s

Comment: BEARS+AC45 OTF, grid size = 7".5, gridding function: Spheriodal

Shimajiri et al. 2011, PASJ, 63, 105

Nakamura et al. 2012, ApJ, 746, 25

Region: L1551 (contact: Y. Kitamura (ISAS/JAXA))

map center RA (J2000) = 04h31m34.1s , Dec (J2000) = 18d08m04s.9

region size = 45'x45'

Obs. line: 12CO(1-0)

Sensitivity (rms noise): 0.3 K (T_A^*), resolution 0.2 km/s

Comment: BEARS+AC45 OTF, grid size = 18", 2007.12 ~ 2008.05

Yoshida et al. 2010, ApJ, 718, 1019-1035

map center RA (J2000) = 04h31m34.1s , Dec (J2000) = 18d08m04s.9

region size = 36'x36'

Obs. line: 13CO(1-0)

Sensitivity (rms noise): 0.38 K (T_A^*), resolution 0.2 km/s

Comment: BEARS+AC45 OTF, grid size = 18", 2009.12 ~ 2010.05

map center RA (J2000) = 04h31m34.1s , Dec (J2000) = 18d08m04s.9

region size = 25'x25'

Obs. line: C18O(1-0)

Sensitivity (rms noise): 0.3 K (T_A^*), resolution 0.2 km/s

Comment: BEARS+AC45 OTF, grid size = 18", 2009.02 ~ 2009.05

Region: Lupus Core A (contact: Y. Kitamura (ISAS/JAXA))
map center RA (J2000) = 15h44m00s.5 , Dec (J2000) = -34d09m07s.5
region size = 17 points toward the center
Obs. line: 13CO(1-0), C18O(1-0), CS(2-1)
Sensitivity (rms noise): 0.03 - 0.1 K (T_A^*), resolution 0.1 km/s
Comment: T100+AC45 5-point cross scans at PA=67deg, grid size = 20" and 30", 2010.01 ~ 2010.03

Region: Lupus Core B (contact: Y. Kitamura (ISAS/JAXA))
map center RA (J2000) = 15h45m06s.2 , Dec (J2000) = -34d43m24s.2
region size = 5 points toward the center
Obs. line: 13CO(1-0), C18O(1-0)
Sensitivity (rms noise): 0.03 - 0.1 K (T_A^*), resolution 0.1 km/s
Comment: T100+AC45 5-point cross scans at PA=90deg, grid size = 20" and 30", 2010.10 ~ 2010.03

Region: Lupus Core C (contact: Y. Kitamura (ISAS/JAXA))
map center RA (J2000) = 15h45m01s.9 , Dec (J2000) = -34d56m29s.0
region size = 1 point toward the center
Obs. line: 13CO(1-0), C18O(1-0)
Sensitivity (rms noise): 0.03 - 0.1 K (T_A^*), resolution 0.1 km/s
Comment: T100+AC45 1-point, 2010.01 ~ 2010.03

Region : Pipe Nebula (CORE 1-2, CORE 3, CORE 9-11 region)
(contact: C. Hara (The University of Tokyo))
AzTEC Cores (see Kawabe et al. 2013; in prep)
CORE1-2
17h11m23.38s -27°24'37.86"
17h11m21.59s -27°26'14.45"
17h11m4.25s -27°23'0.95"
17h11m25.44s -27°25'43.90"
17h11m21.63s -27°27'46.52"

17h11m7.25s -27°21'29.17"
17h11m27.50s -27°23'13.73"
17h11m30.92s -27°24'19.86"
17h11m17.36s -27°25'16.03"
17h11m12.31s -27°27'5.05"
17h11m11.94s -27°22'40.86"
17h11m50.43s -27°25'14.90"
17h11m40.15s -27°21'25.96"
17h11m14.16s -27°22'52.03"
17h11m32.24s -27°29'11.39"
17h10m57.72s -27°24'34.17"
17h11m28.10s -27°30'56.31"
17h11m34.44s -27°29'22.65"
17h11m30.59s -27°22'53.46"
17h11m24.05s -27°30'17.28"
17h12m32.55s -27°21'49.49"
17h12m21.99s -27°24'14.14"
17h12m26.72s -27°23'2.26"
17h12m34.83s -27°20'29.14"
17h12m29.49s -27°22'11.30"
17h12m37.96s -27°19'28.65"
17h12m11.89s -27°37'59.25"
17h12m14.13s -27°37'5.56"
17h11m35.33s -27°33'53.29"
17h11m40.08s -27°31'2.13"
17h10m50.73s -27°23'1.12"
17h10m47.87s -27°22'57.32"
17h10m52.35s -27°26'25.55"
17h12m52.85s -27°23'28.38"
17h12m15.04s -27°25'5.30"
17h11m59.26s -27°26'40.98"
17h12m5.58s -27°26'2.10"
17h12m42.71s -27°11'49.66"
CORE3
17h21m13.76s -26°52'59.70"
17h21m10.92s -26°53'38.22"

17h20m20.55s -26°42'34.74"

CORE9-11

17h34m10.68s -25°50'17.81"

17h34m19.35s -25°49'50.96"

17h34m23.54s -25°49'51.04"

17h34m30.23s -25°48'21.34"

17h34m28.89s -25°49'53.92"

17h34m36.91s -25°49'32.31"

17h34m33.07s -25°48'39.00"

17h34m19.33s -25°53'36.48"

17h34m26.47s -25°52'0.77"

17h34m24.40s -25°53'18.53"

17h34m17.55s -25°34'0.53"

17h34m23.33s -25°34'41.42"

17h34m45.49s -25°47'2.77"

17h34m49.96s -25°46'17.40"

17h34m7.12s -25°40'6.11"

17h33m37.23s -25°29'24.19"

17h33m30.34s -25°30'59.71"

17h34m39.92s -25°40'8.72"

17h33m27.38s -25°40'36.28"

17h34m36.02s -25°43'35.59"

17h34m3.78s -25°50'32.74"

17h33m54.71s -25°39'18.09"

17h34m56.86s -25°48'29.33"

17h33m54.43s -25°52'26.50"

17h34m25.76s -25°27'56.84"

17h34m21.09s -25°42'15.03"

Obs. line : C18O(1--0), CCS (7,6--6,5), HC3N (12-11), HC3N (9--8), N2H+ (1--0), SO (2(3)-1(2))

Sensitivity (rms noise): 0.08-0.10 K(TA*), resolution 0.1 km/s

Comment : T100+SAM45, PositionSwitch (single point), 2009.1

Region : Barnard 59 in Pipe Nebula (contact: C. Hara (The University of Tokyo))

map center RA(J2000) = 17h11m21s, Dec(J2000) = -27d25m48s

region size 5'x5'

Obs. line : H13CO+, HCO+, SO, HC3N, SiO, HCN
Sensitivity (rms noise) ; 0.12 K (T_A^*), resolution 0.1 km/s
Comment : T100+SAM45, OTF, 2012. 1, grid size 7.5"

Region : Barnard 59 in Pipe Nebula (contact: C. Hara (The University of Tokyo))

[BHB2007] #1, #9, #11, #10,
17h11m03.95s -27°22'55.39"
17h11m21.43s -27°27'42.91"
17h11m22.12s -27°26'02.30"
17h11m23.09s -27°24'32.80"

Obs. line : 13CO, C18O, SO, CH3OH, H13CO+, HCO+, SO, HC3N, SiO, HCN
Sensitivity (rms noise) ; 0.05-0.06 K (T_A^*) resolution 0.1 km/s
Comment : T100+SAM45, PositionSwitch (single point) , 2012.1

Region: Aquila Rift (contact: F. Nakamura (NAOJ))

map center RA (J2000) = 18h30m3s , Dec (J2000) = -02d02m40s
region size = 2'x2'

Obs. line: HCO+(1-0), H13CO+(1-0), HCN(1-0), H13CN(1-0), SiO (2-1), CCH(1-0), c-C3H2(2-1),
NH2D (1,1), HN13C(1-0), HC18O+(1-0)

Sensitivity (rms noise): 0.07 ~ 0.1 K (T_A^*), resolution 0.1 km/s
Comment: T100+SAM45, OTF, grid size = 7.5", 2011.12 ~ 2012.5

Region: Aquila Rift (contact: F. Nakamura (NAOJ))

map center RA (J2000) = 18h30m12s , Dec (J2000) = -02d04m53s
region size = 10' x 15'

Obs. line: HCO+(1-0), H13CO+(1-0), HCN(1-0), H13CN(1-0)

Sensitivity (rms noise): 0.1 ~ 0.2 K (T_A^*), resolution 0.1 km/s
Comment: T100+SAM45, OTF, grid size = 7.5", 2011.12 ~ 2012.5

Region: Ophiuchus molecular cloud (contact: F. Nakamura (NAOJ))

map center RA (J2000) = 16h26m40s , Dec (J2000) = -24d41m24s

region size = 40' x 40'

Obs. line: 12CO(1-0)

Sensitivity (rms noise): 0.3 K (T_A^*), resolution 0.4 km/s

Comment: BEARS+AC45, OTF, grid size = 6", 2009.12 ~ 2010.5

Nakamura, F., Kamada, Y., Kamazaki, T., et al. 2010, ApJ, 726, 46

Region: Ophiuchus B2 region (contact: F. Nakamura (NAOJ))

map center RA (J2000) = 16h27m26.4s , Dec (J2000) = -24d25m48.7s

region size = 6' x 7'

Obs. line: 13CO(1-0), C18O(1-0), CH3OH, CS(2-1)

Sensitivity (rms noise): 0.15 K (T_A^*), resolution 0.1 km/s

Comment: T100+SAM45, OTF, full beam sampling, 2011.3 ~ 2011.5

Region: DM Tau (contact: T. Tsukagoshi (Ibaraki University))

Center: RA(J2000)=04h33m48.7s, Dec(J2000)=+18d10m10.0s

Receiver: T100

Backend: SAM45, 2GHz bandwidth, 488.28kHz resolution

Obs. period: Dec. 2010

Total obs. time: 59 hours

Obs. line: line search between 86-116GHz

Setting1: T100V - 109.2GHz(USB),97.2GHz(LSB)

T100H - 109.6GHz(USB),97.6GHz(LSB)

Setting2: T100V - 100.1GHz(USB),88.1GHz(LSB)

T100H - 100.5GHz(USB),88.5GHz(LSB)

Setting3: T100V - 104.0GHz(USB),92.0GHz(LSB)

T100H - 104.4GHz(USB),92.4GHz(LSB)

Setting4: T100V - 114.0GHz(USB),102.0GHz(LSB)

T100H - 114.4GHz(USB),102.4GHz(LSB)

Sensitivity (rms noise): 2~5 mK (T_A^*), resolution 1.5 km/s(488.28kHz)

Comment: center one point toward the source

Region: L1527 (contact: K. Kiyokane (The University of Tokyo))

map center RA (B1950) = 04h36m49.3s , Dec (B1950) = 25d57m16.0s

region size = 6'x6'

Obs. line: C18O(1-0), 13CO(1-0)

Sensitivity (rms noise): ~ 0.1 K (T_A^*), resolution 0.1 km/s

Comment: T100+SAM45, OTF, grid size = 7.5", 2011.12 ~ 2012.5, In this Lo. frequency setting, the sideband separation ratio was not so good (~ 5 dB). If you focus on the intensity, you should be careful. The lines of {C15N, NH2D, CH3CN, NHD2, D2CO, C17O} were observed simultaneously, but the quality of them was not checked.

Region: L483 (contact: K. Kiyokane (The University of Tokyo))

map center RA (J2000) = 18h17m35s , Dec (J2000) = -04d39m48.0s

region size = 6'x6'

Obs. line: C18O(1-0), 13CO(1-0)

Sensitivity (rms noise): 0.5 ~ 0.7 K (T_A^*), resolution 0.1 km/s

Comment: T100+SAM45, OTF, grid size = 7.5", 2011.12 ~ 2012.5, In this Lo. frequency setting, the sideband separation ratio was not so good (~ 5 dB). If you focus on the intensity, you should be careful. The lines of {C15N, NH2D, CH3CN, NHD2, D2CO, C17O} were observed simultaneously, but the quality of them was not checked.