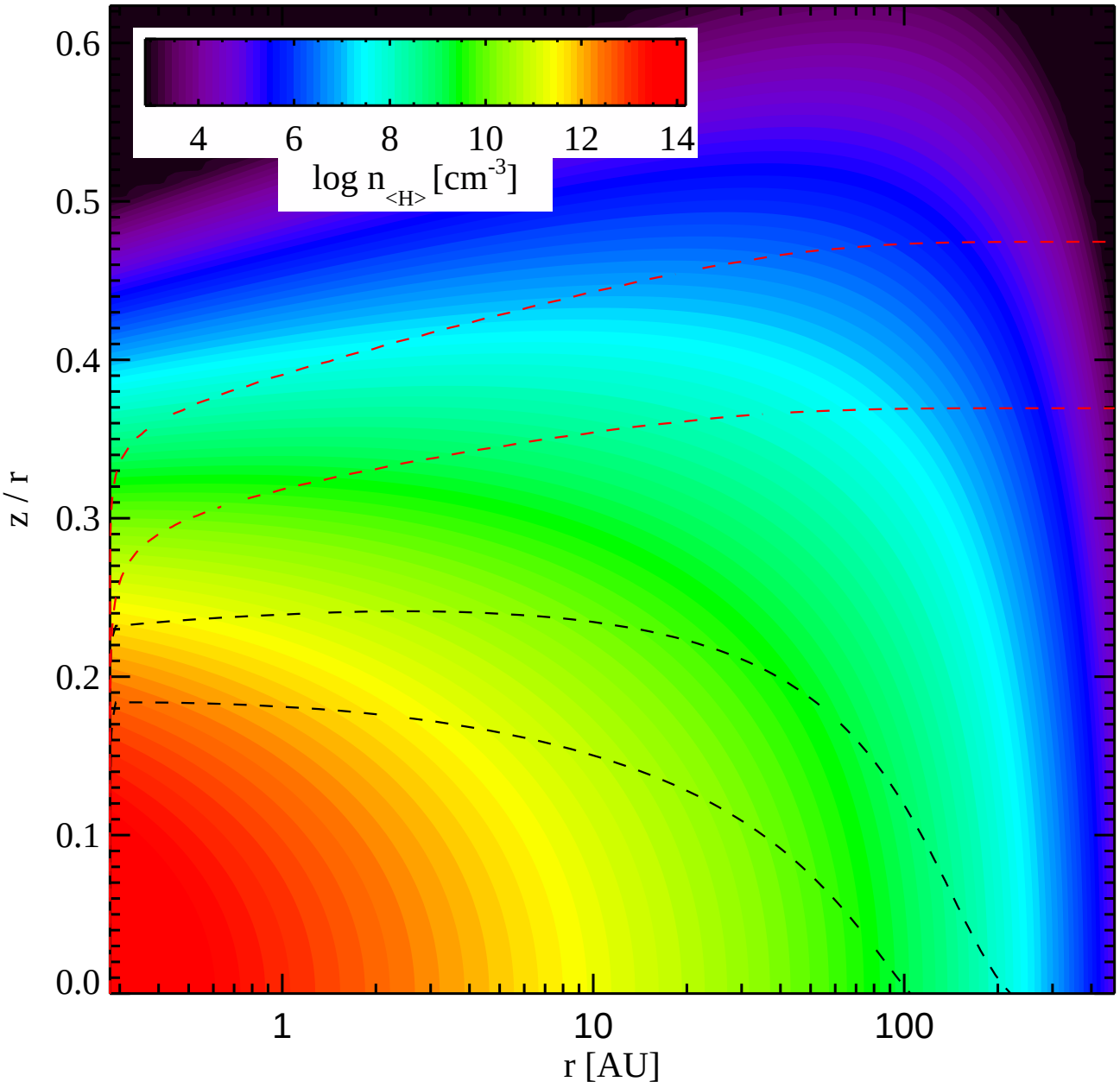
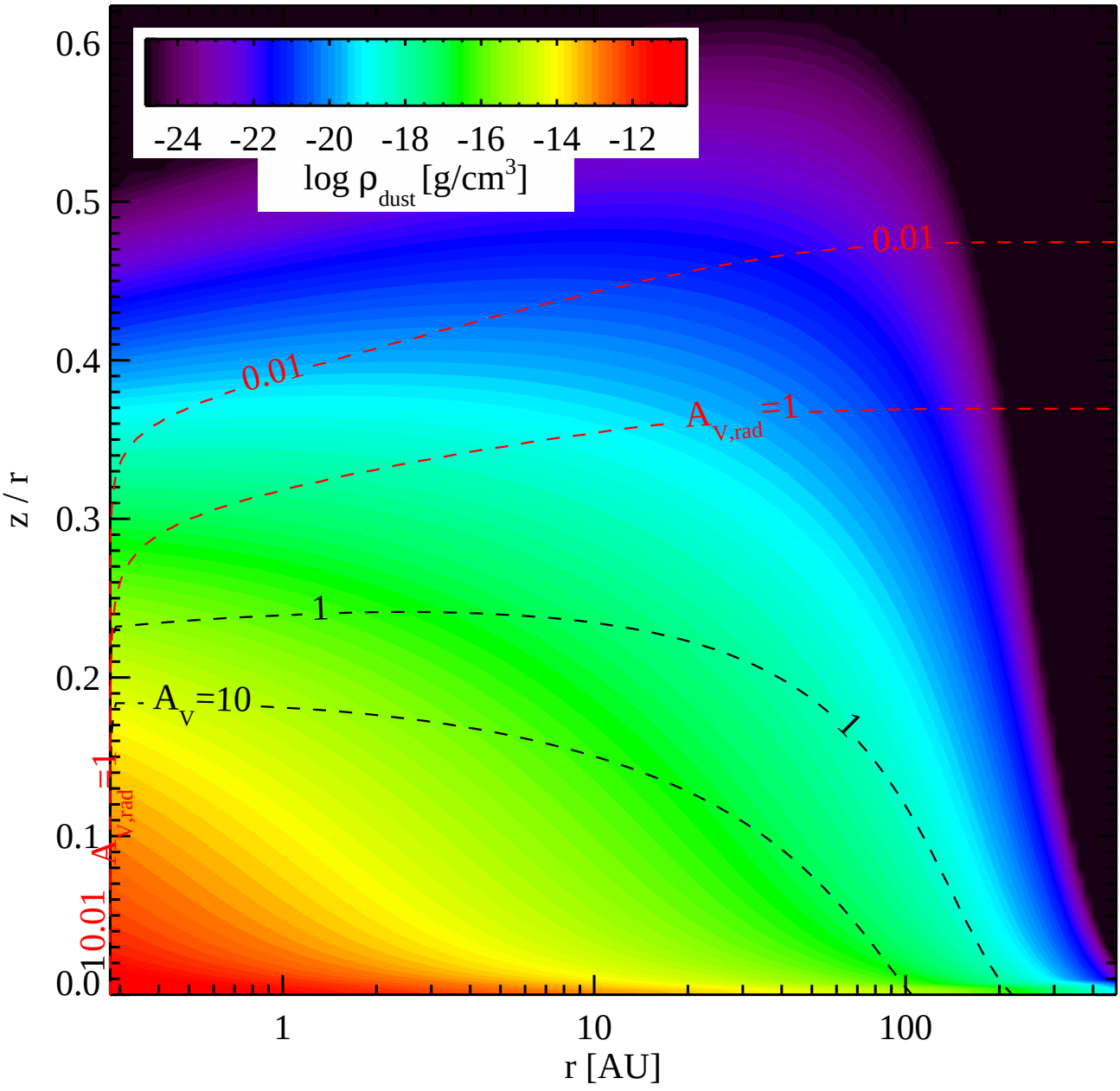
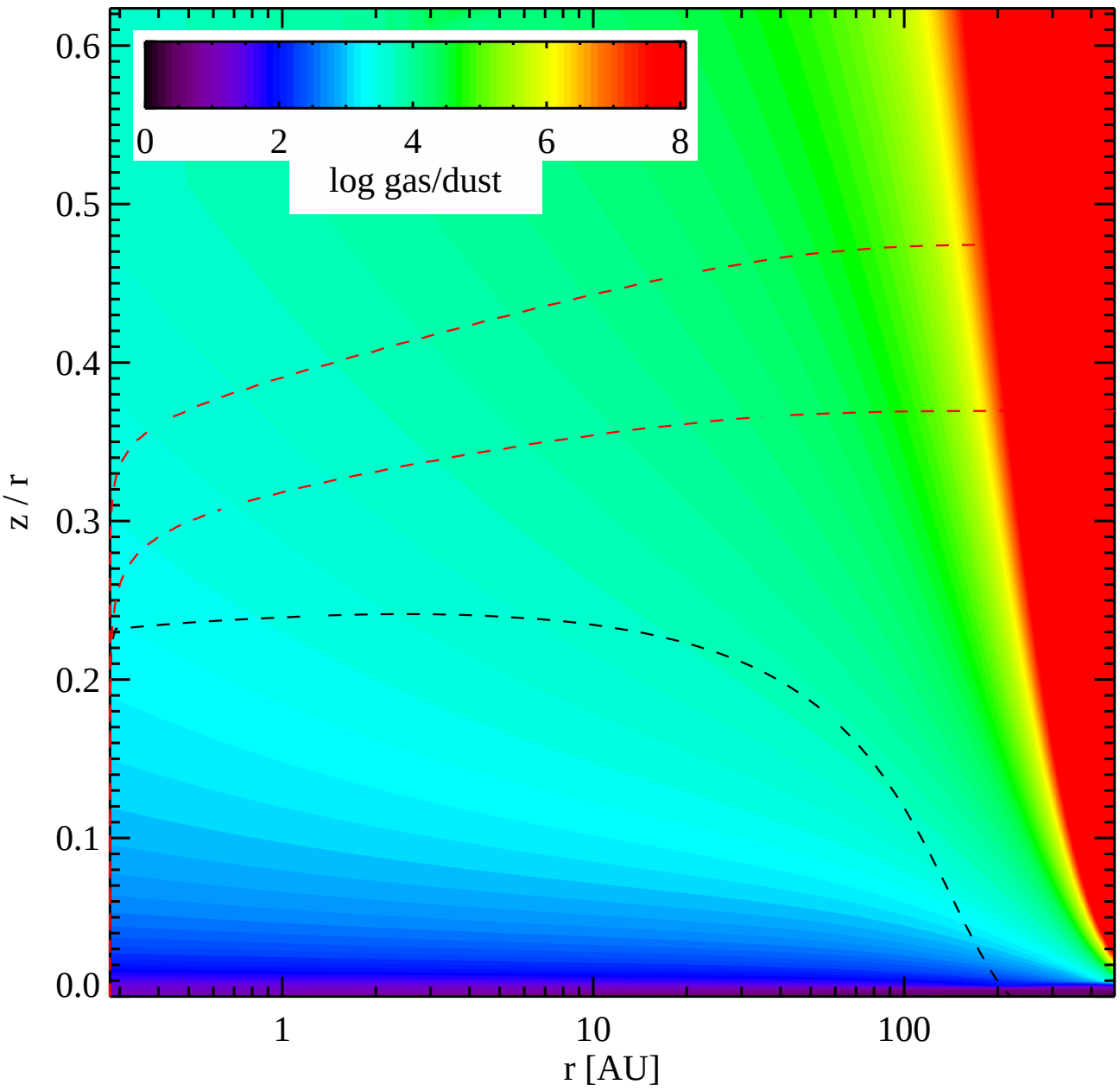
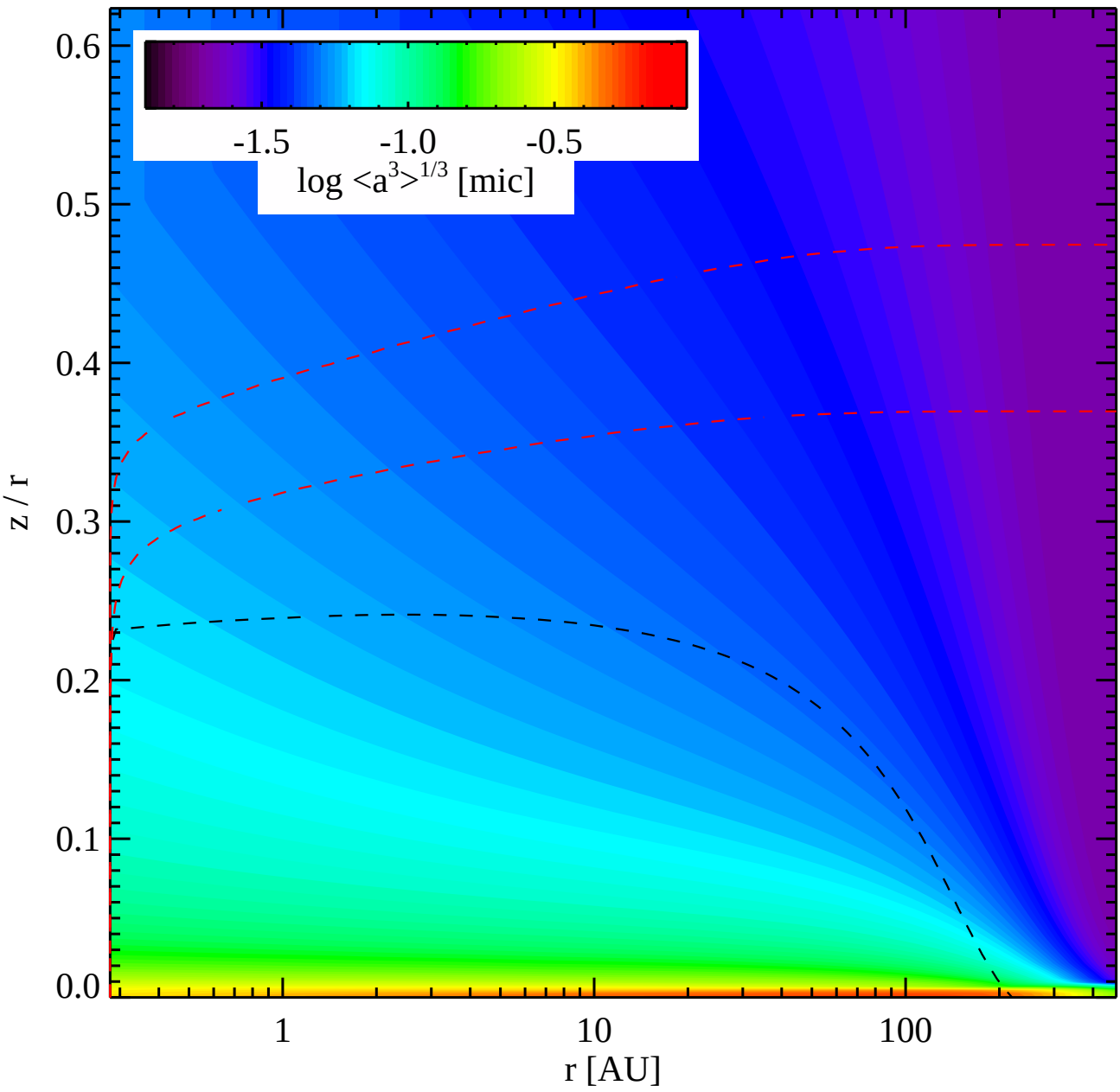
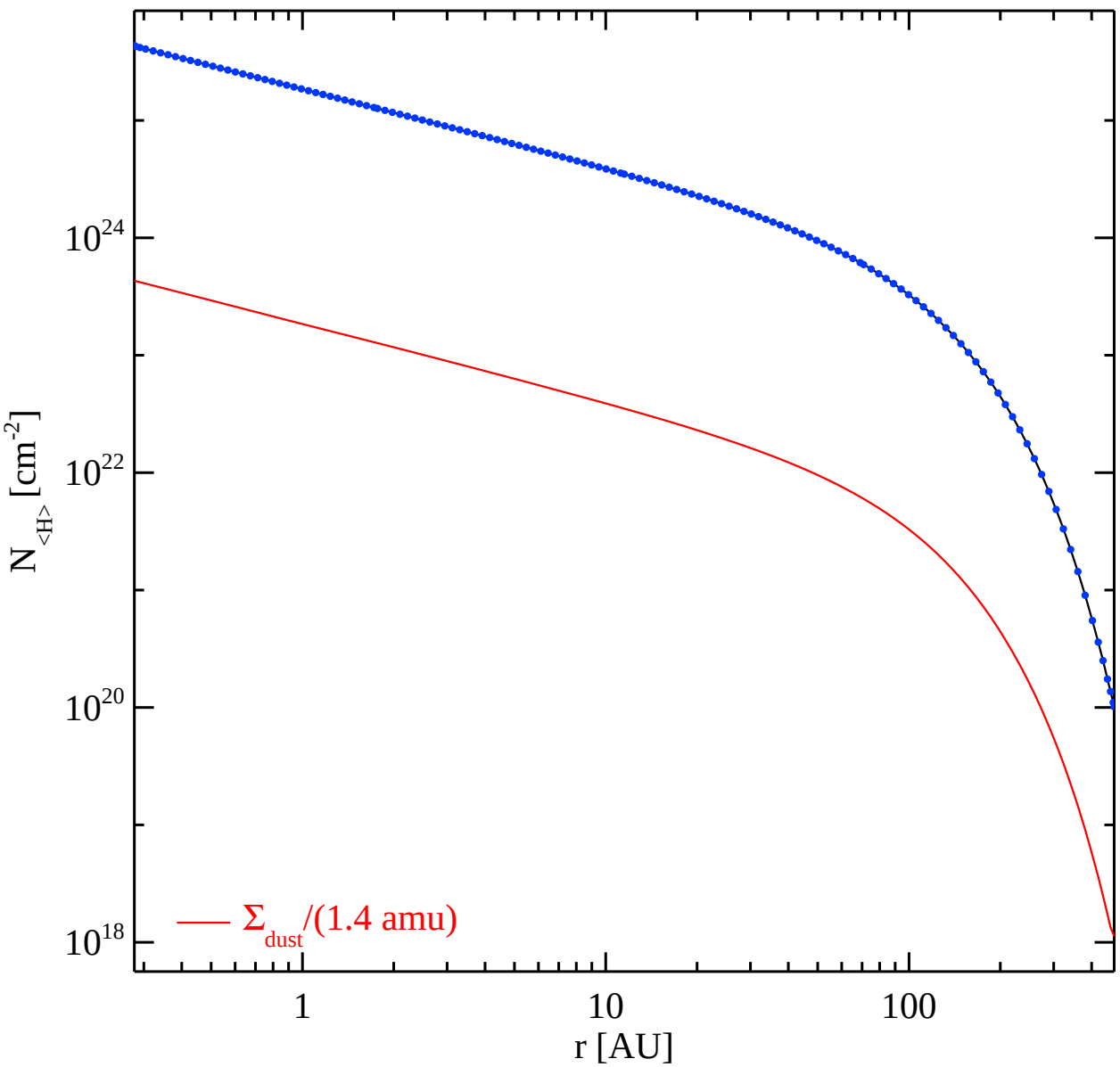
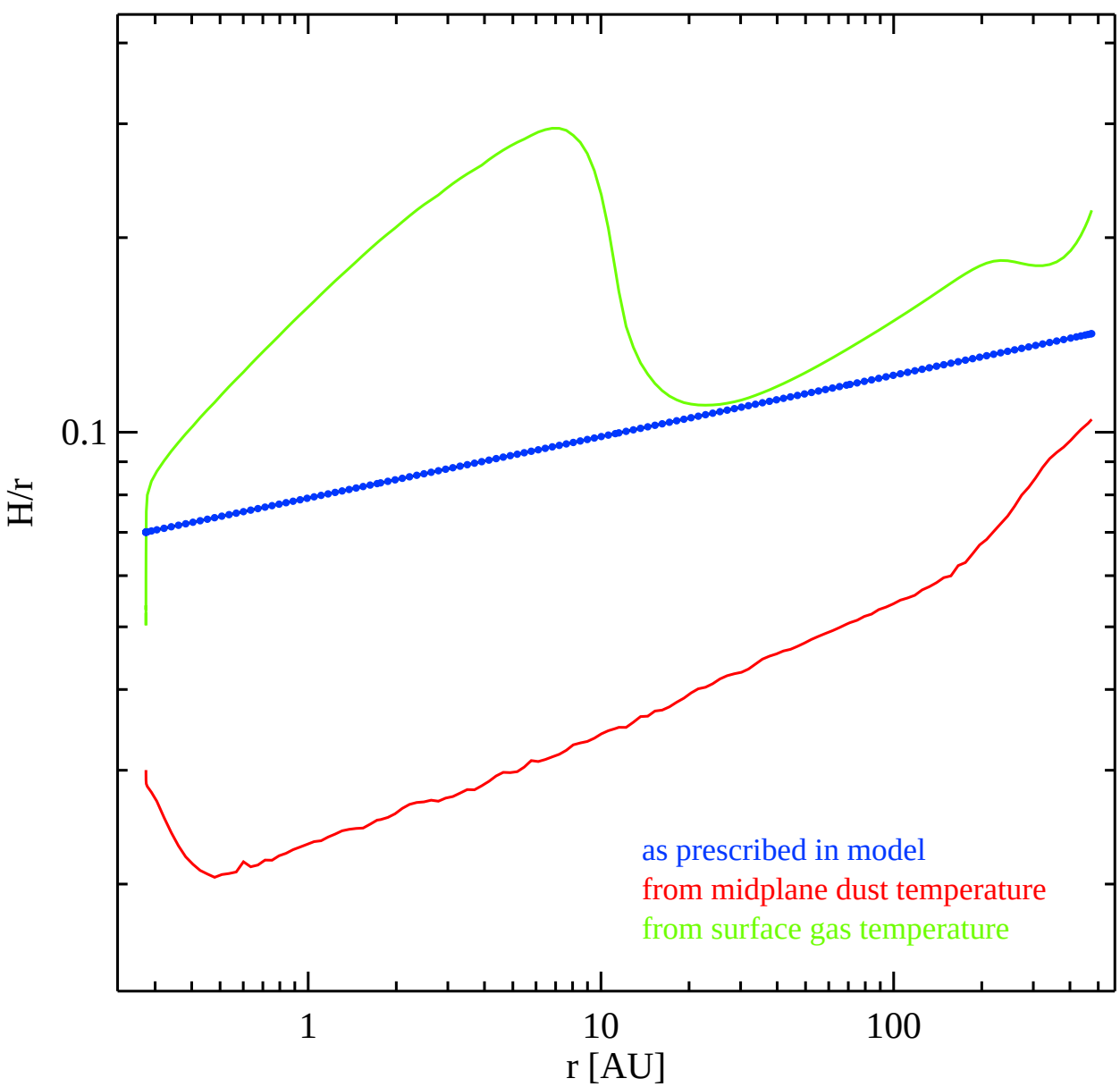

4
6
8
10
12
14
log n<H> [cm-3]
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

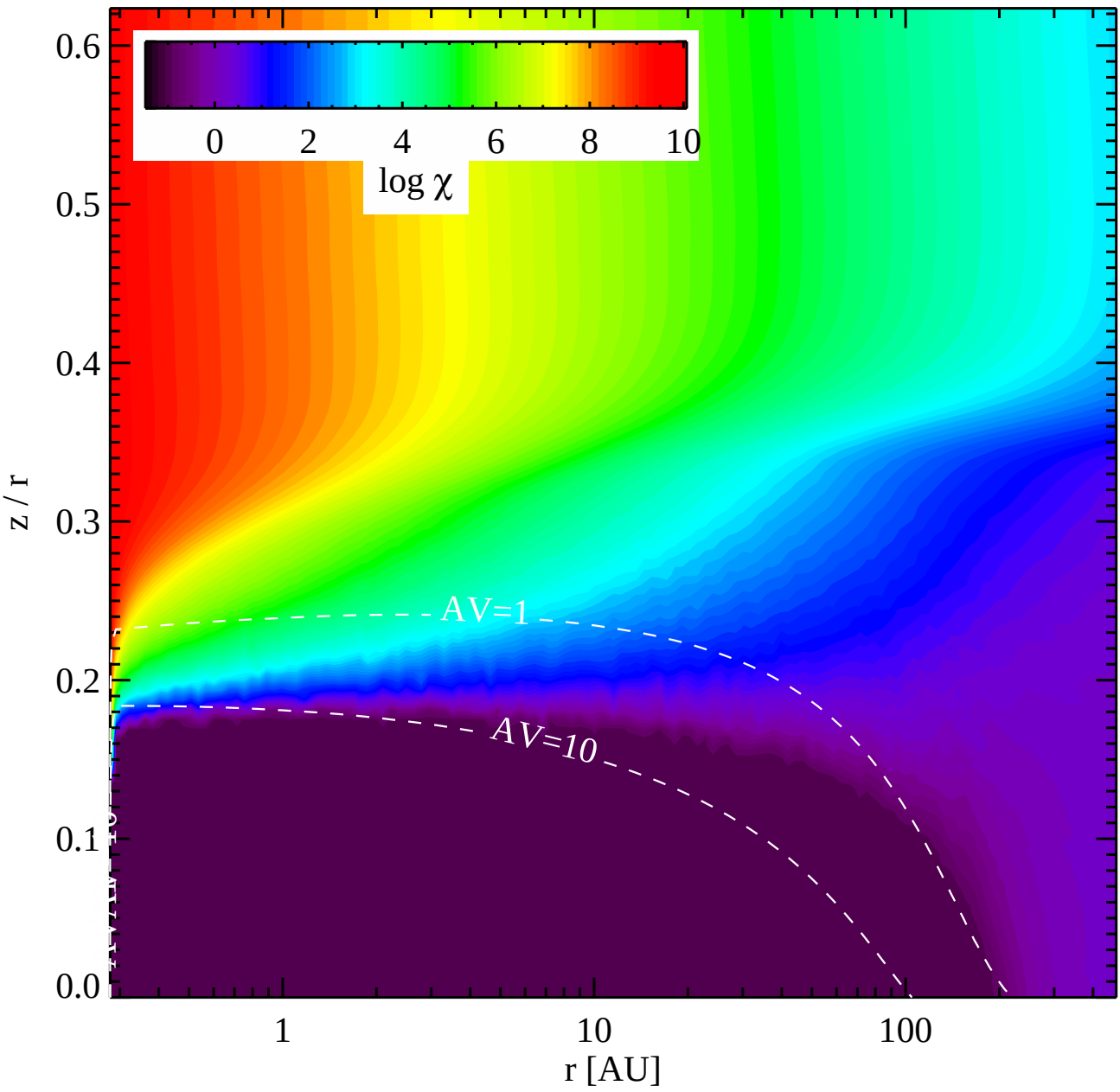

-24 -22 -20 -18 -16 -14 -12
log ρ dust [g/cm3]
0.01
0.01
AV,rad=1
AV=10
1
1
AV,rad=1
0.01
0.0
0.1
0.2
0.3
0.4
0.5
0.6
z / r
1
10
100
r [AU]

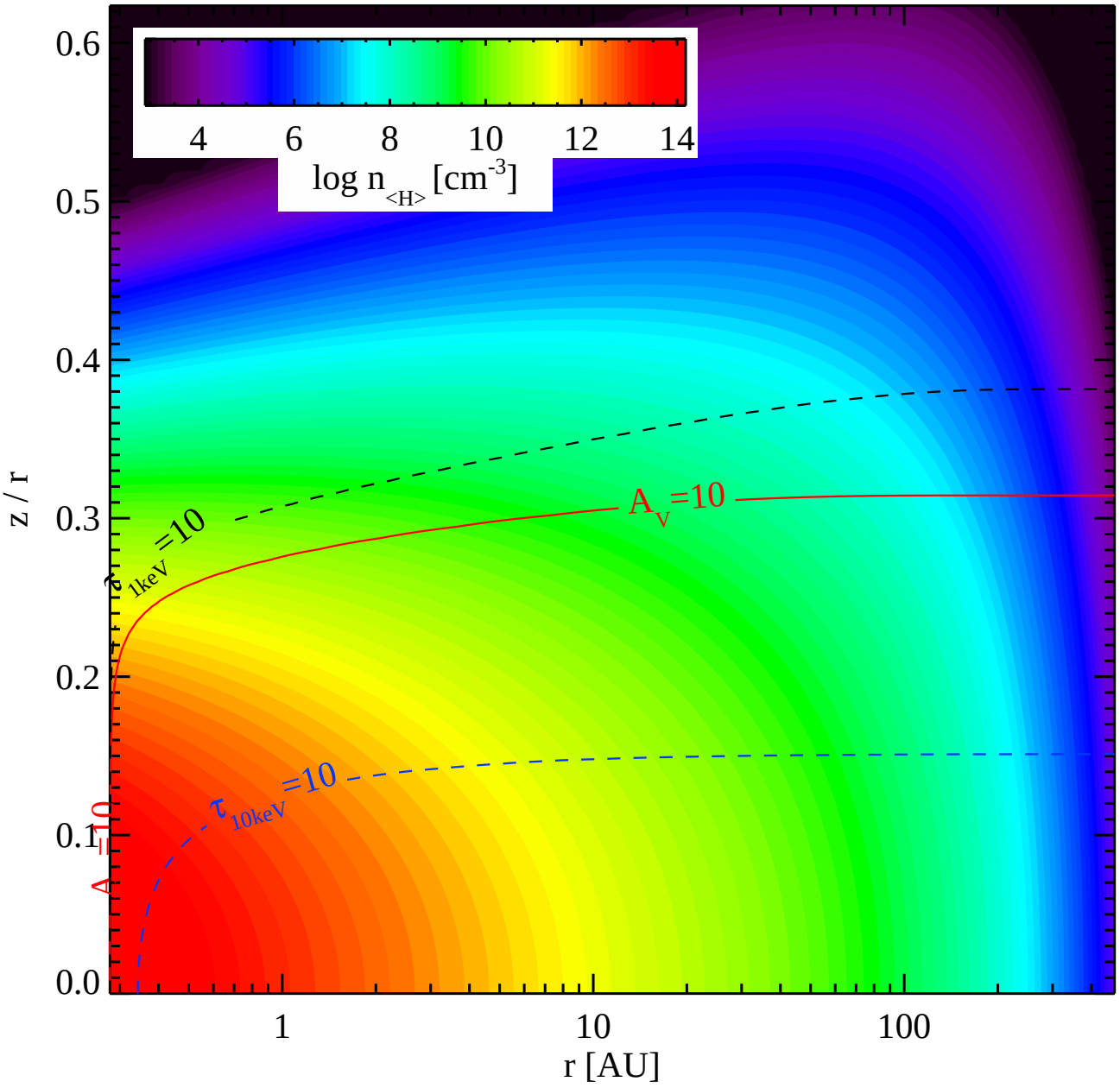

0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
0
2
4
6
8
log gas/dust
1
10
100
r [AU]

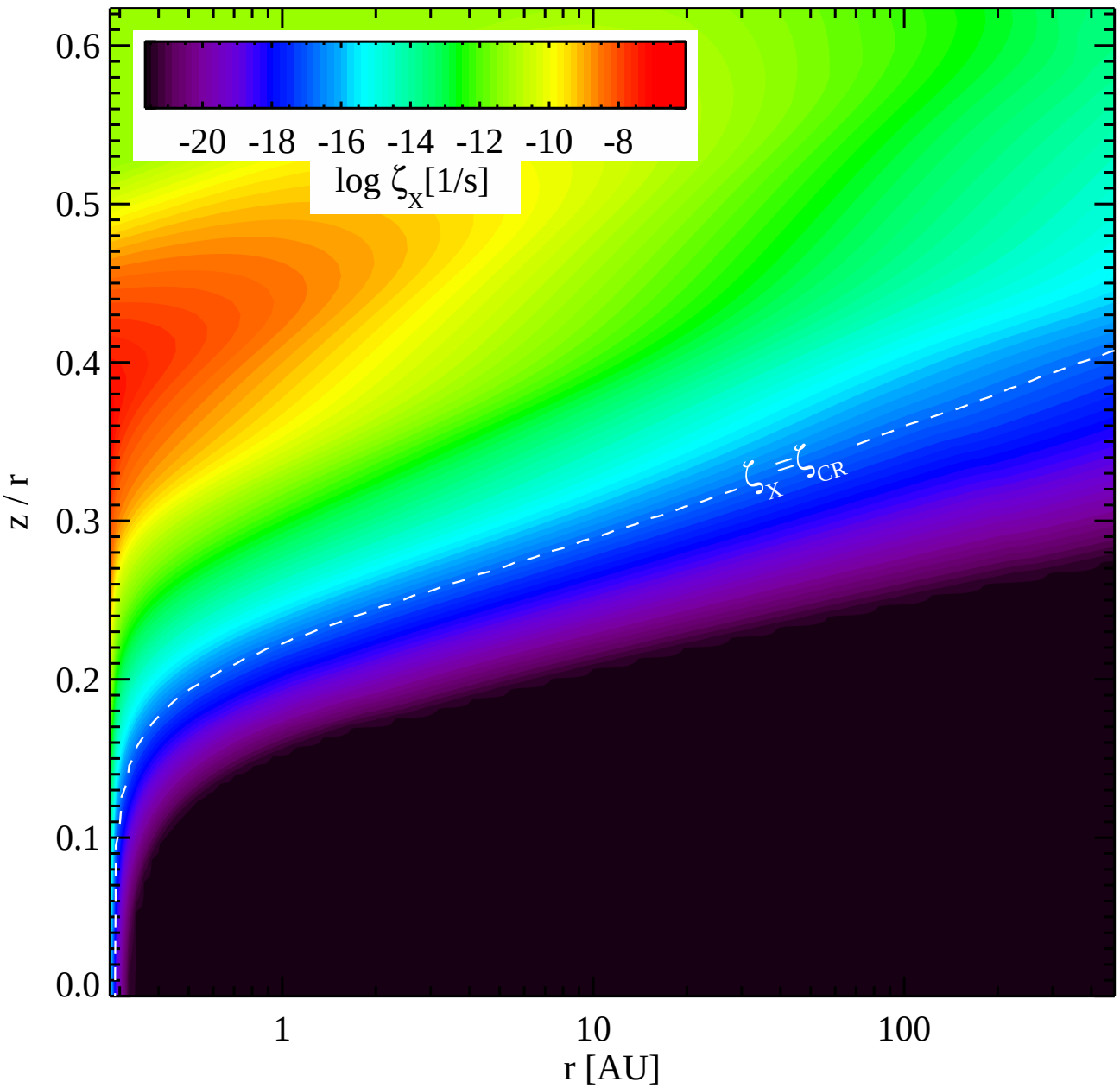

-1.5
-1.0
-0.5
log <a^3>^1/3 [mic]
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

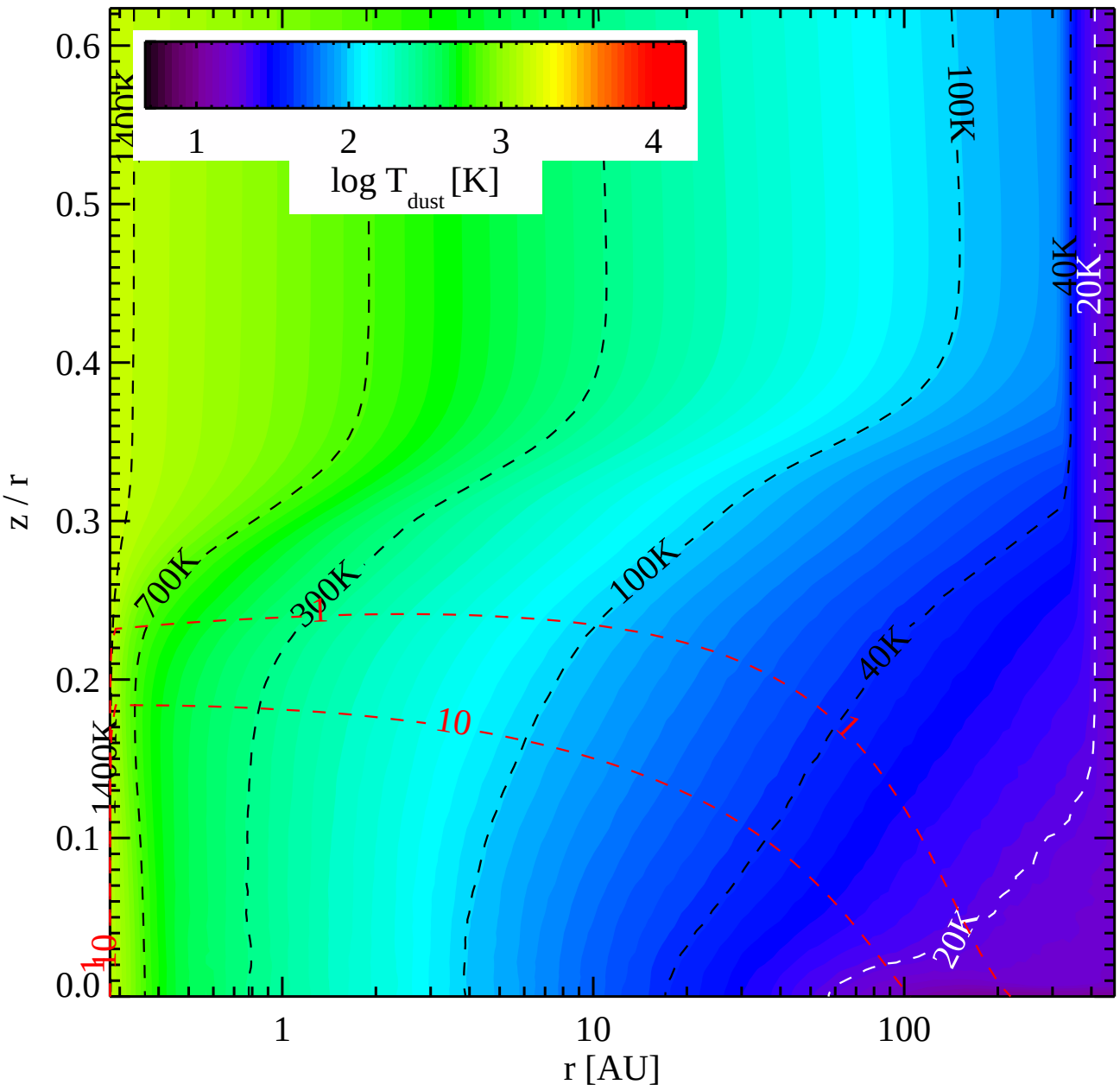

10^{24}
10^{22}
10^{20}
10^{18}
$N_{<H>}$ [cm^{-2}]
1
10
100
r [AU]
Σ_{dust}/(1.4 amu)

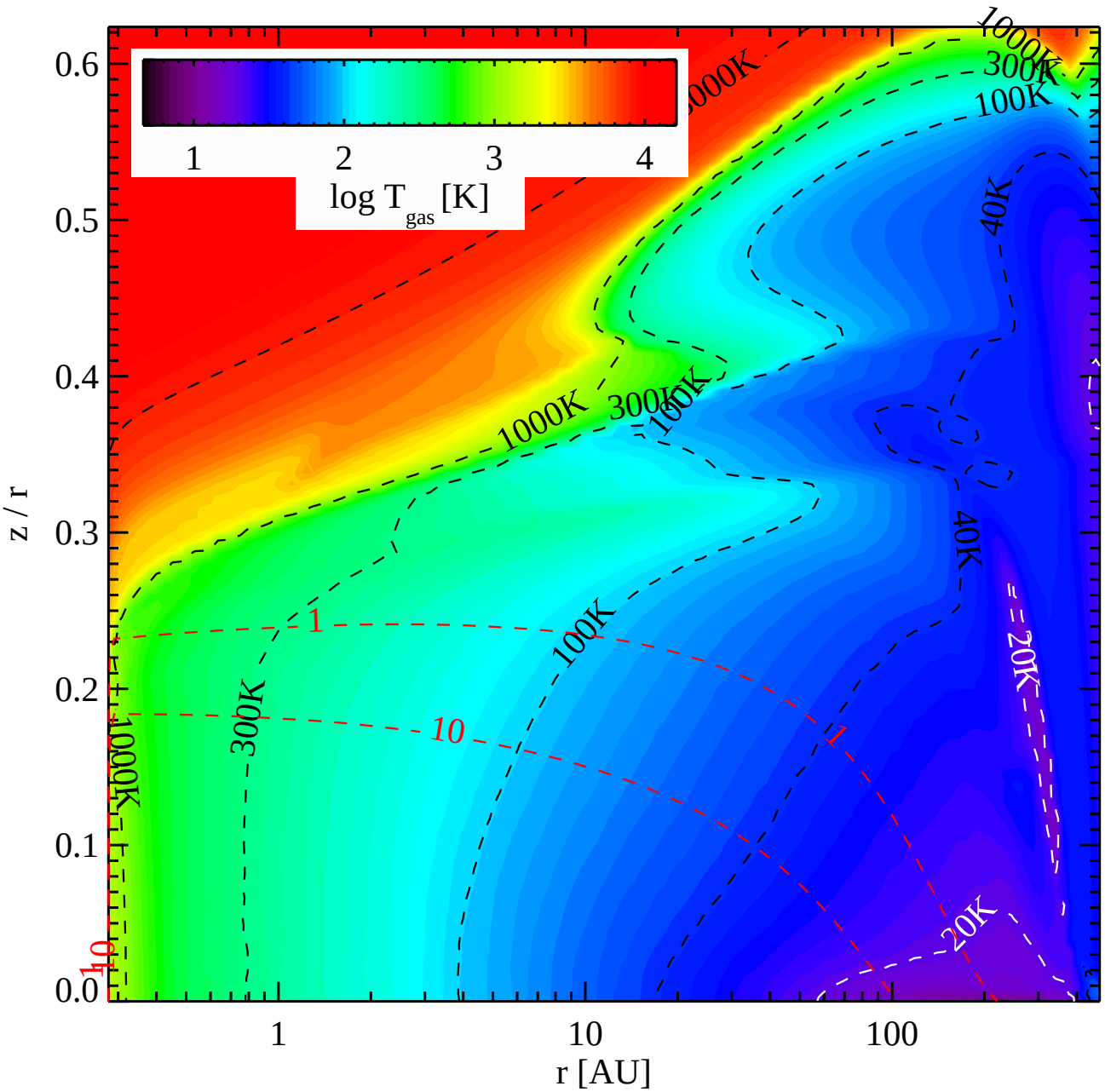

0.1
H/r
1
10
100
r [AU]
as prescribed in model
from midplane dust temperature
from surface gas temperature

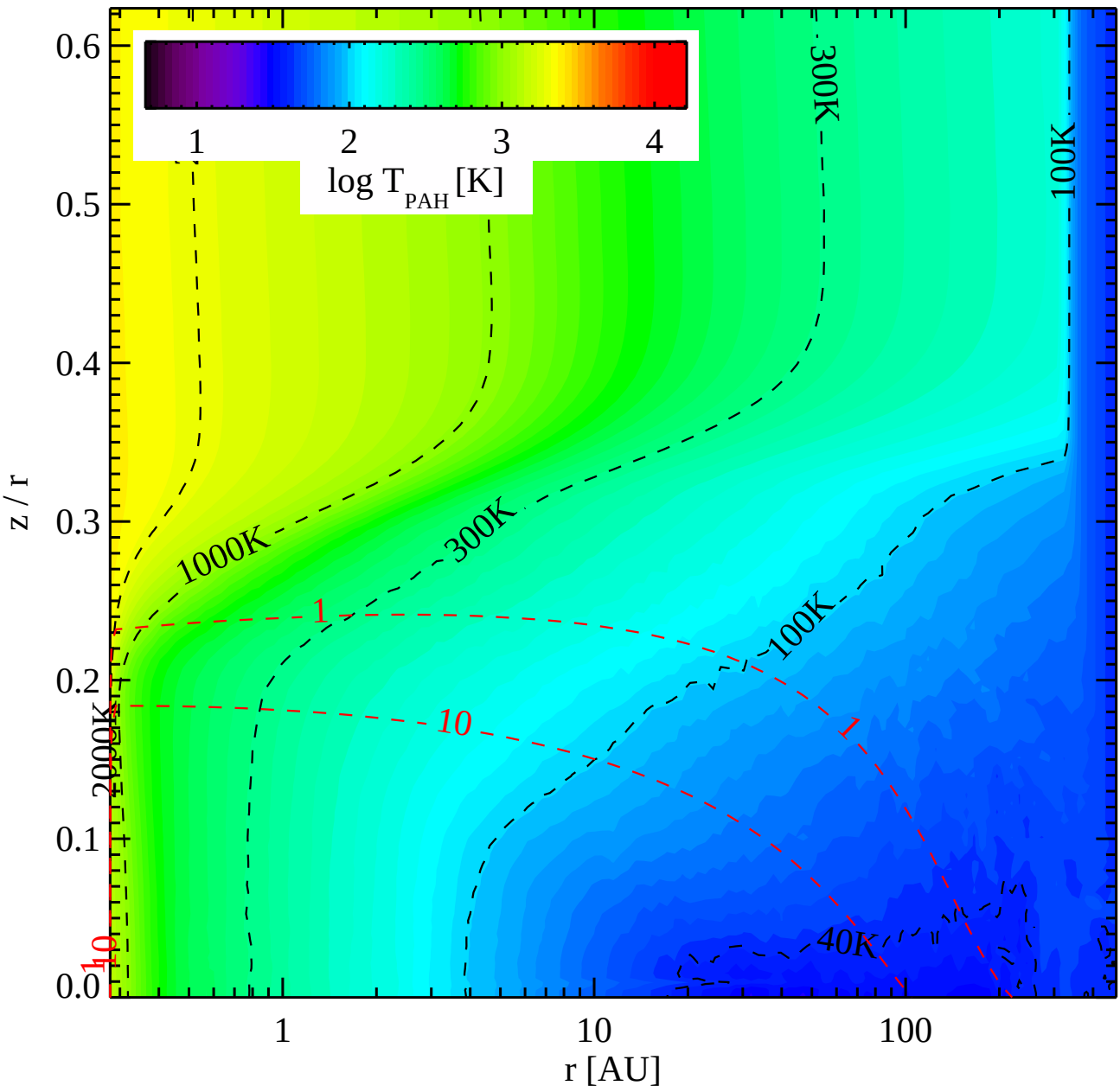

0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
0
2
4
6
8
10
log χ
AV=1
AV=10
1
10
100
r [AU]

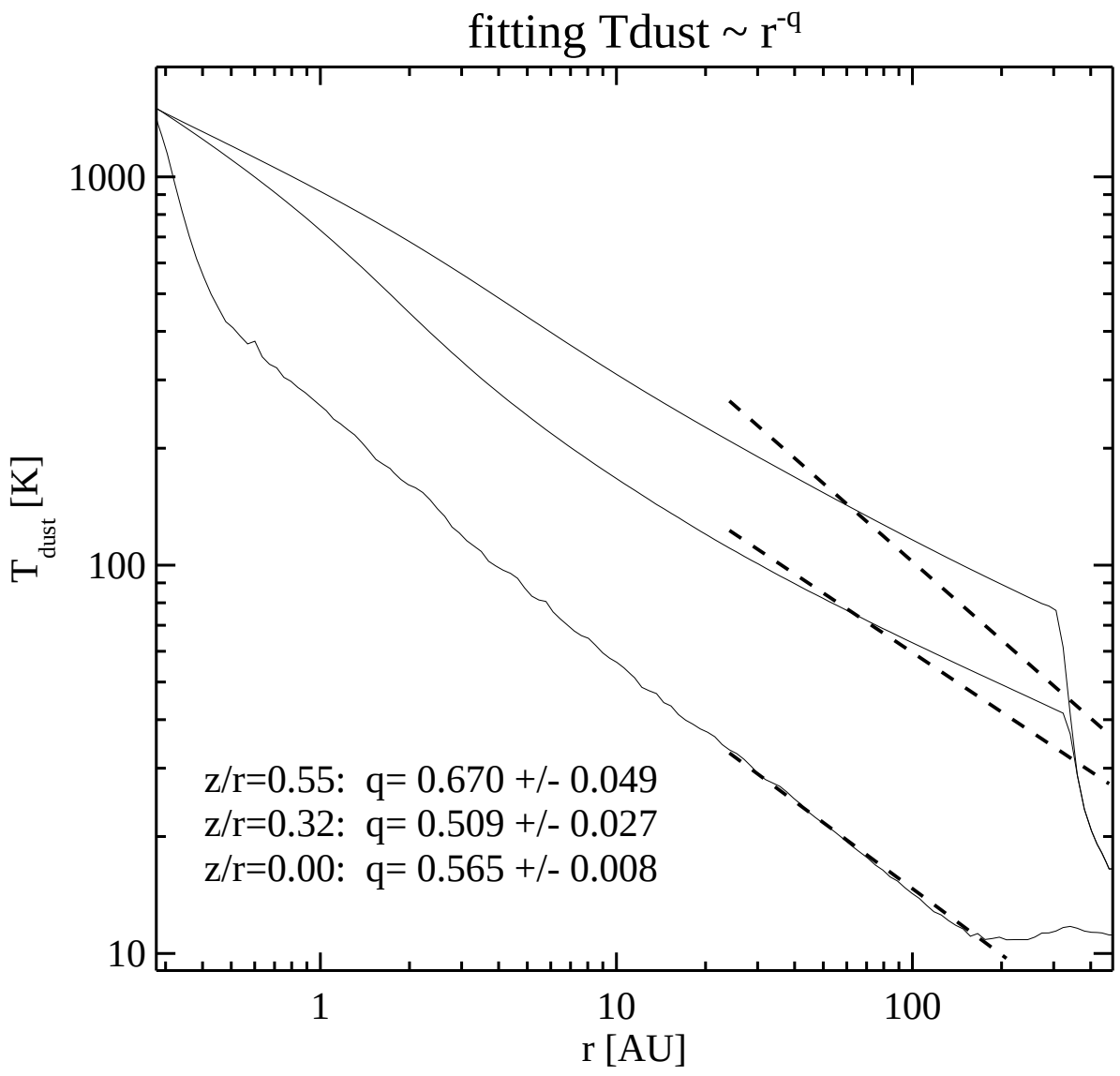

4
6
8
10
12
14
log n<H> [cm-3]
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]
τ1keV=10
AV=10
τ10keV=10
AV=10

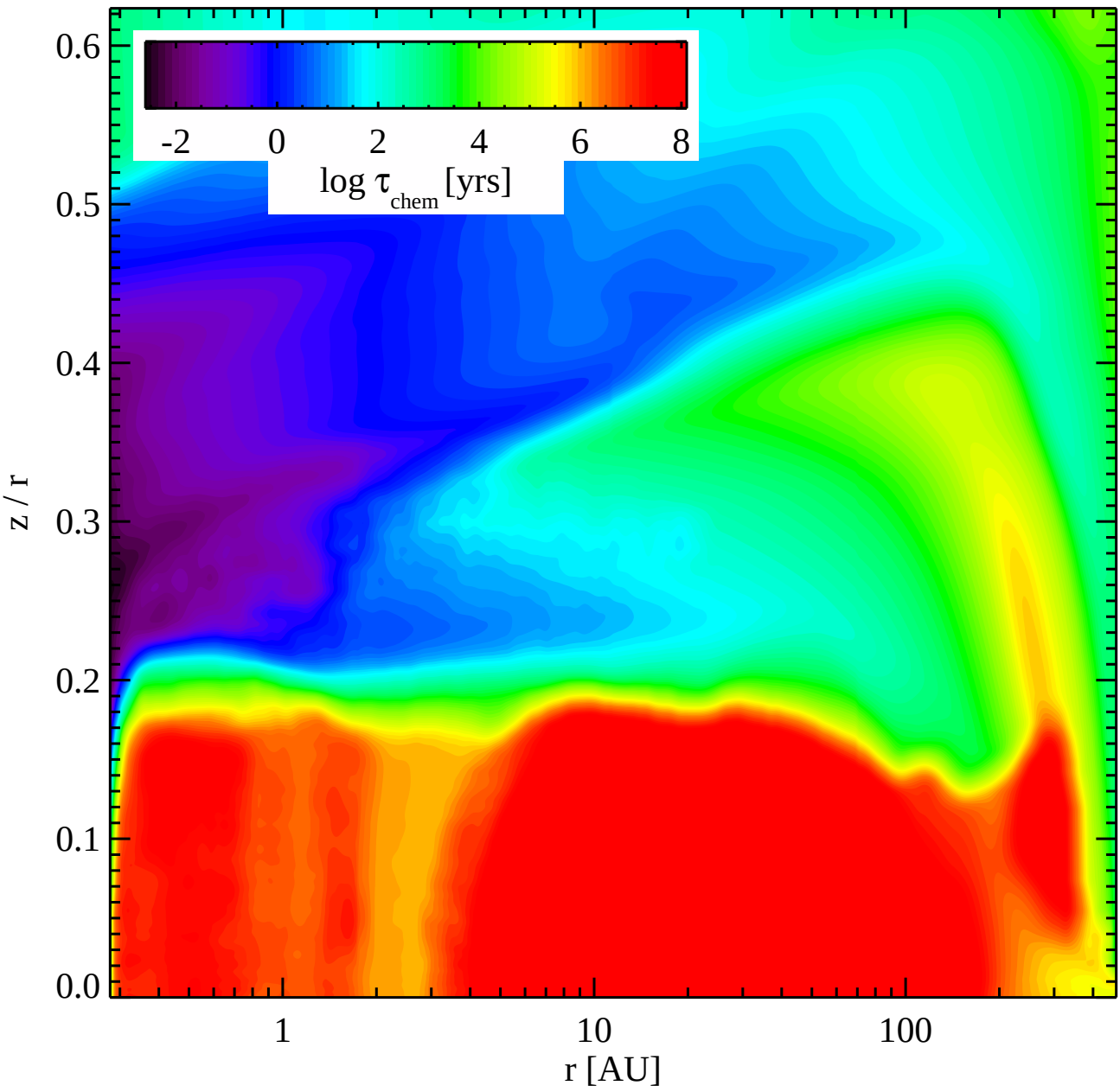

-20 -18 -16 -14 -12 -10 -8
log ζX[1/s]
ζX=ζCR
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

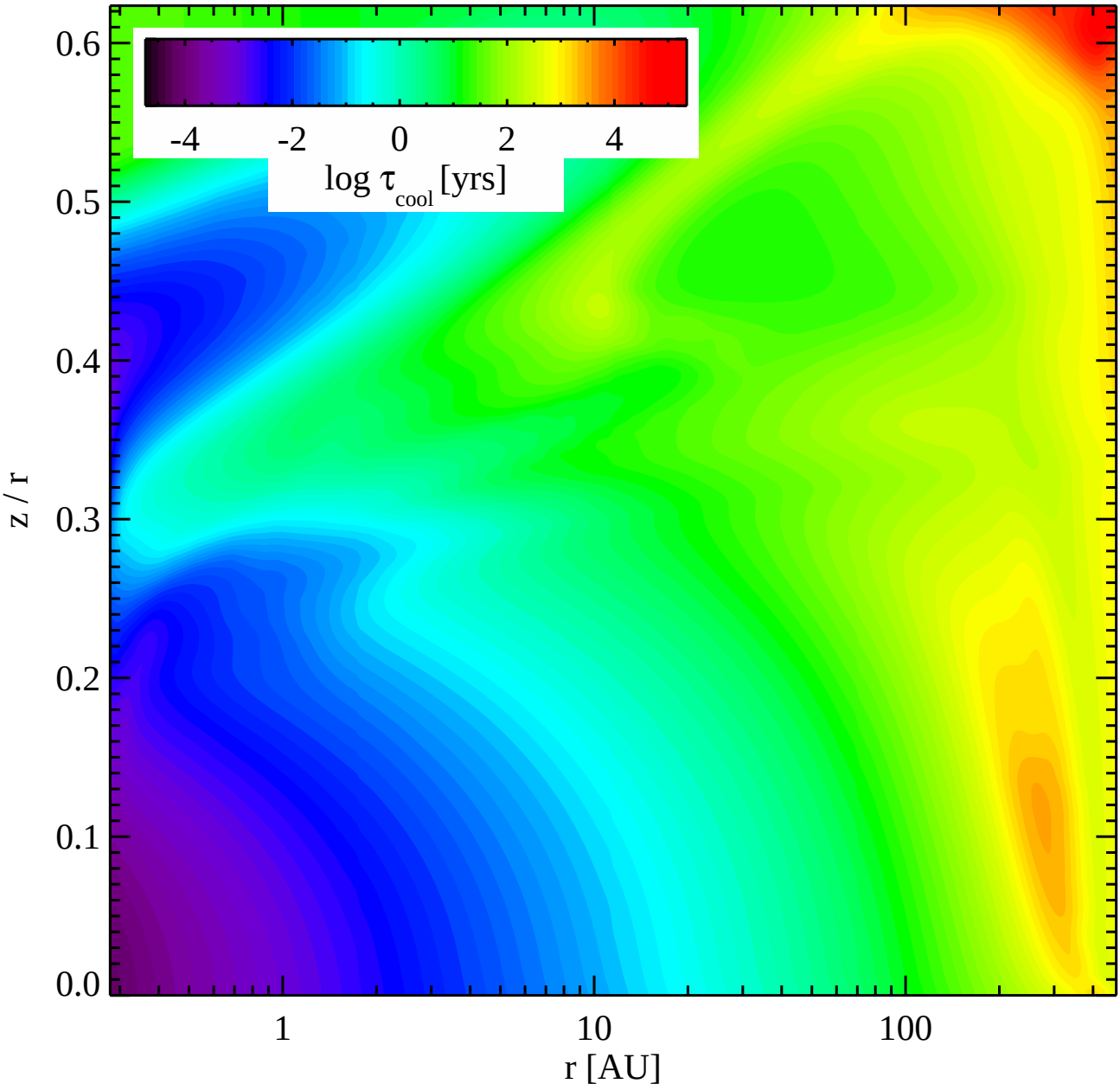

log T dust [K]
1
2
3
4
z / r
r [AU]
0.0
0.1
0.2
0.3
0.4
0.5
0.6
1
10
100
1400K
700K
300K
100K
40K
20K
1
10

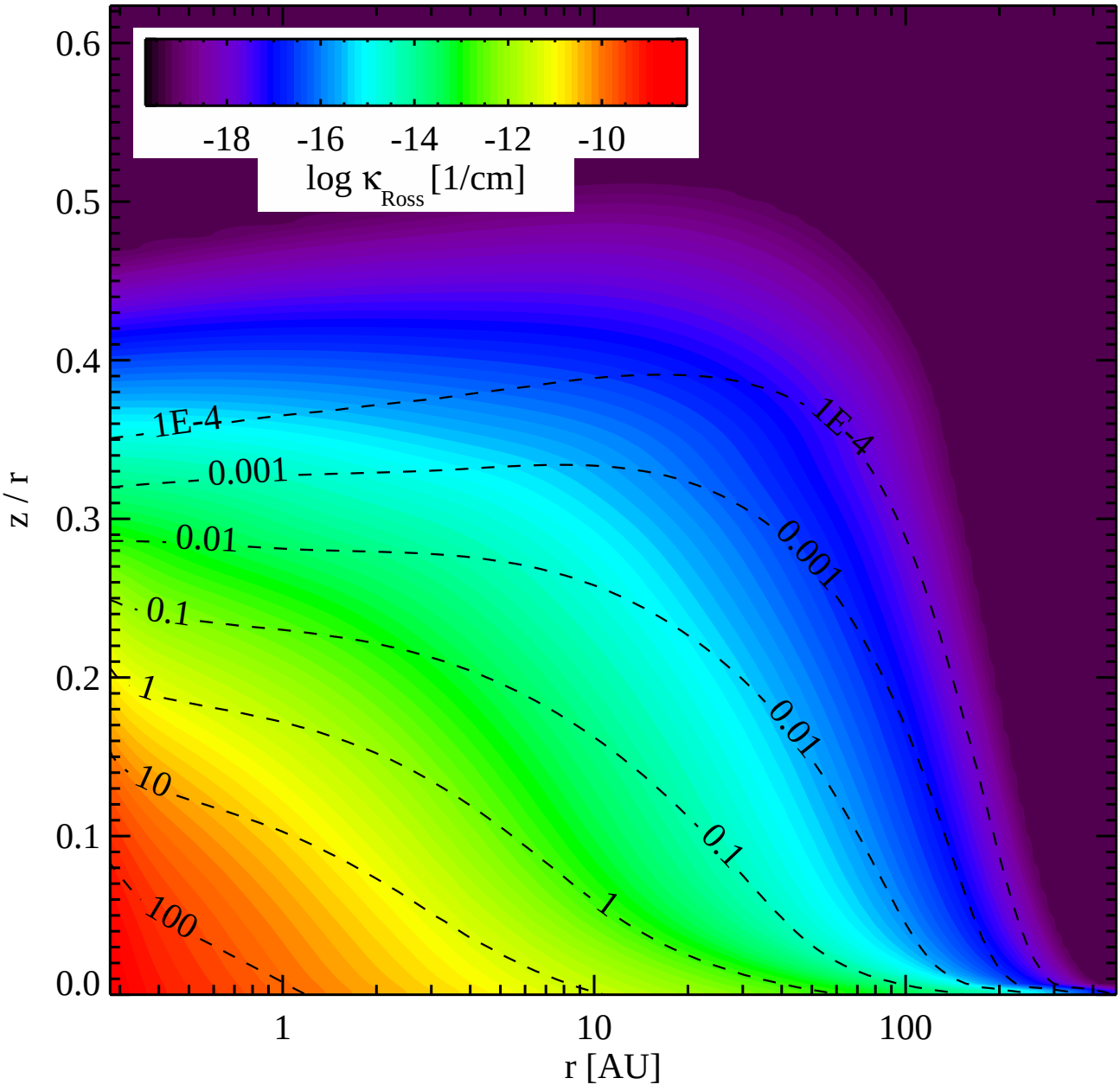

log T gas [K]
1
2
3
4
z / r
r [AU]
0.0
0.1
0.2
0.3
0.4
0.5
0.6
1
10
100
1000K
300K
100K
40K
20K
1
10
1

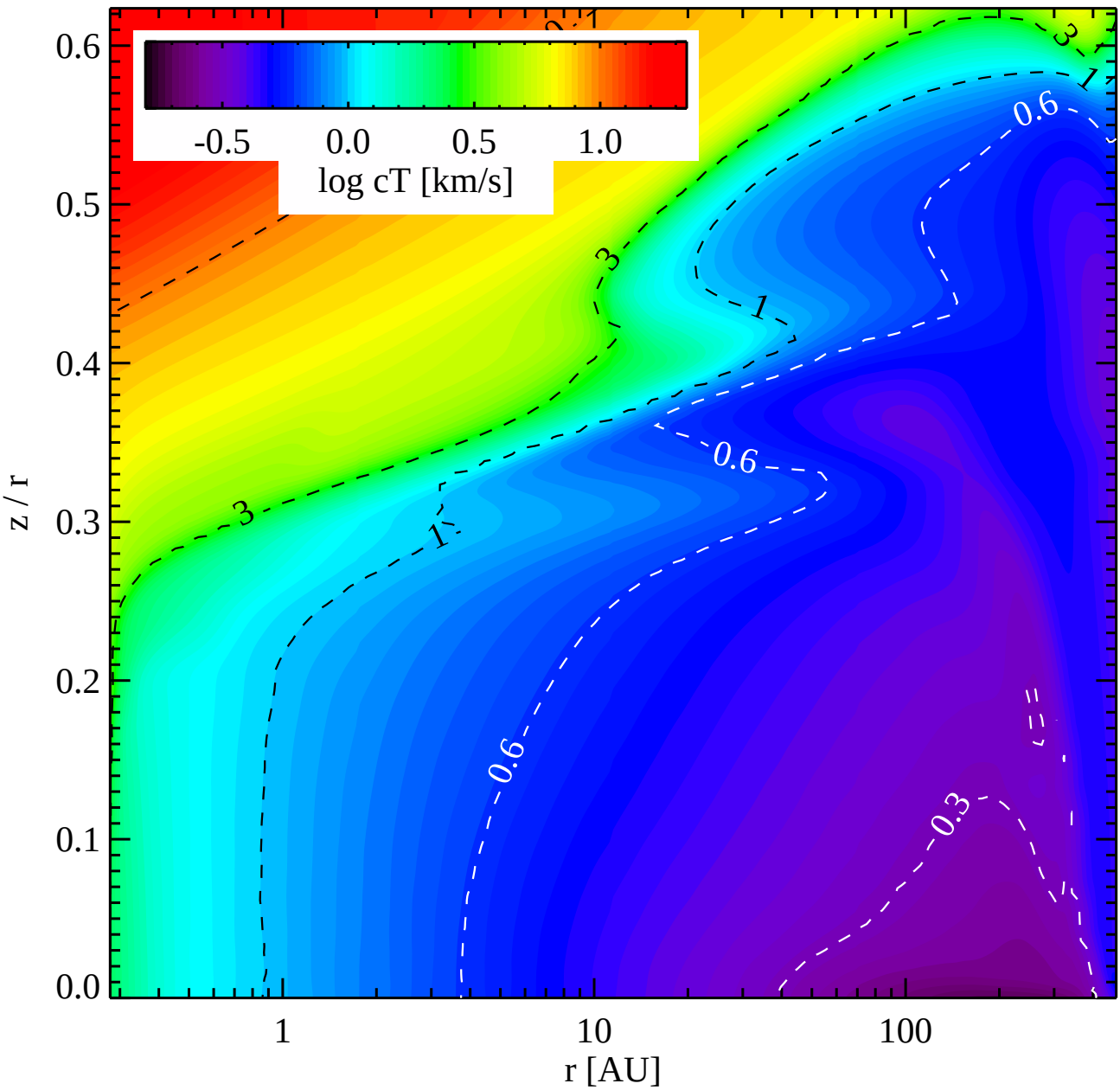

log T_PAH [K]
1
2
3
4
z / r
r [AU]
0.0
0.1
0.2
0.3
0.4
0.5
0.6
1
10
100
1000K
300K
200K
100K
40K
1
10
1
10

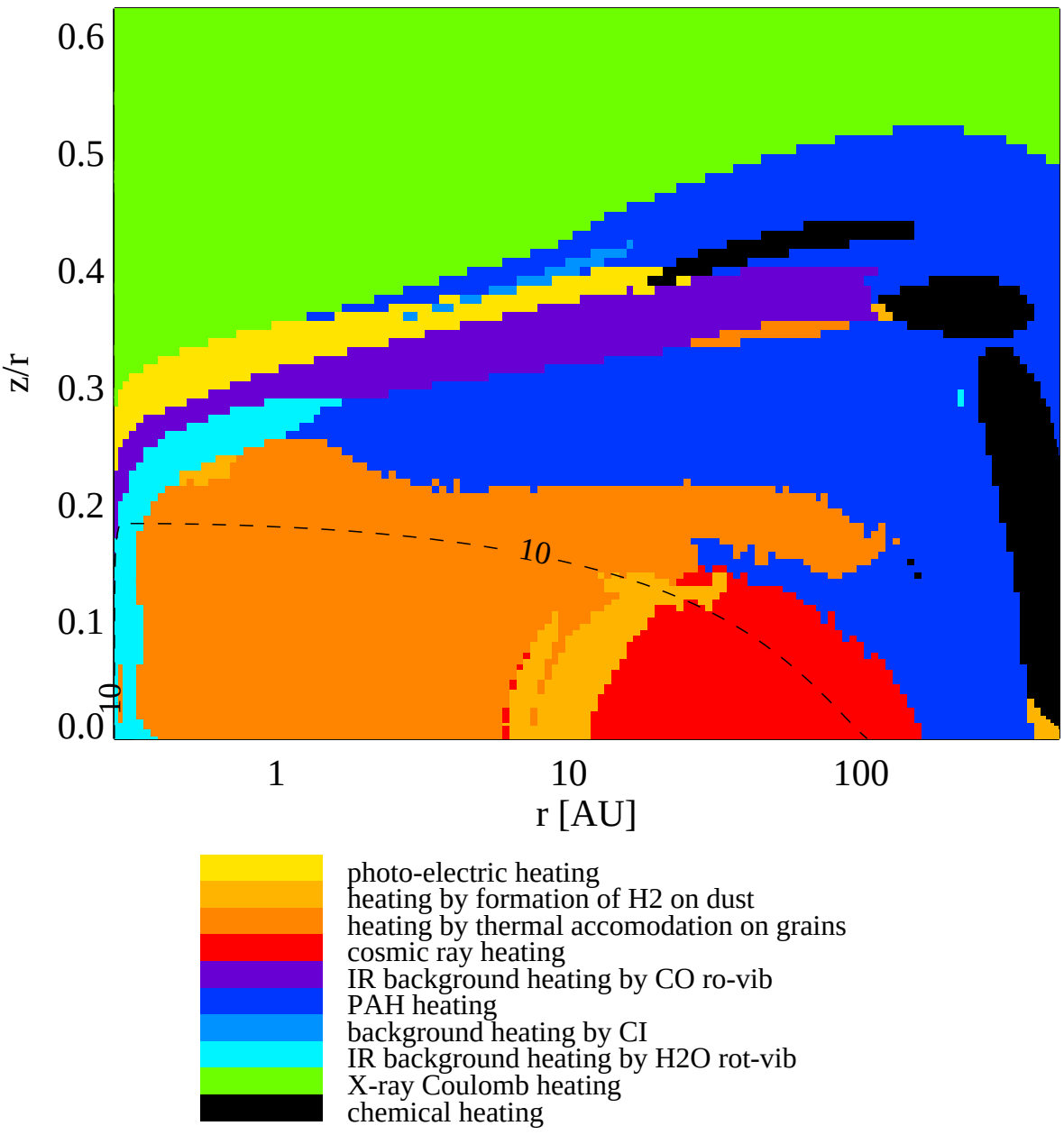

fitting Tdust ~ r^-q
1000
100
10
T dust [K]
1
10
100
r [AU]
z/r=0.55: q= 0.670 +/- 0.049
z/r=0.32: q= 0.509 +/- 0.027
z/r=0.00: q= 0.565 +/- 0.008

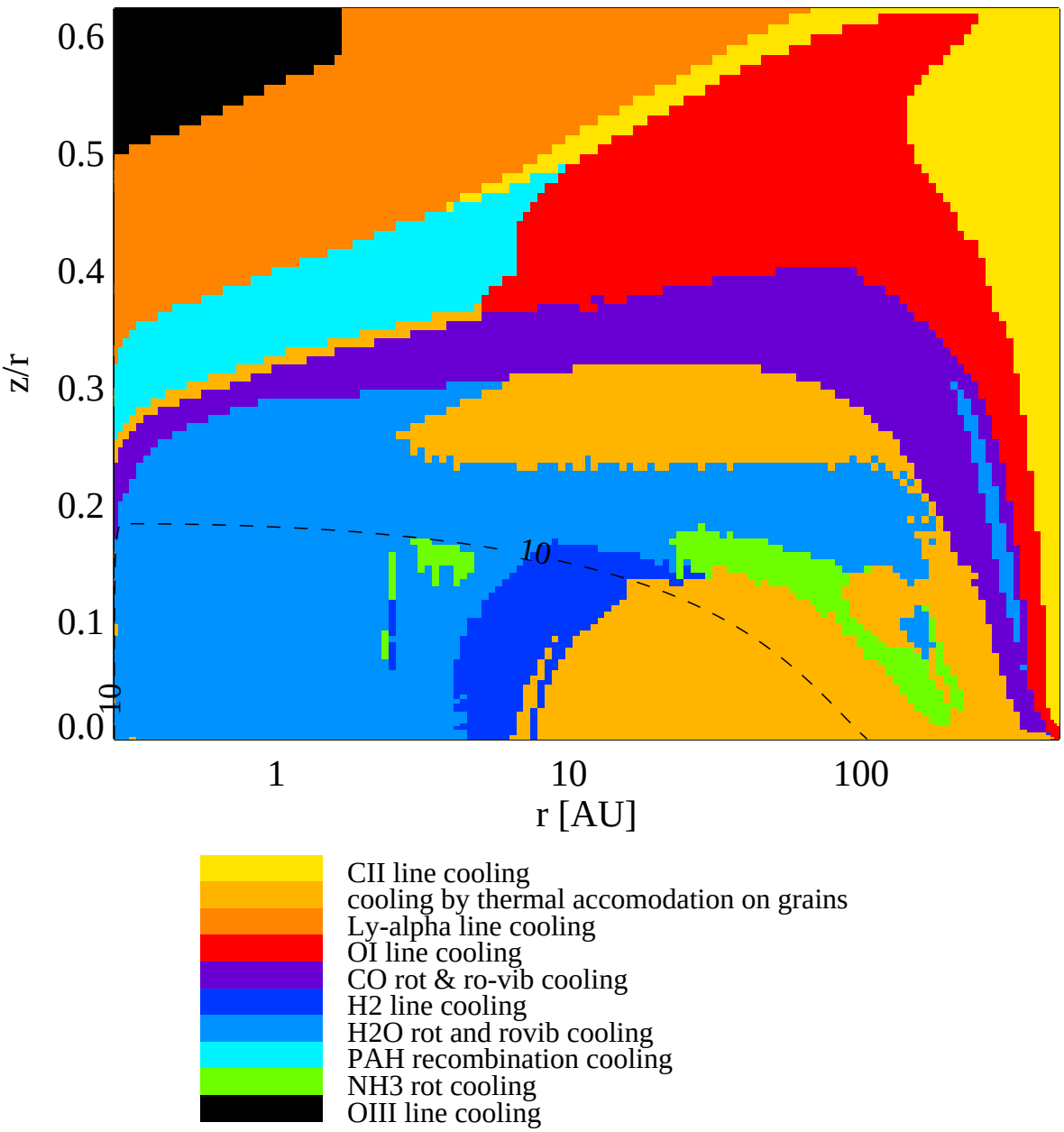

-2
0
2
4
6
8
log τ chem [yrs]
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

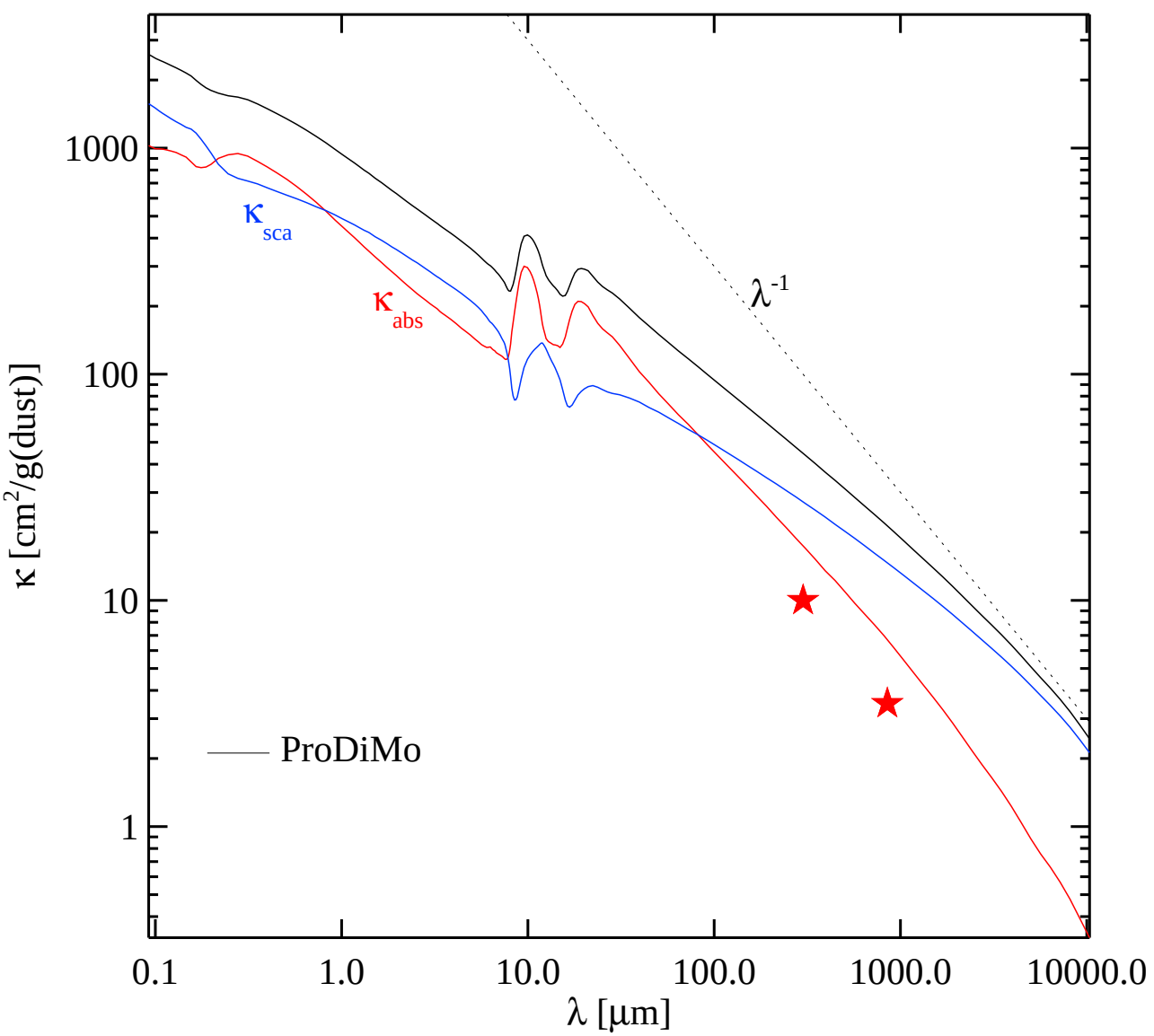

-4
-2
0
2
4
log τ cool [yrs]
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

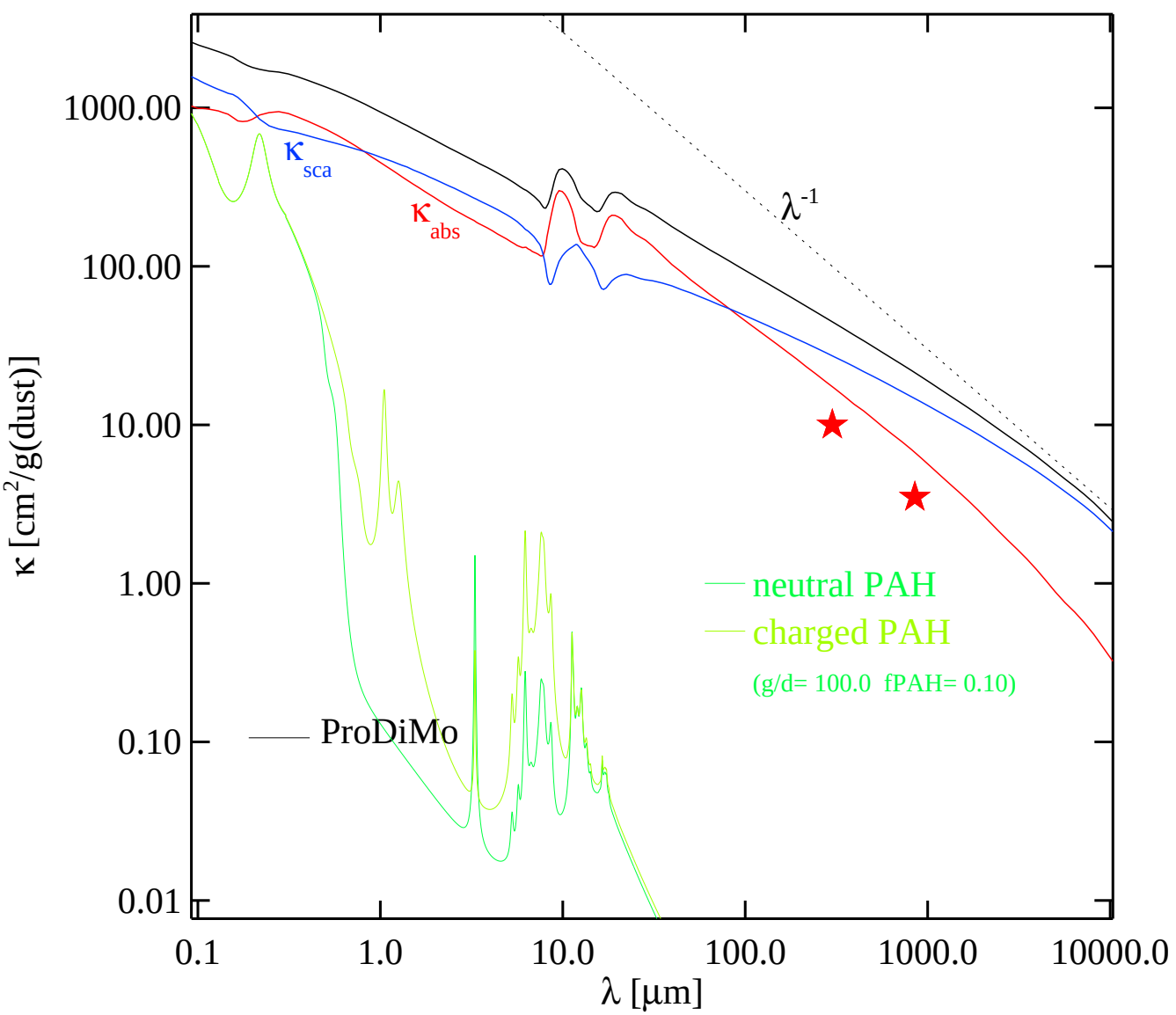

-18
-16
-14
-12
-10
log κ Ross [1/cm]
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1E-4
0.001
0.01
0.1
1
10
100
1
10
100
r [AU]

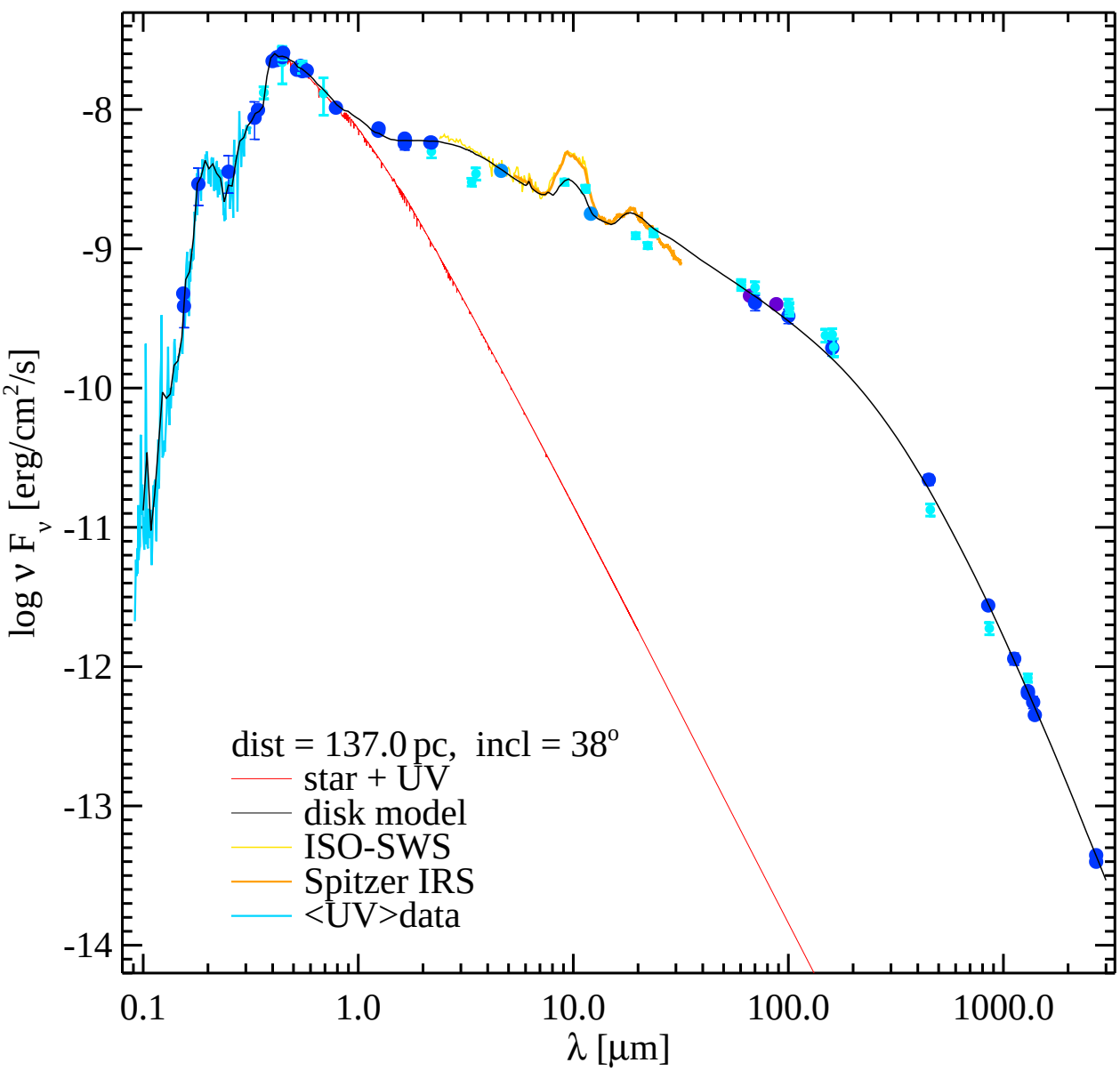

-0.5
0.0
0.5
1.0
log cT [km/s]
3
1
0.6
0.3
z / r
0.0
0.1
0.2
0.3
0.4
0.5
0.6
1
10
100
r [AU]

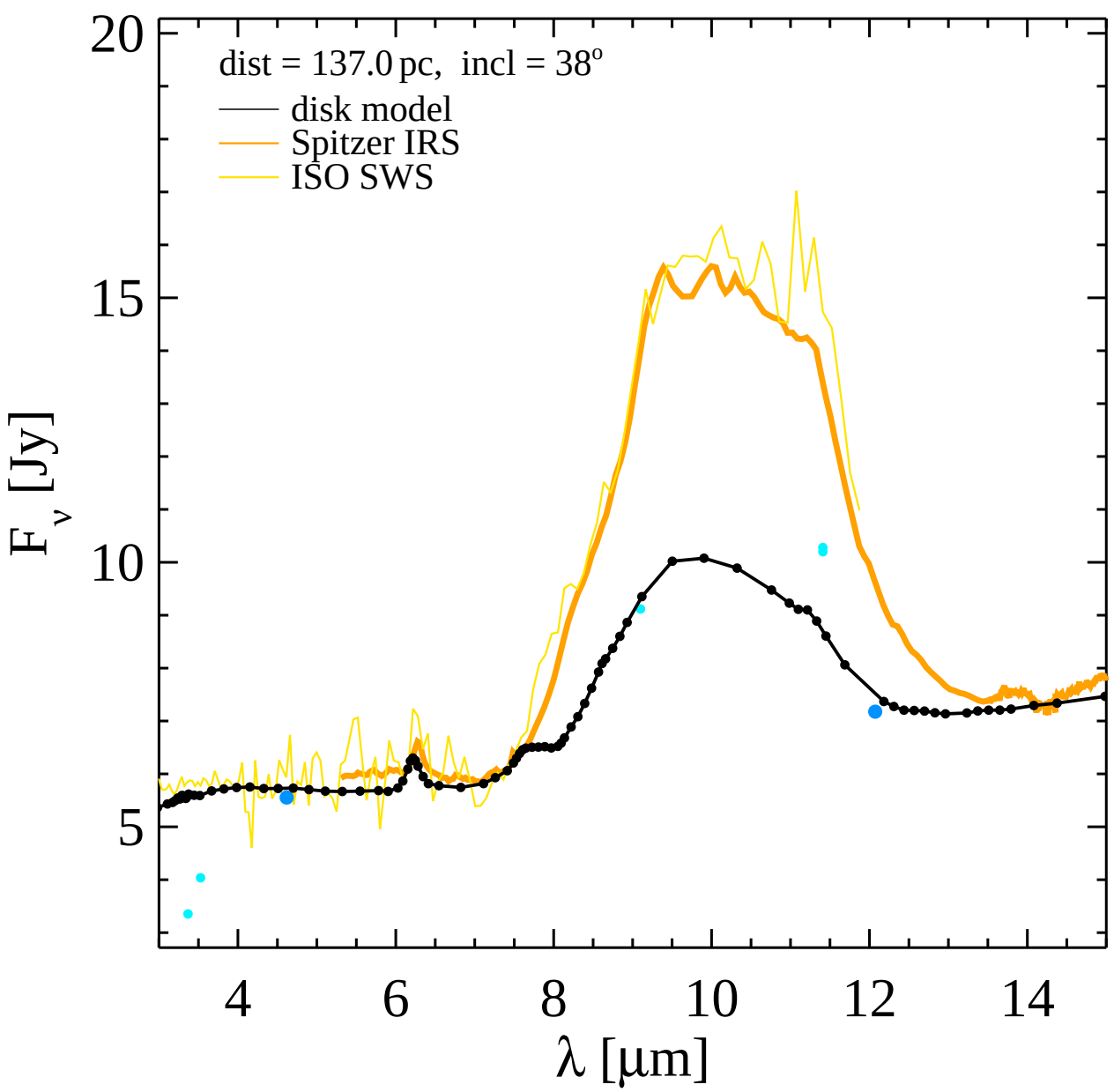

0.6
0.5
0.4
0.3
0.2
0.1
0.0
z/r
10
10
1
10
100
r [AU]
photo-electric heating
heating by formation of H2 on dust
heating by thermal accomodation on grains
cosmic ray heating
IR background heating by CO ro-vib
PAH heating
background heating by CI
IR background heating by H2O rot-vib
X-ray Coulomb heating
chemical heating

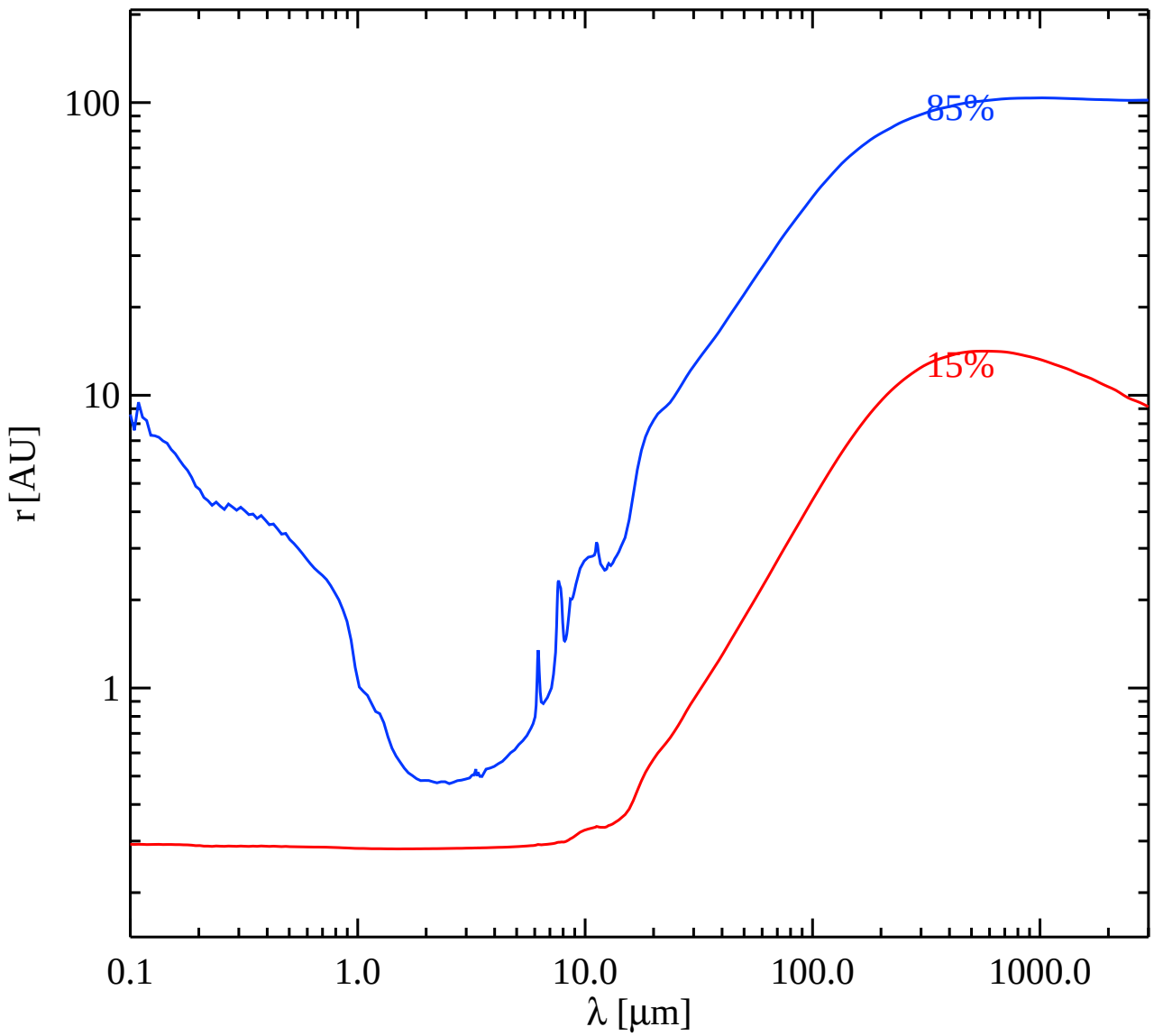

0.6
0.5
0.4
0.3
0.2
0.1
0.0
z/r
10
10
1
10
100
r [AU]
CII line cooling
cooling by thermal accomodation on grains
Ly-alpha line cooling
OI line cooling
CO rot & ro-vib cooling
H2 line cooling
H2O rot and rovib cooling
PAH recombination cooling
NH3 rot cooling
OIII line cooling

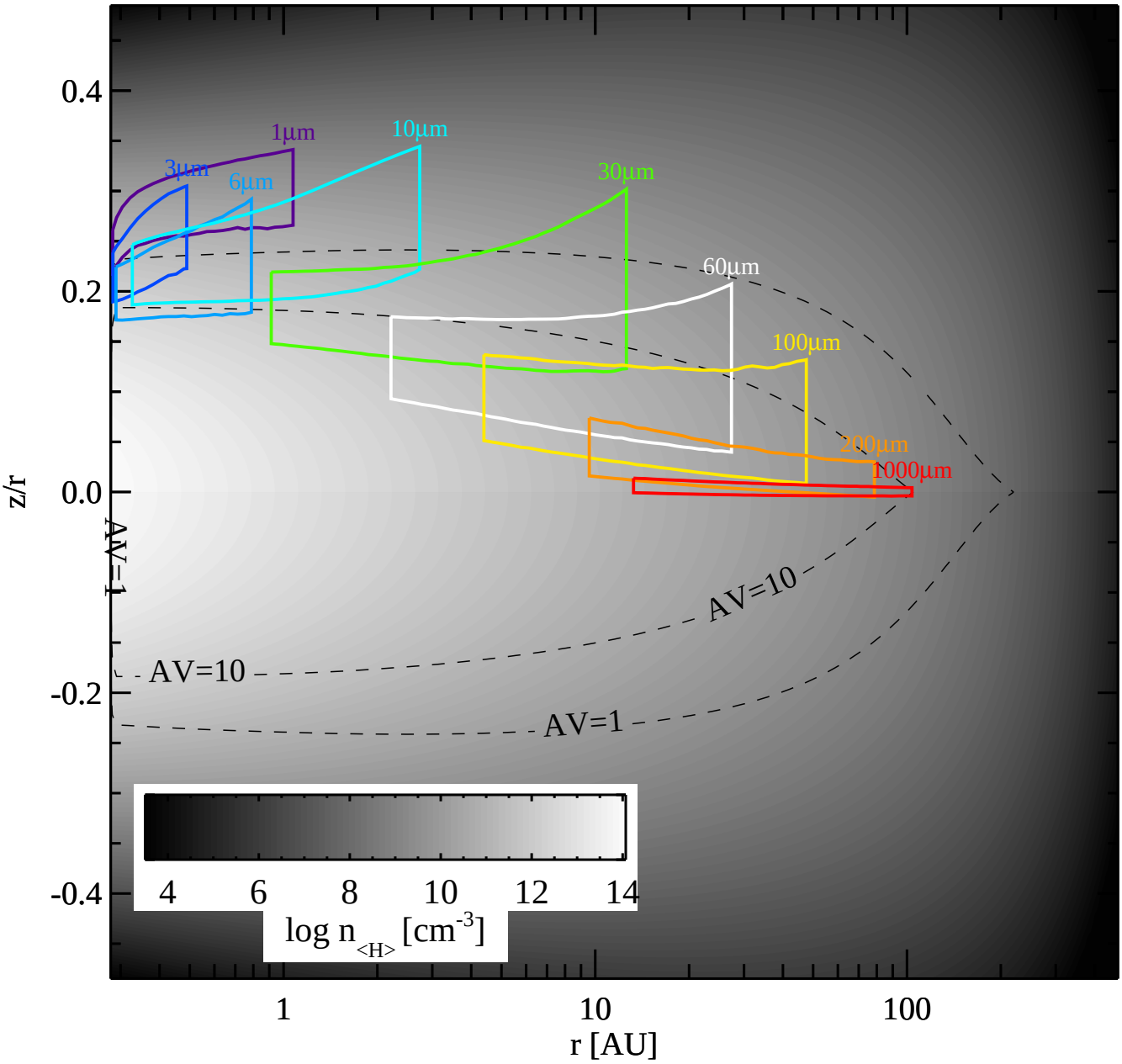

1000
100
10
1
κ [cm²/g(dust)]
κsca
κabs
λ-1
ProDiMo
0.1
1.0
10.0
100.0
1000.0
10000.0
λ [μm]

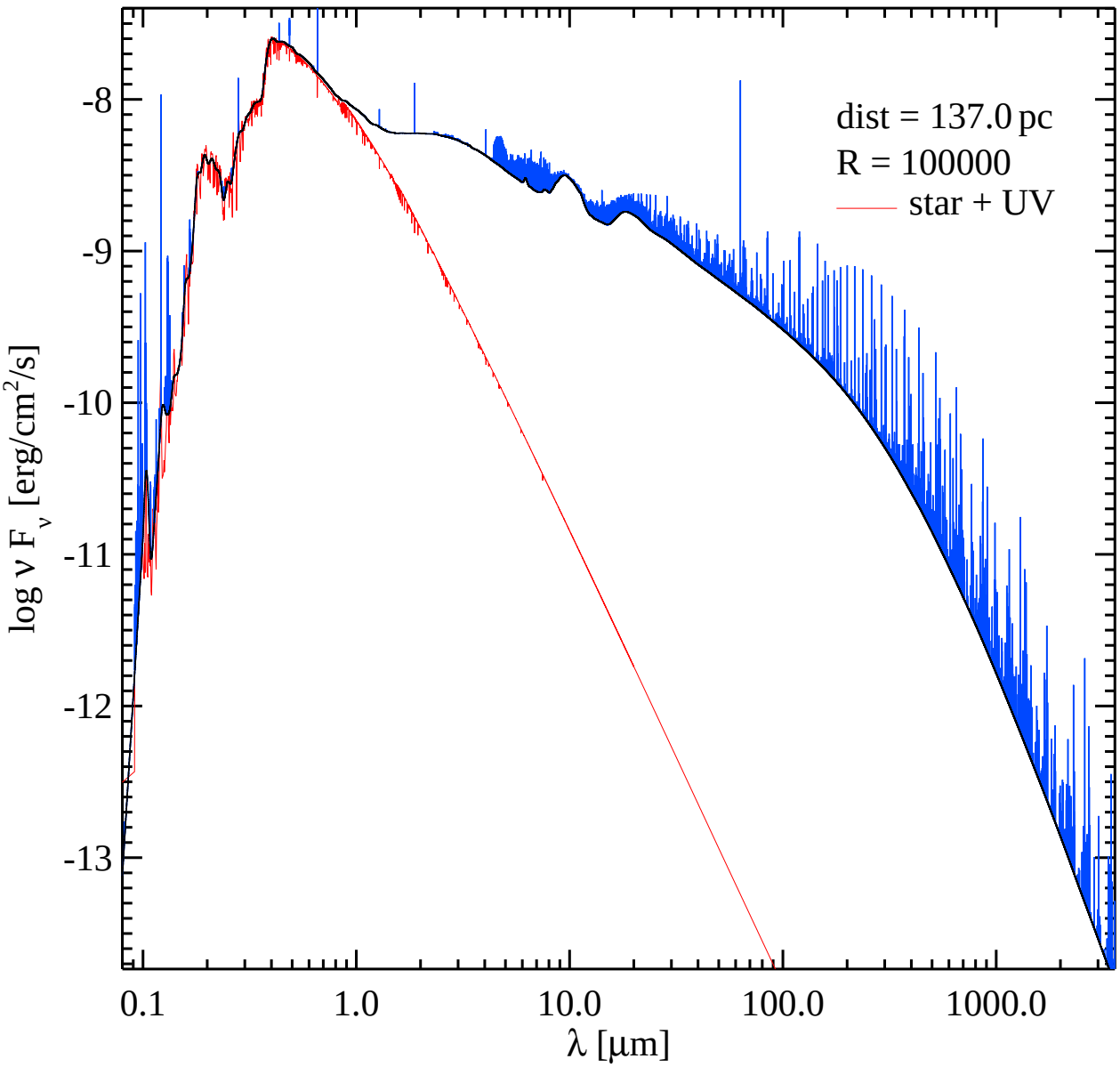

1000.00
100.00
10.00
1.00
0.10
0.01
κ [cm²/g(dust)]
0.1
1.0
10.0
100.0
1000.0
10000.0
λ [μm]
κ sca
κ abs
λ-1
neutral PAH
charged PAH
(g/d= 100.0 fPAH= 0.10)
ProDiMo

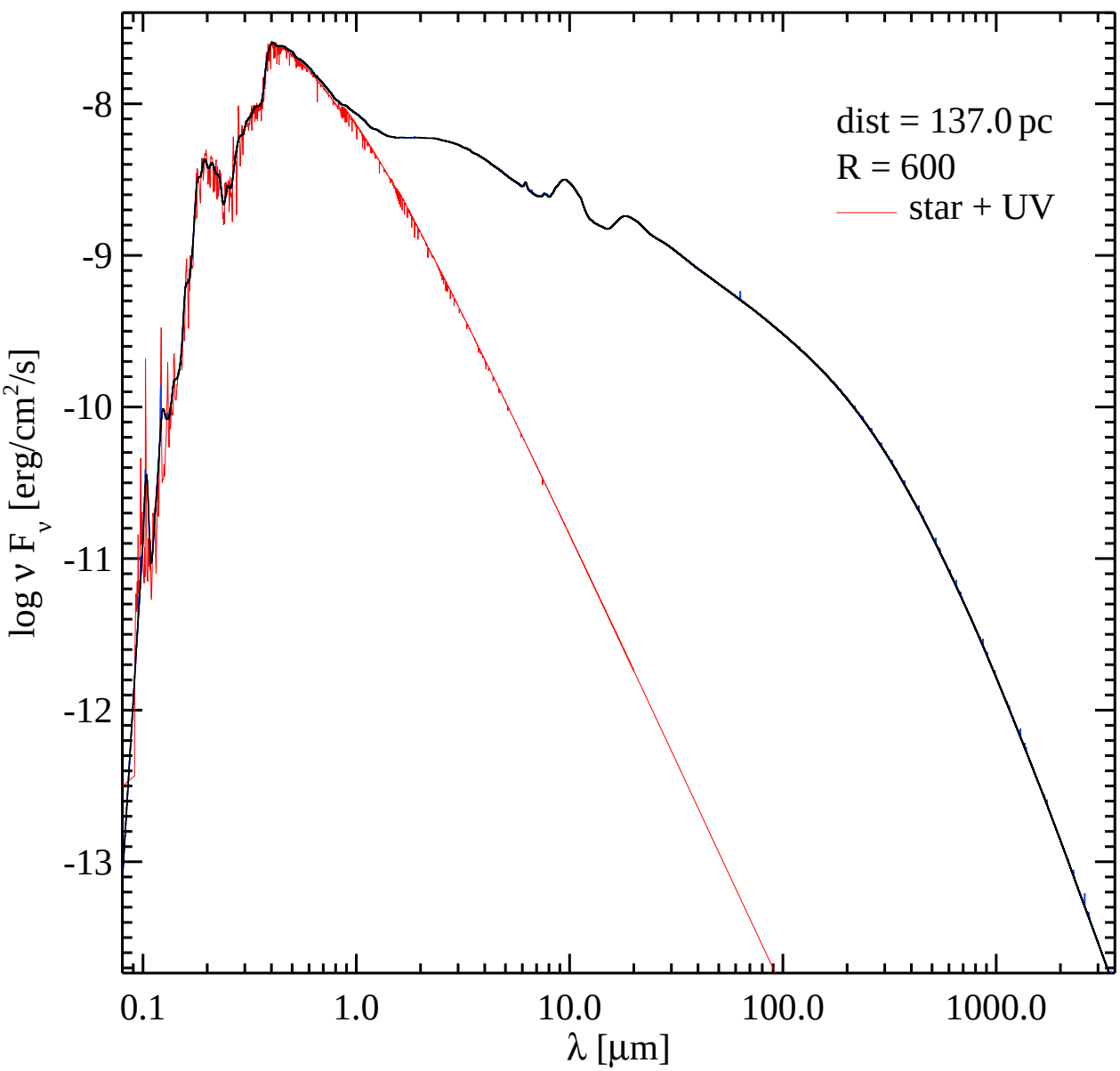

-8
-9
-10
-11
-12
-13
-14
log ν F_ν [erg/cm²/s]
0.1
1.0
10.0
100.0
1000.0
λ [μm]
dist = 137.0 pc, incl = 38°
star + UV
disk model
ISO-SWS
Spitzer IRS
<UV>data

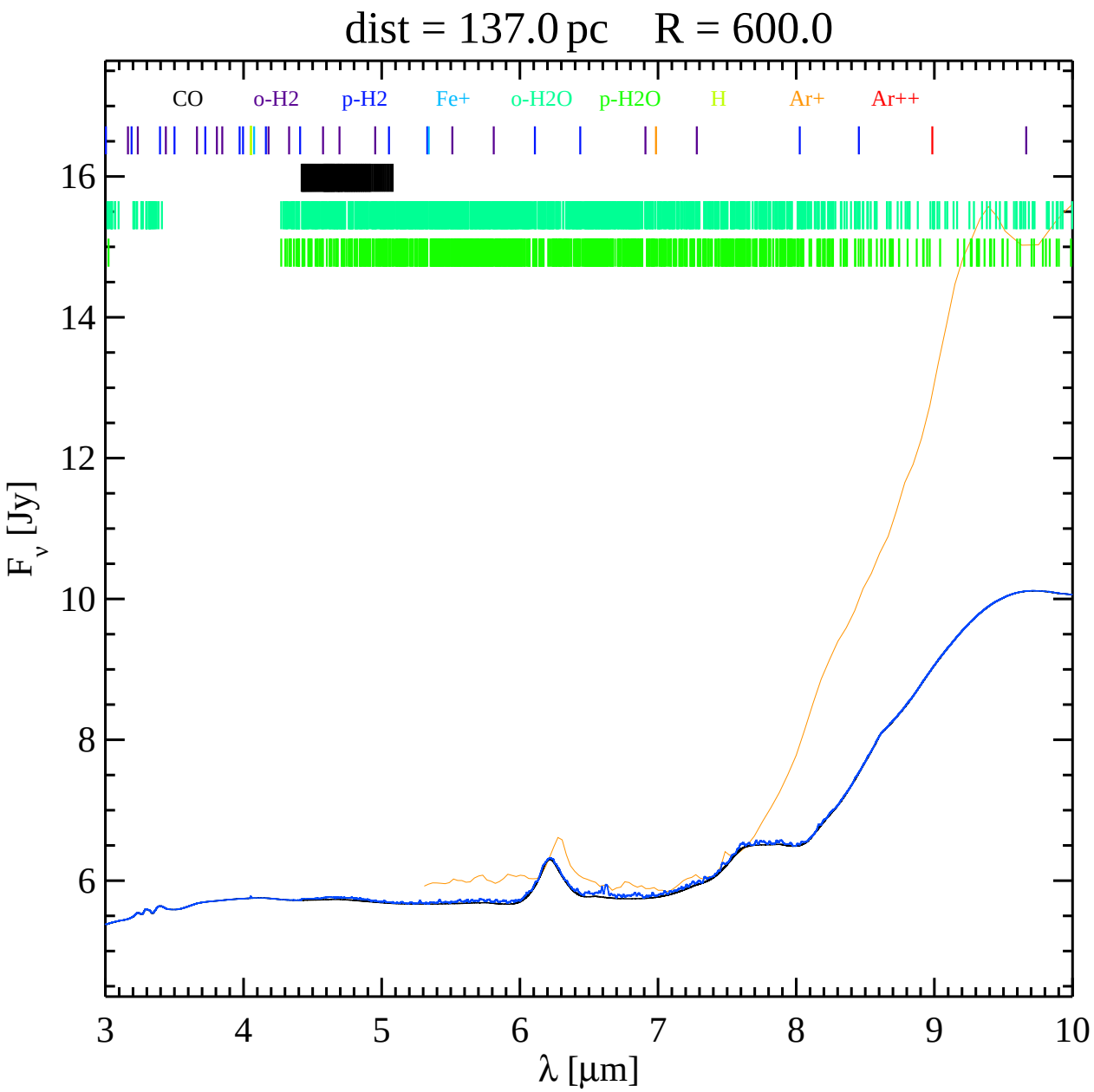

dist = 137.0 pc, incl = 38°
disk model
Spitzer IRS
ISO SWS
20
15
10
5
F_ν [Jy]
4
6
8
10
12
14
λ [μm]

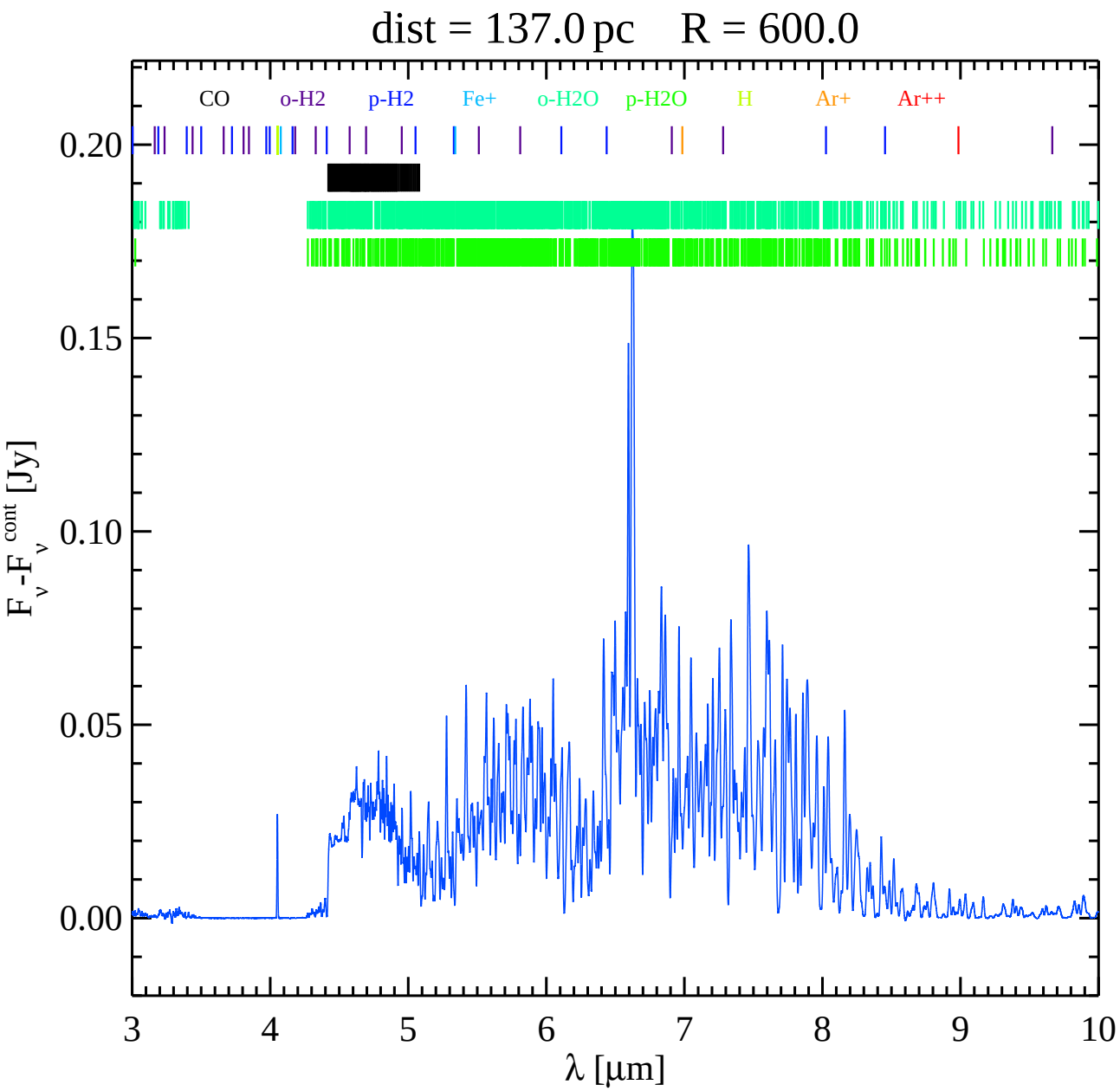

100
10
1
r [AU]
0.1
1.0
10.0
100.0
1000.0
λ [μm]
85%
15%

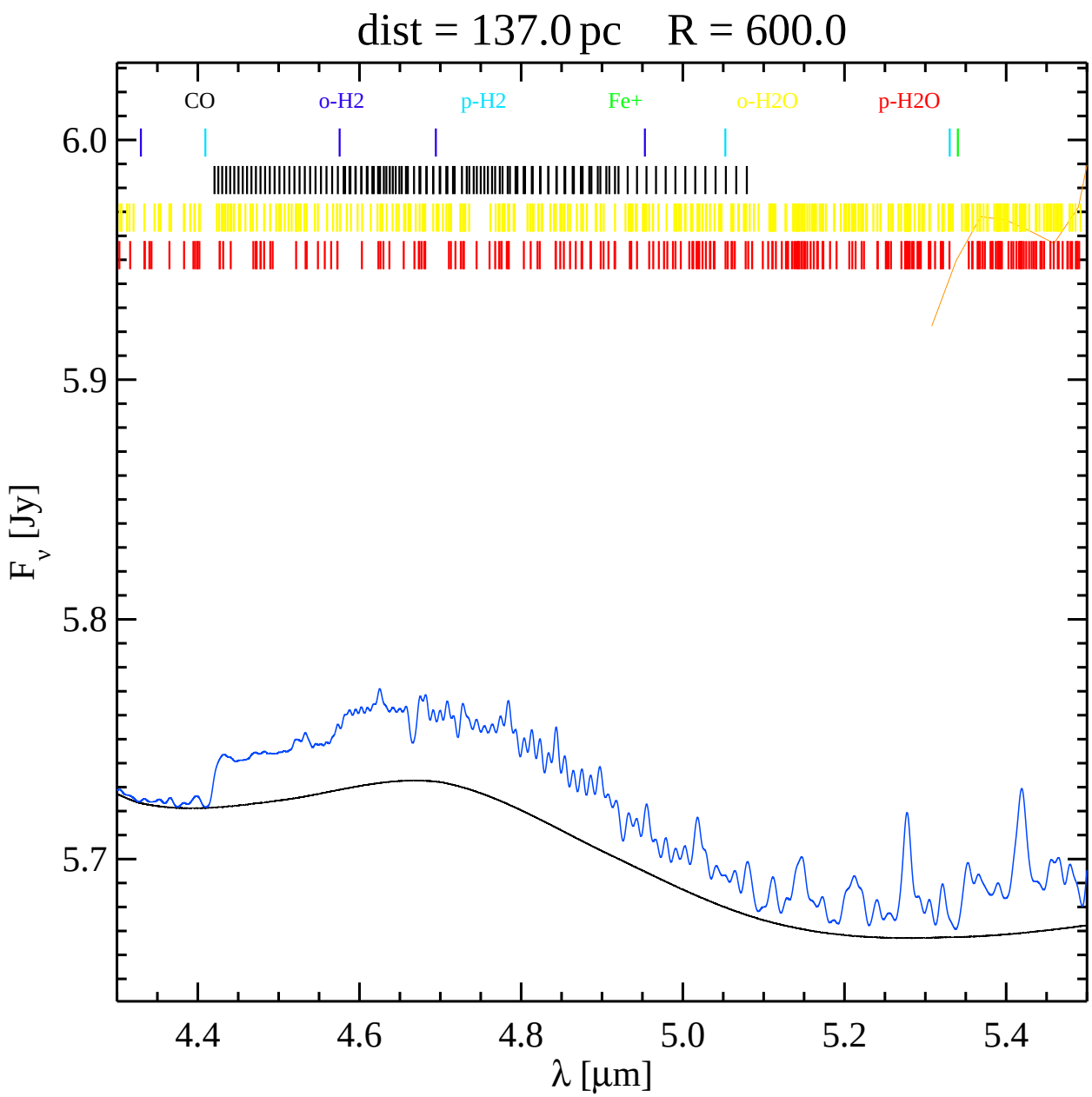

0.4
0.2
0.0
-0.2
-0.4
z/r
1µm
3µm
6µm
10µm
30µm
60µm
100µm
200µm
1000µm
AV=1
AV=10
AV=10
AV=1
4
6
8
10
12
14
log n<H> [cm-3]
1
10
100
r [AU]

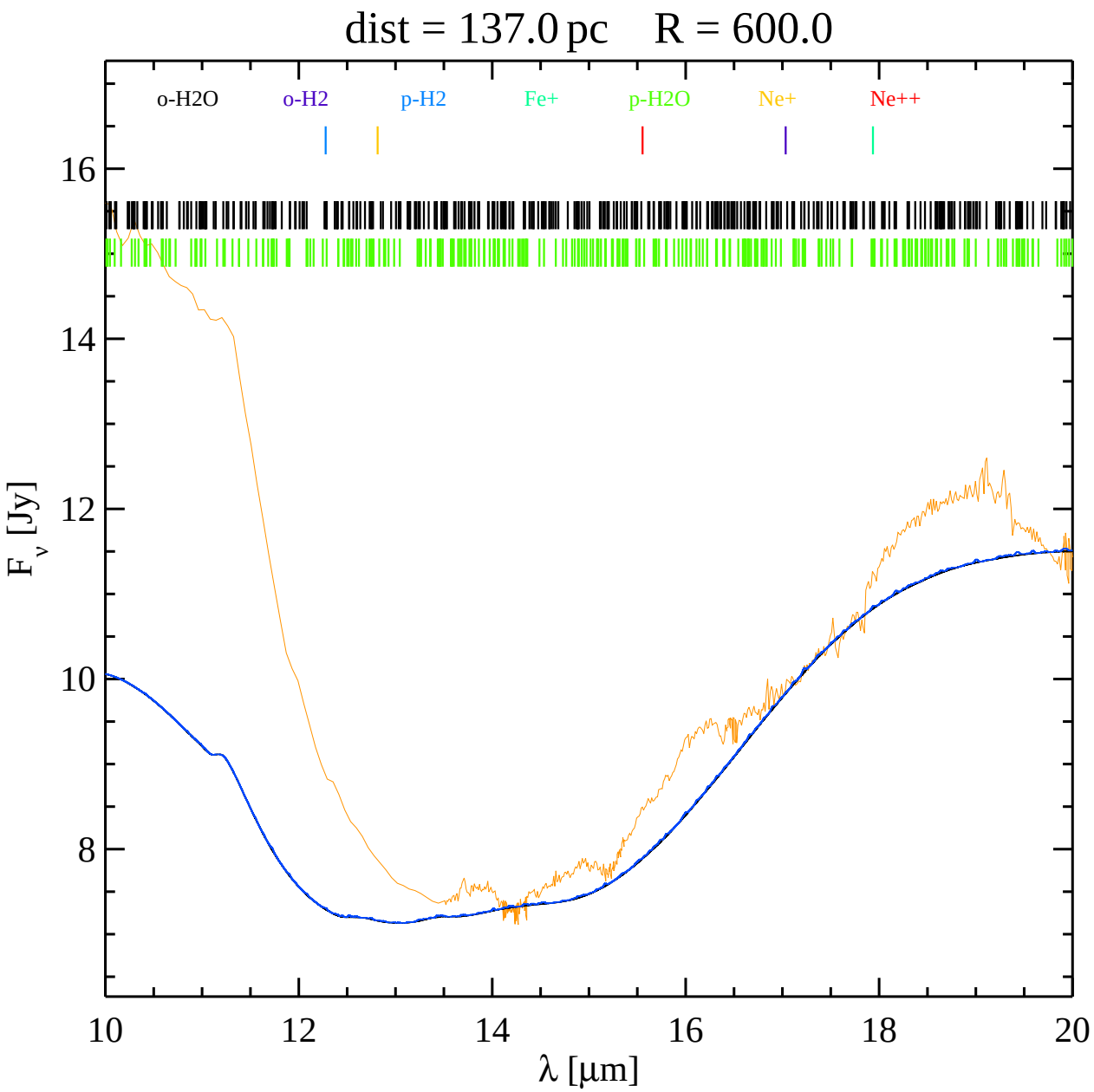

dist = 137.0 pc
R = 100000
star + UV
log ν F_ν [erg/cm²/s]
-8
-9
-10
-11
-12
-13
0.1
1.0
10.0
100.0
1000.0
λ [μm]

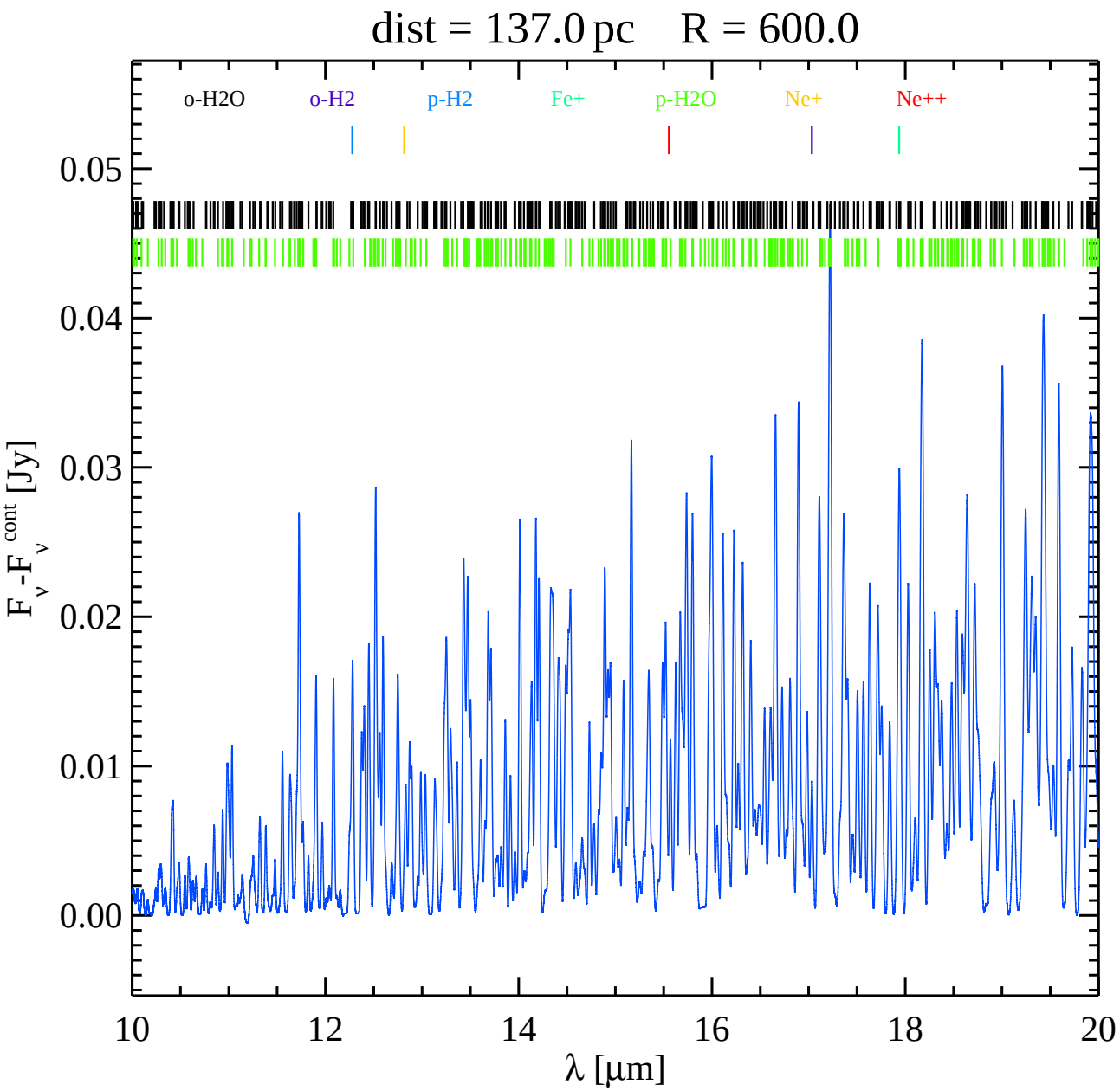

dist = 137.0 pc
R = 600
star + UV
-8
-9
-10
-11
-12
-13
log ν F_ν [erg/cm²/s]
0.1
1.0
10.0
100.0
1000.0
λ [μm]

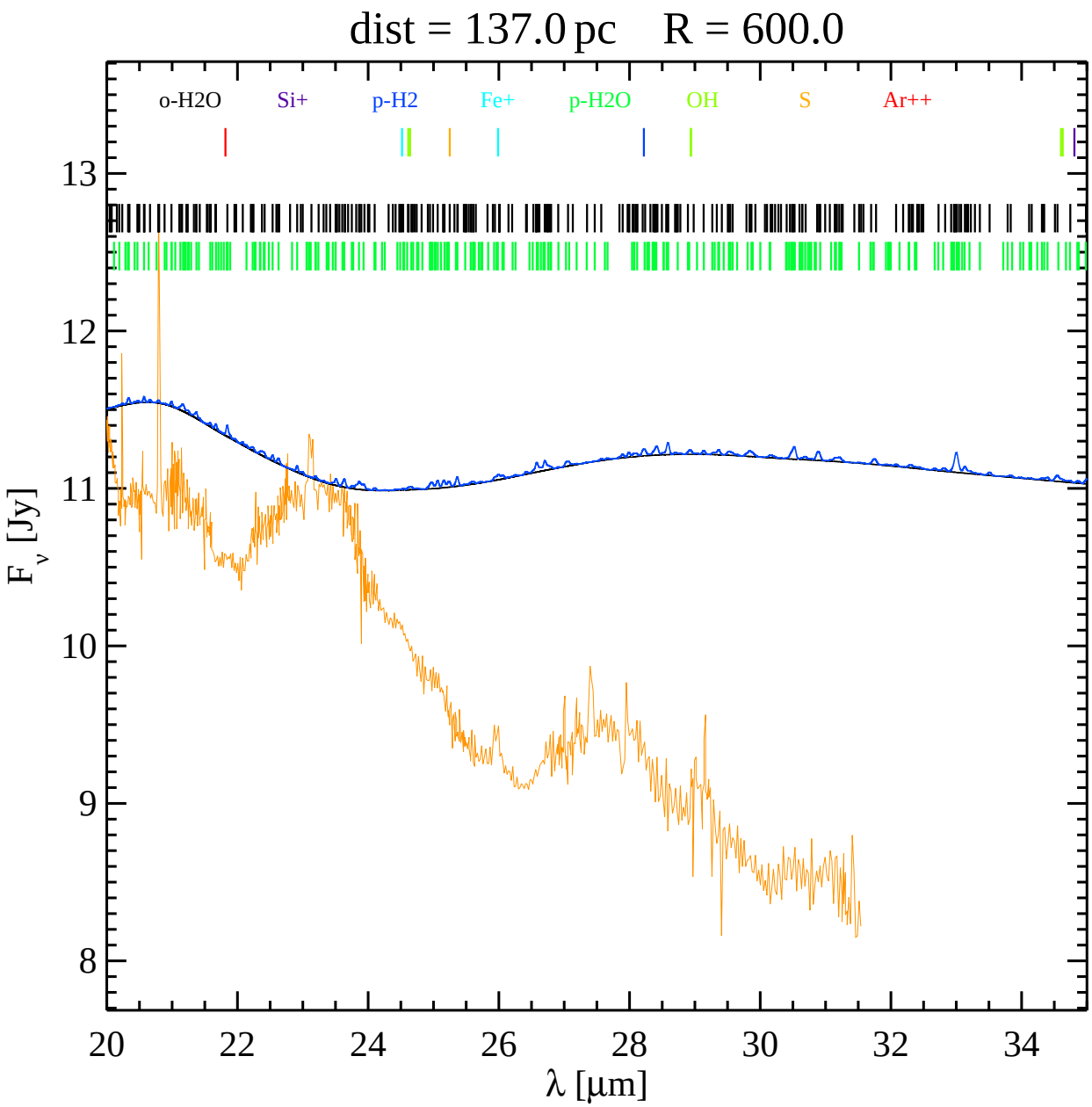

dist = 137.0 pc R = 600.0
CO
o-H2
p-H2
Fe+
o-H2O
p-H2O
H
Ar+
Ar++
16
14
12
10
8
6
F_ν [Jy]
3
4
5
6
7
8
9
10
λ [μm]

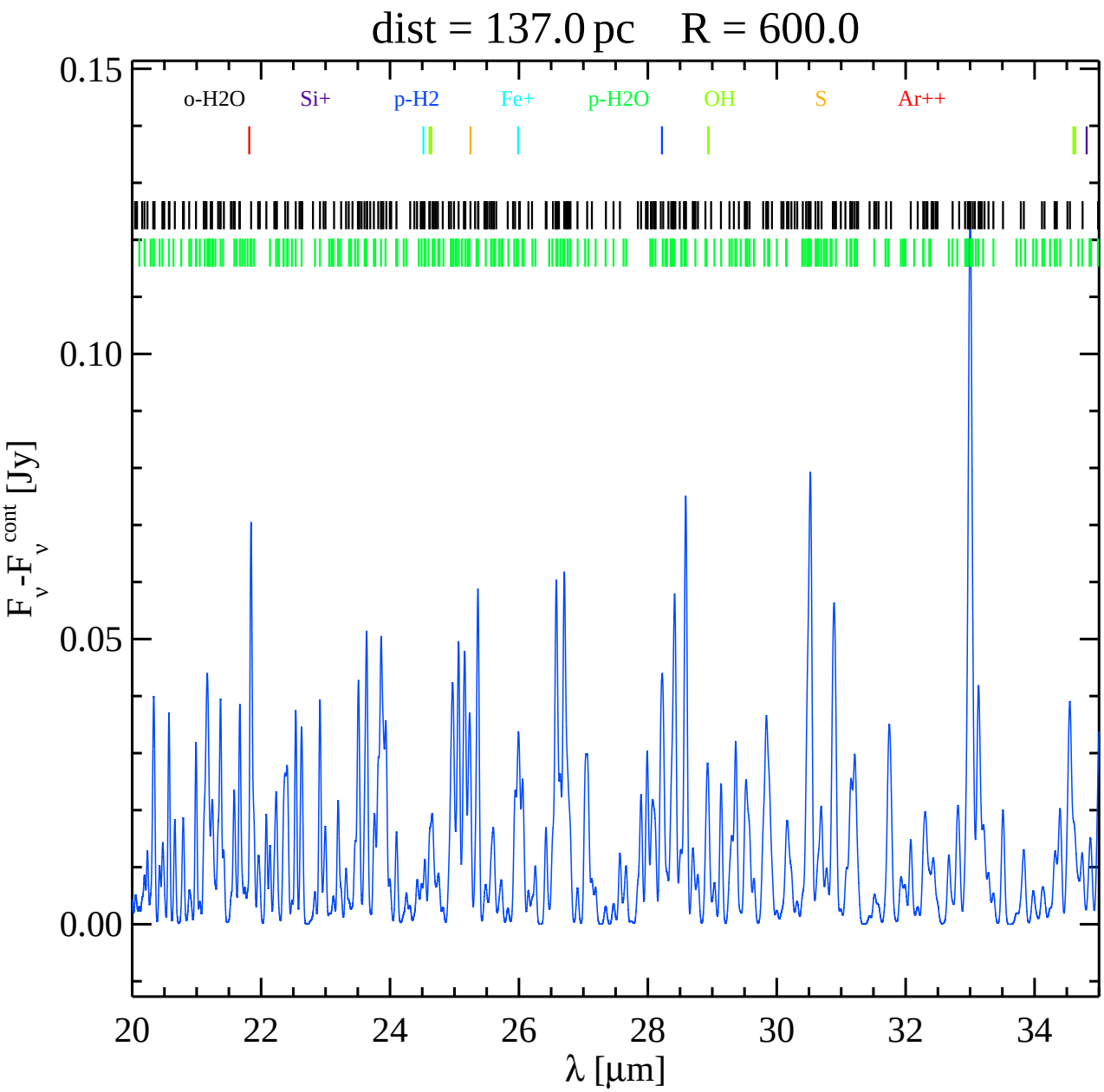

dist = 137.0 pc R = 600.0
CO
o-H2
p-H2
Fe+
o-H2O
p-H2O
H
Ar+
Ar++
0.20
0.15
0.10
0.05
0.00
F_ν -F_ν^cont [Jy]
3
4
5
6
7
8
9
10
λ [μm]

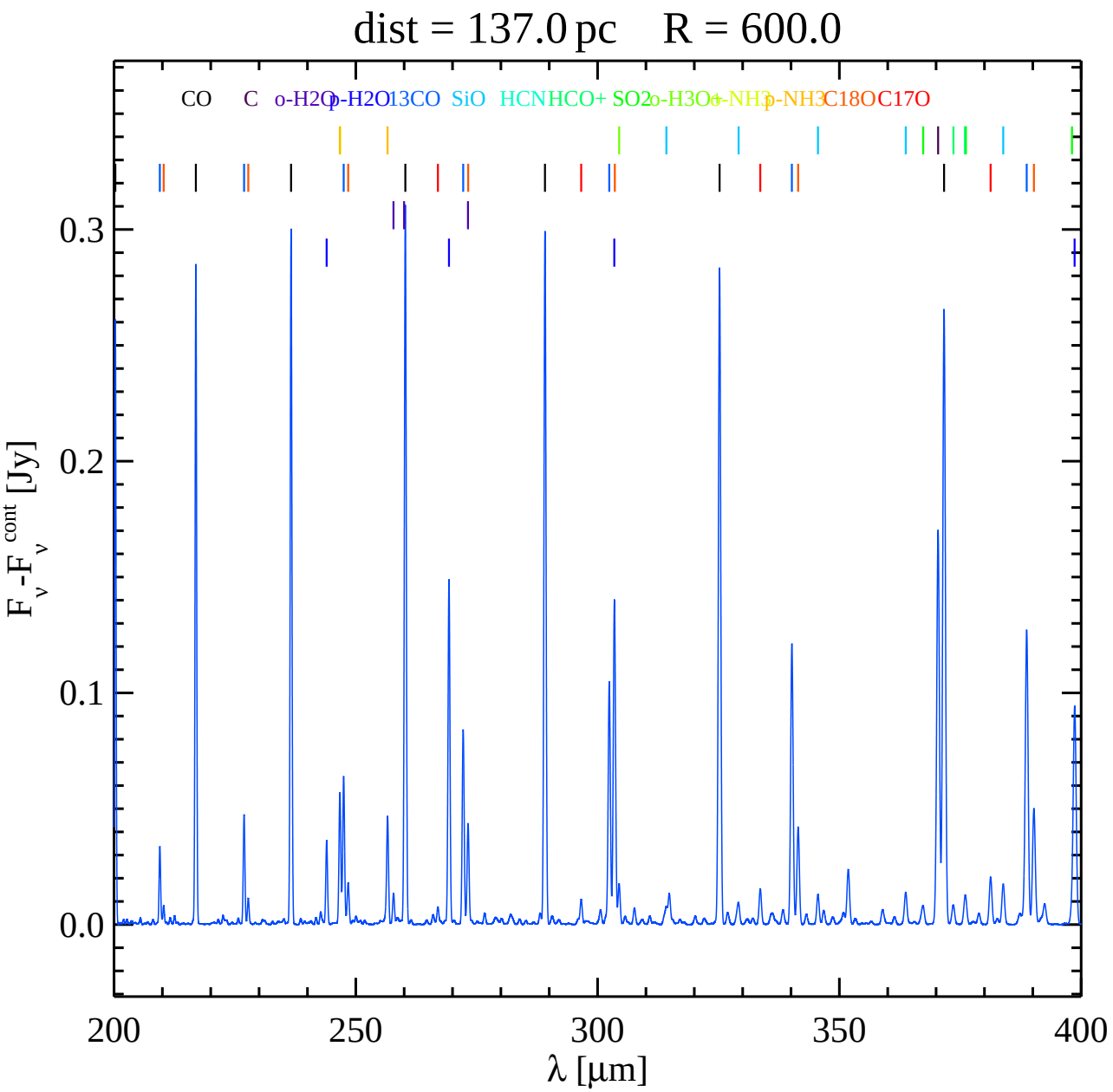

dist = 137.0 pc R = 600.0
CO
o-H2
p-H2
Fe+
o-H2O
p-H2O
6.0
5.9
5.8
5.7
F_ν [Jy]
4.4
4.6
4.8
5.0
5.2
5.4
λ [μm]

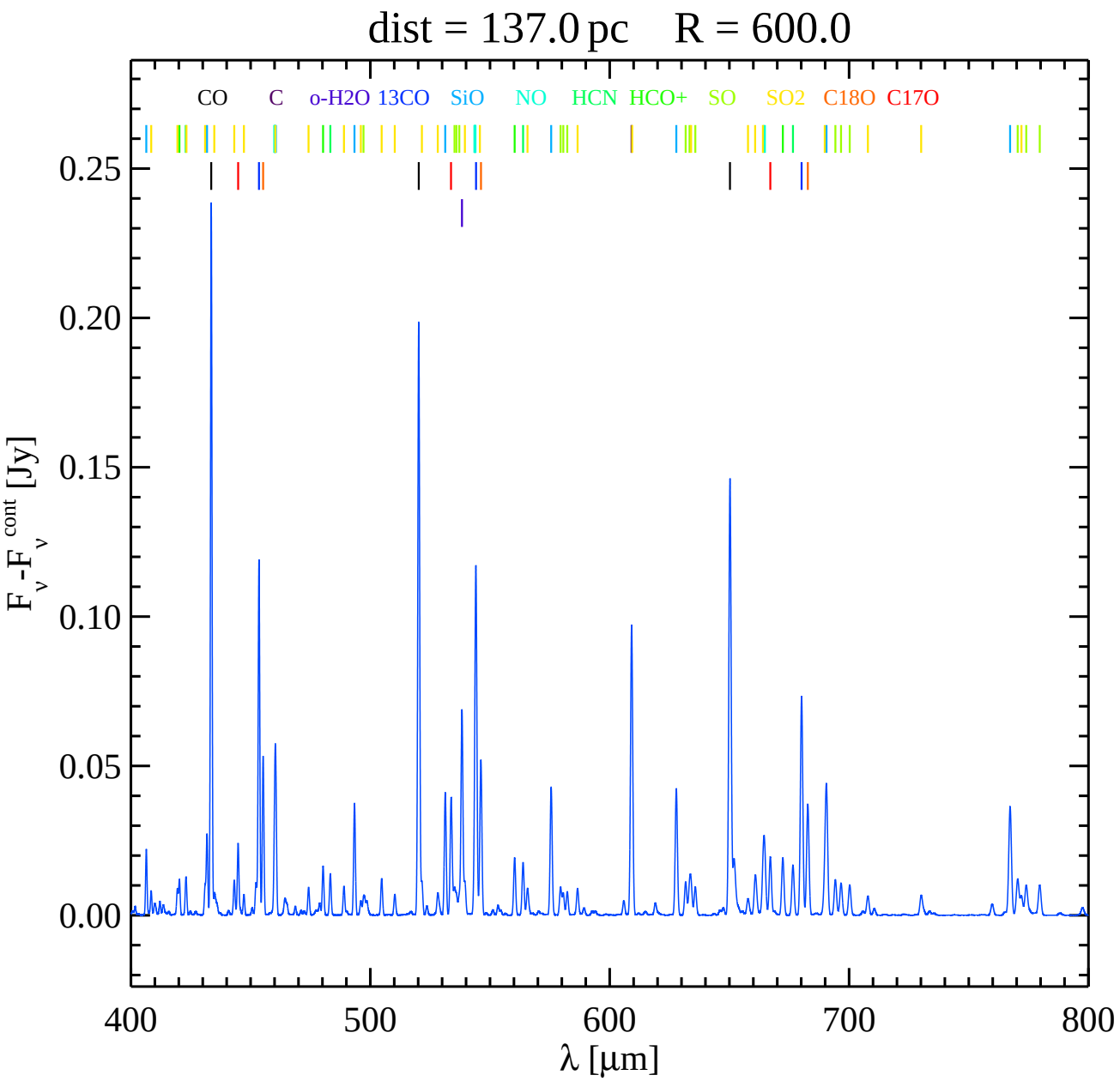

dist = 137.0 pc R = 600.0
o-H2O
o-H2
p-H2
Fe+
p-H2O
Ne+
Ne++
16
14
12
10
8
F_ν [Jy]
10
12
14
16
18
20
λ [μm]

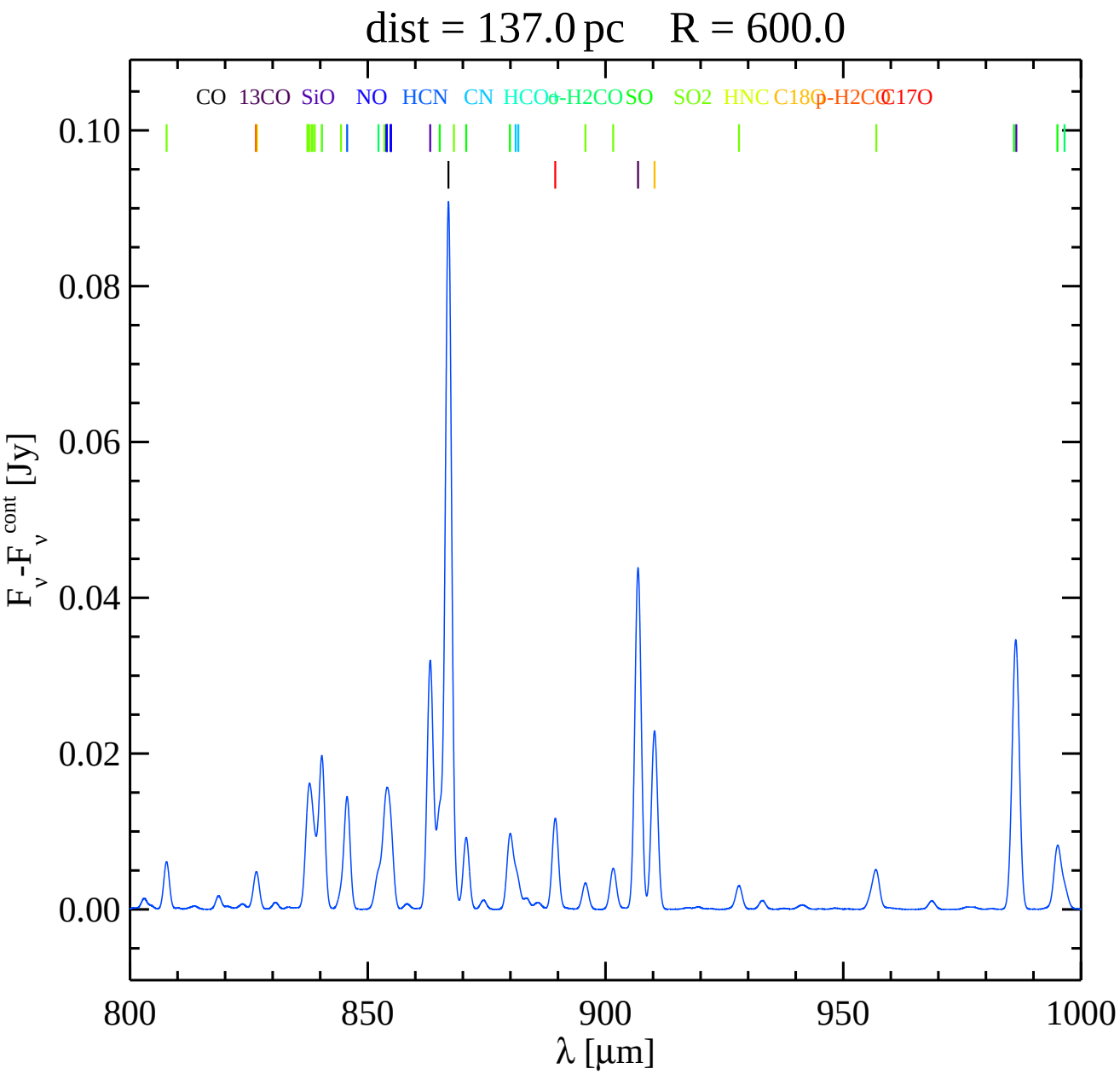

dist = 137.0 pc R = 600.0
o-H2O
o-H2
p-H2
Fe+
p-H2O
Ne+
Ne++
0.05
0.04
0.03
0.02
0.01
0.00
F_ν -F_ν^cont [Jy]
10
12
14
16
18
20
λ [μm]

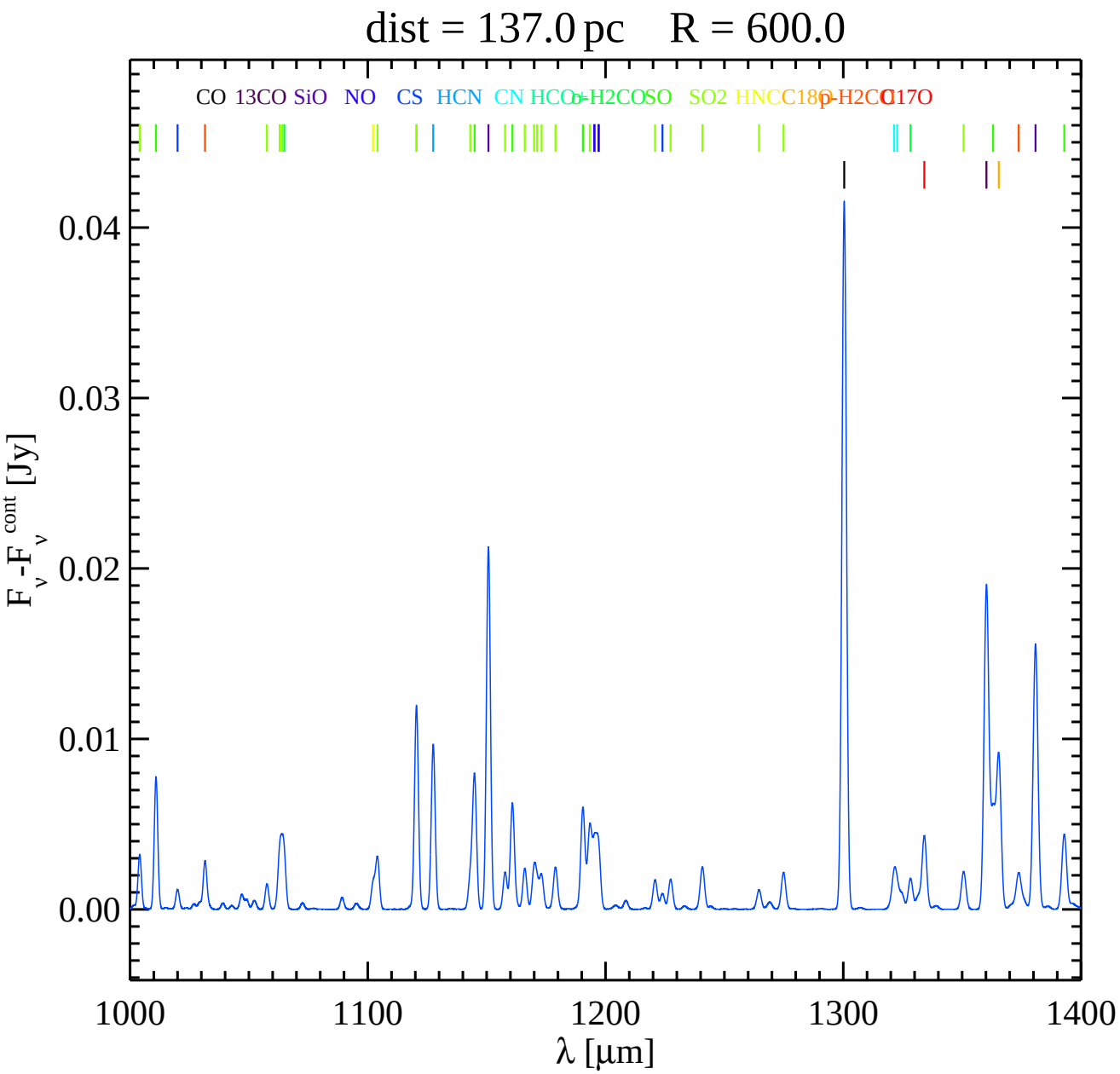

dist = 137.0 pc R = 600.0
o-H2O
Si+
p-H2
Fe+
p-H2O
OH
S
Ar++
13
12
11
10
9
8
F_ν [Jy]
20
22
24
26
28
30
32
34
λ [μm]

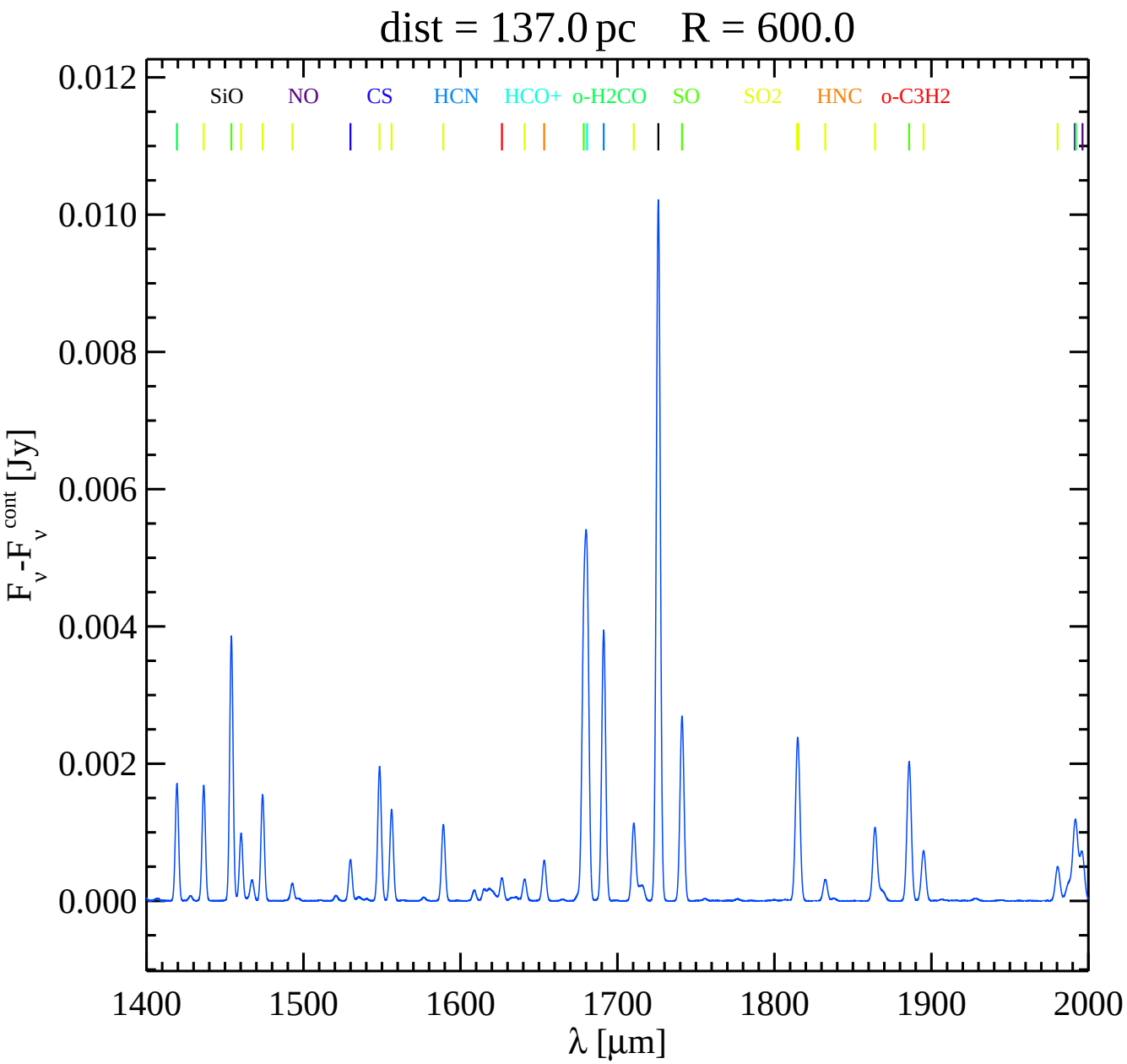

dist = 137.0 pc R = 600.0
o-H2O
Si+
p-H2
Fe+
p-H2O
OH
S
Ar++
0.15
0.10
0.05
0.00
F_ν -F_ν^cont [Jy]
20
22
24
26
28
30
32
34
λ [μm]

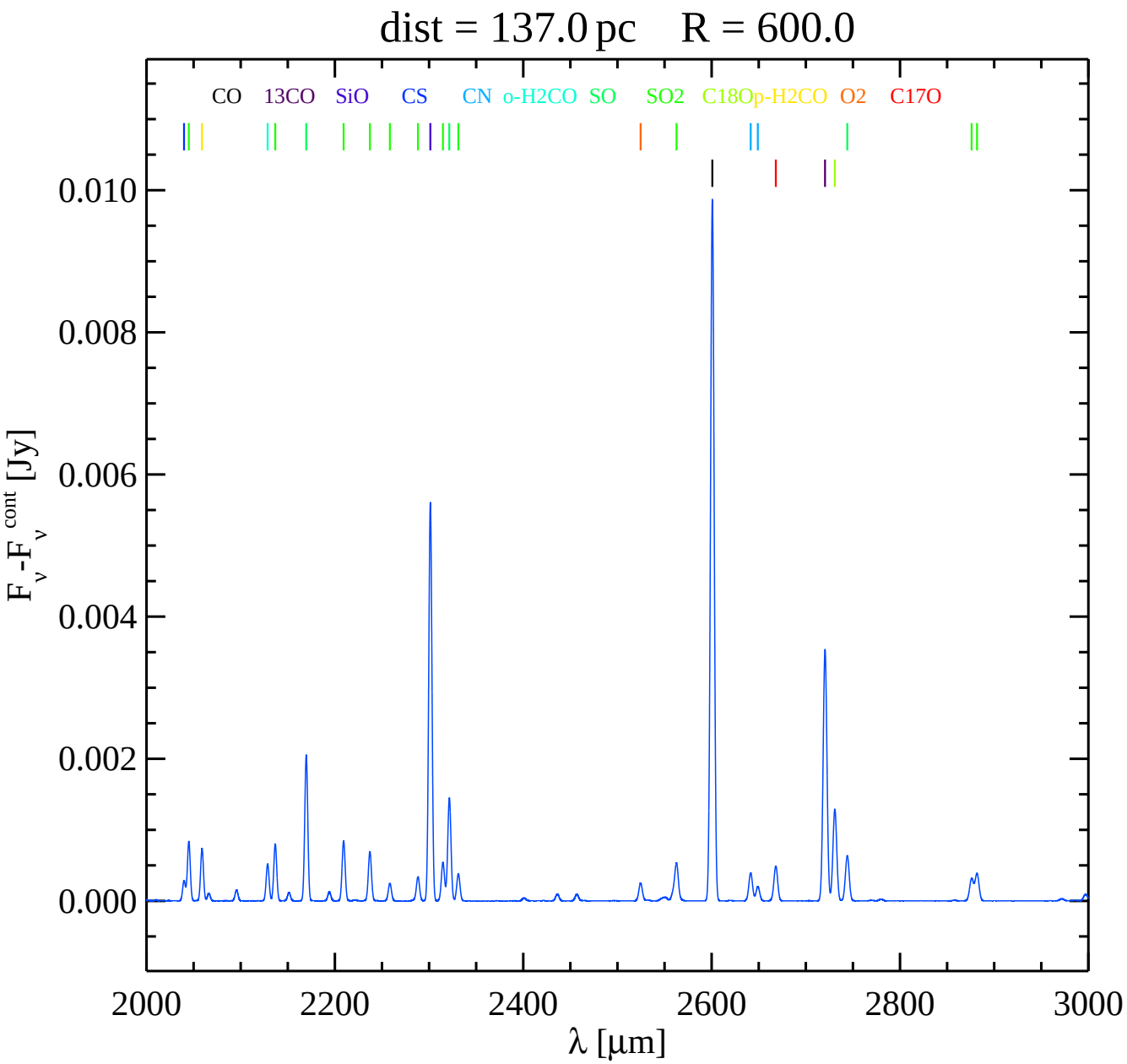

dist = 137.0 pc R = 600.0
CO C o-H2O p-H2O 13CO SiO HCN HCO+ SO2 o-H3O+ o-NH3 p-NH3 C18O C17O
0.3
0.2
0.1
0.0
F_ν - F_ν^cont [Jy]
200
250
300
350
400
λ [μm]

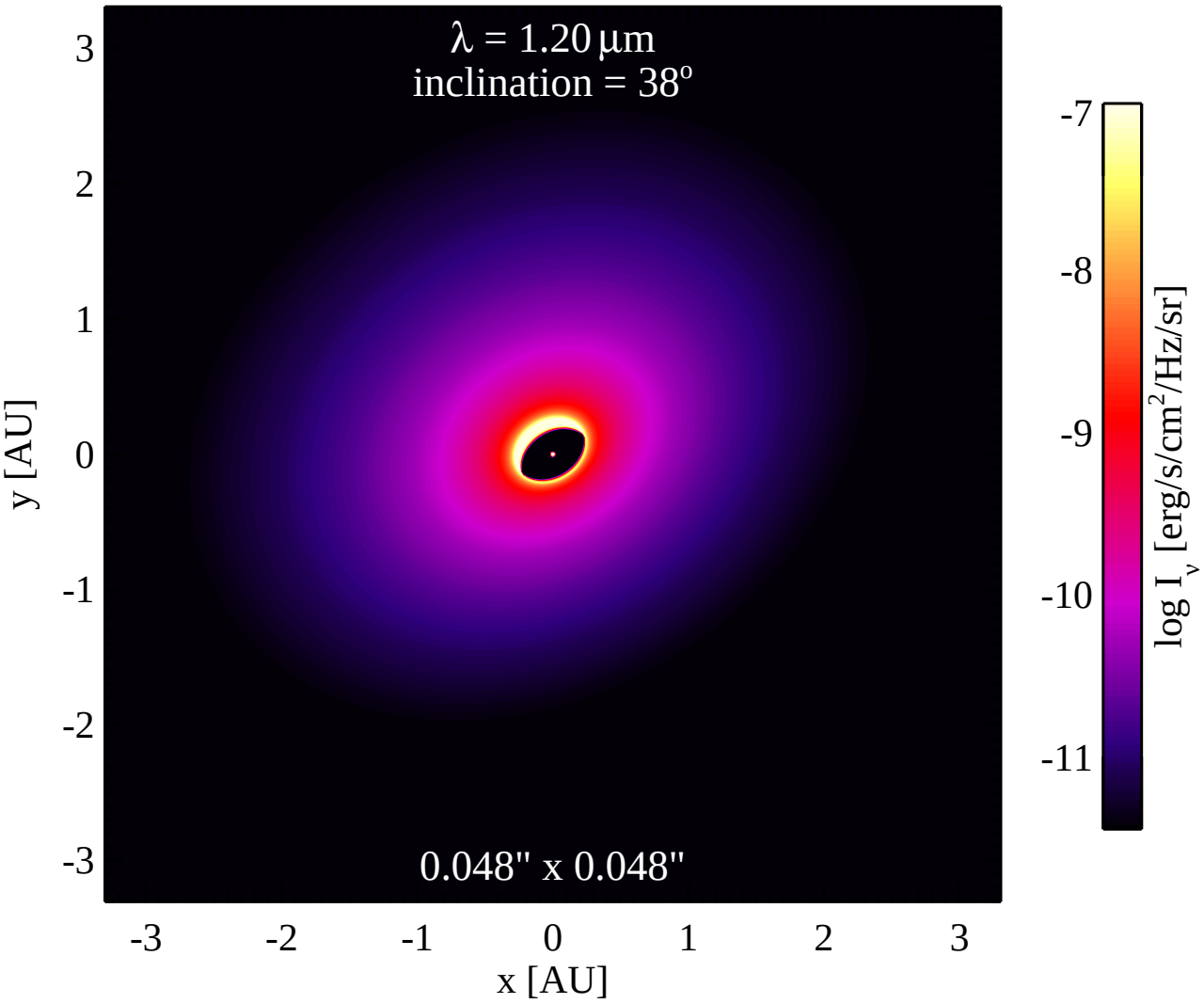

dist = 137.0 pc R = 600.0
CO
C
o-H2O
13CO
SiO
NO
HCN
HCO+
SO
SO2
C18O
C17O
0.25
0.20
0.15
0.10
0.05
0.00
F_ν -F_ν^cont [Jy]
400
500
600
700
800
λ [μm]

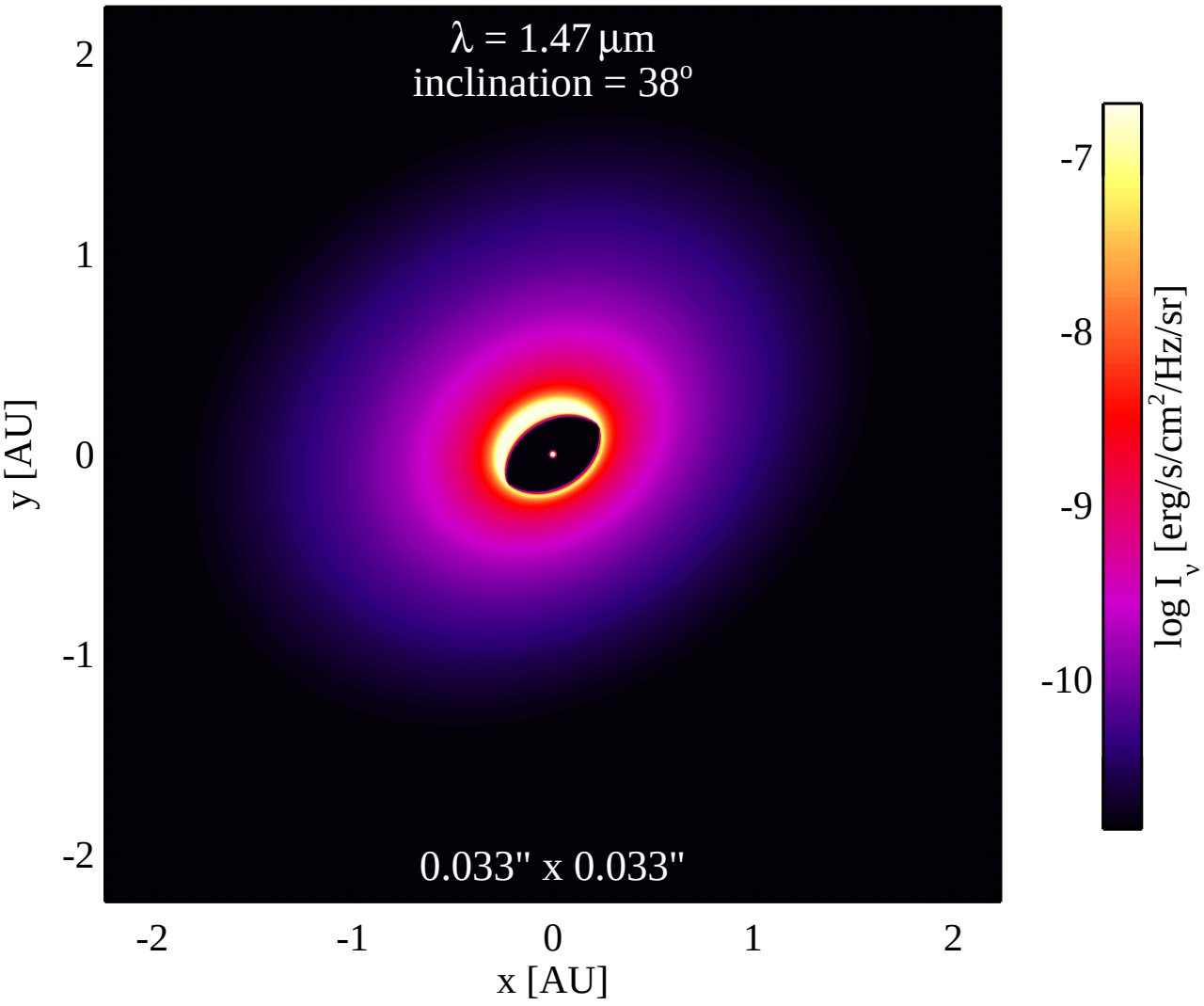

dist = 137.0 pc R = 600.0
CO 13CO SiO NO HCN CN HCOo-H2CO SO SO2 HNC C18O p-H2CO C17O
0.10
0.08
0.06
0.04
0.02
0.00
F_ν -F_ν^cont [Jy]
800
850
900
950
1000
λ [μm]

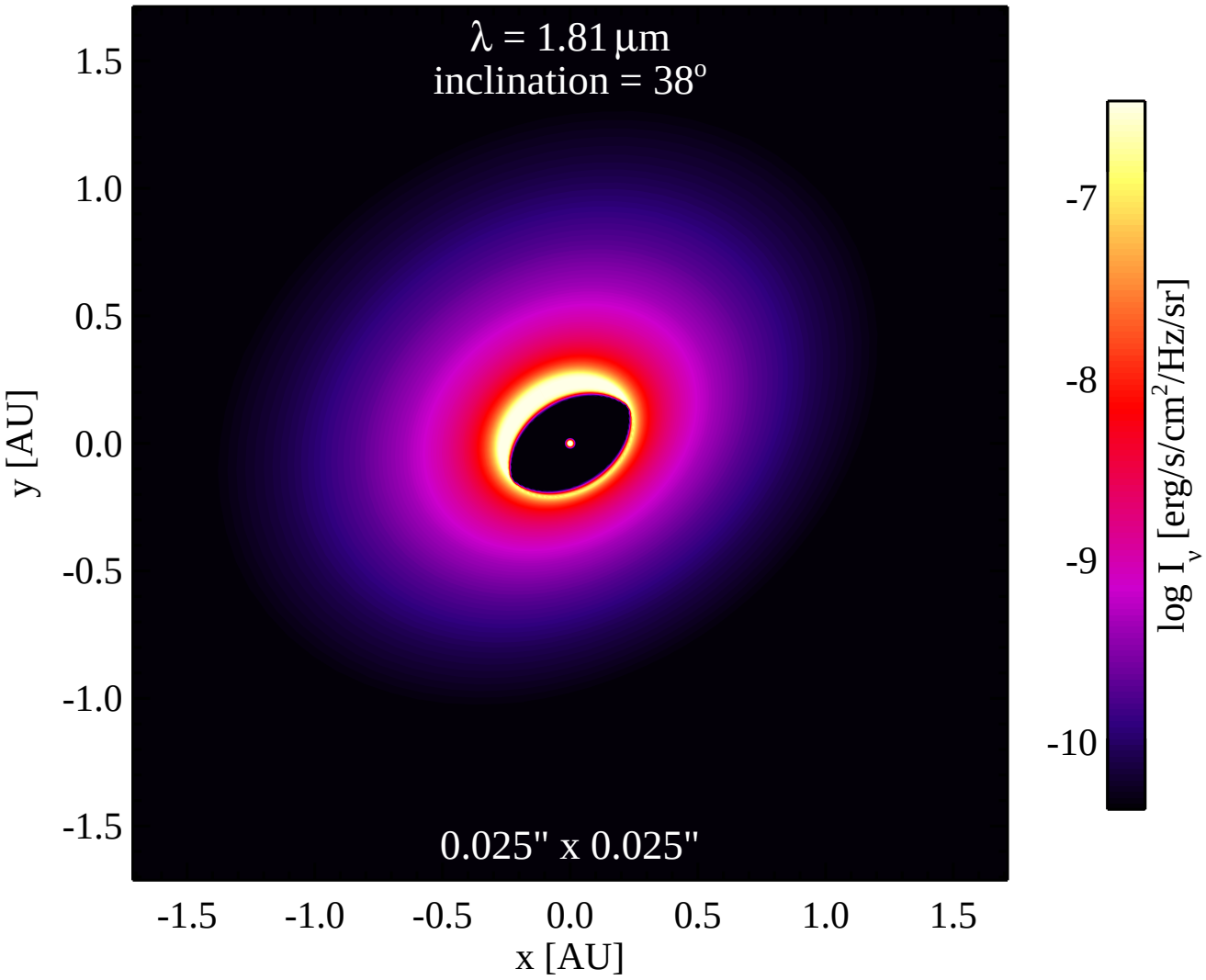

dist = 137.0 pc R = 600.0
CO 13CO SiO NO CS HCN CN HCO+ o-H2CO SO SO2 HNCC18O p-H2CO C17O
0.04
0.03
0.02
0.01
0.00
F_ν -F_ν^cont [Jy]
1000
1100
1200
1300
1400
λ [μm]

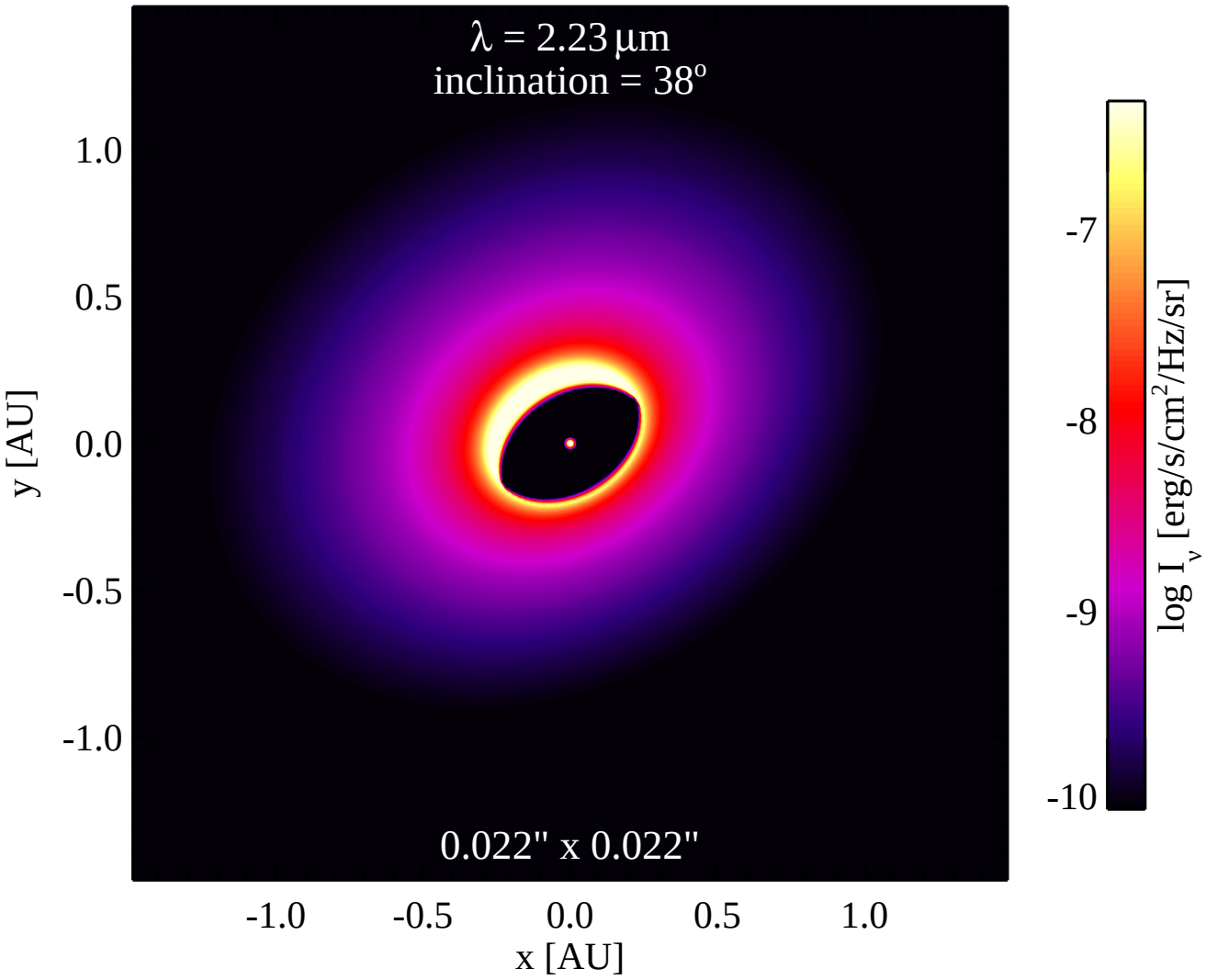

dist = 137.0 pc R = 600.0
SiO
NO
CS
HCN
HCO+
o-H2CO
SO
SO2
HNC
o-C3H2
0.012
0.010
0.008
0.006
0.004
0.002
0.000
F_ν - F_ν^cont [Jy]
1400
1500
1600
1700
1800
1900
2000
λ [μm]

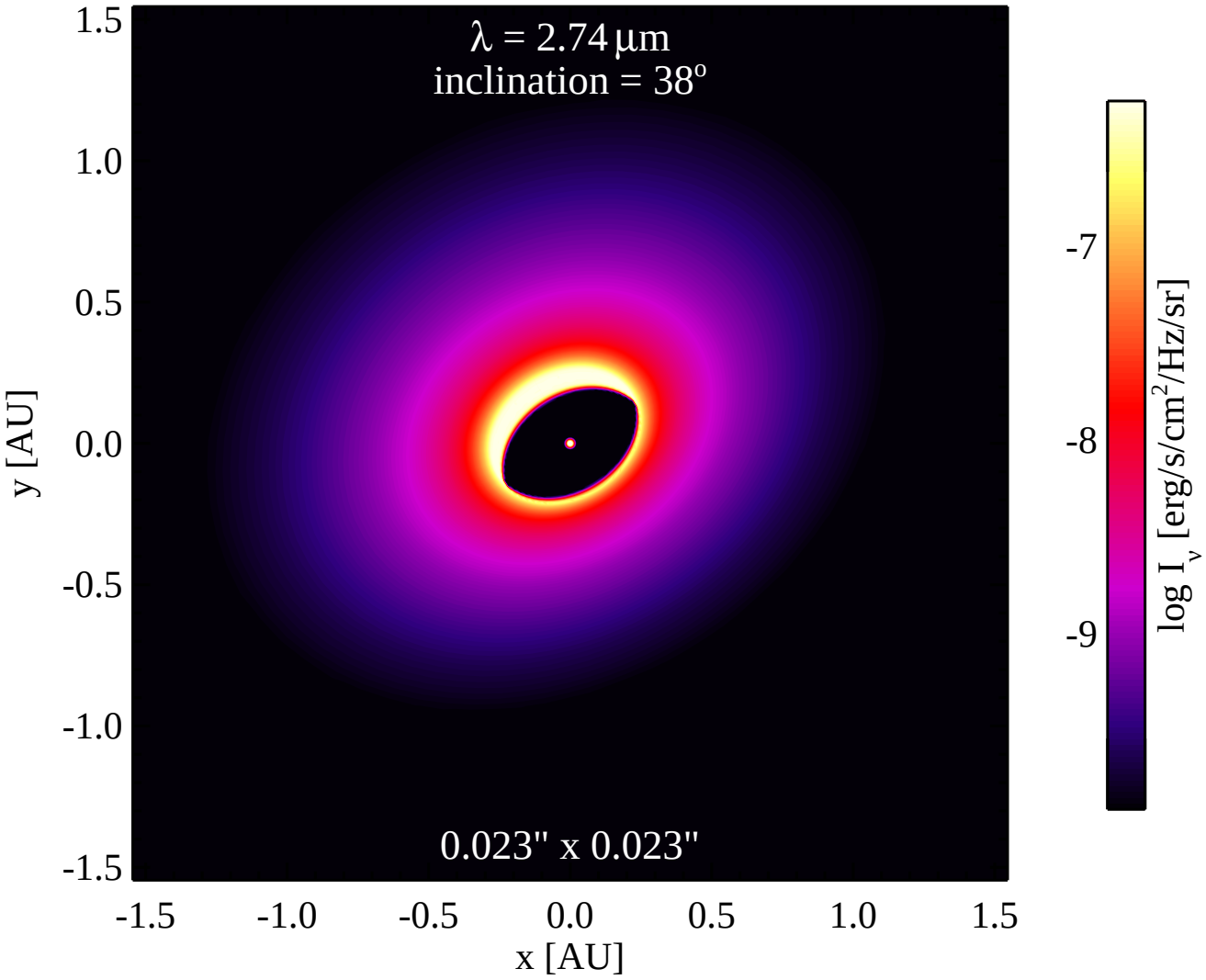

dist = 137.0 pc R = 600.0
CO
13CO
SiO
CS
CN
o-H2CO
SO
SO2
C18Op-H2CO
O2
C17O
0.010
0.008
0.006
0.004
0.002
0.000
F_ν -F_ν^cont [Jy]
2000
2200
2400
2600
2800
3000
λ [μm]

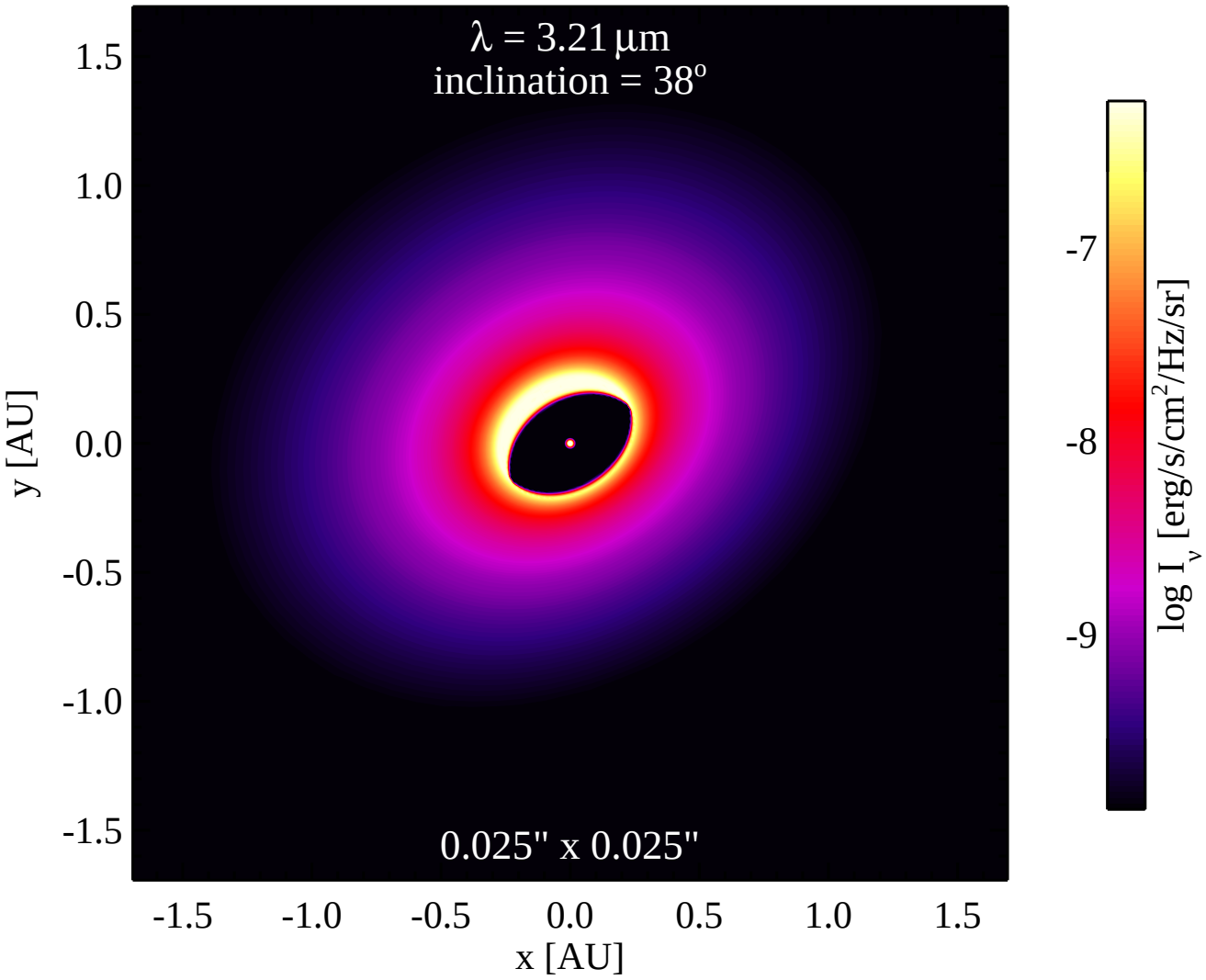

λ = 1.20 μm
inclination = 38°
0.048" x 0.048"
y [AU]
x [AU]
3
2
1
0
-1
-2
-3
-3
-2
-1
0
1
2
3
-7
-8
-9
-10
-11
log I_ν [erg/s/cm²/Hz/sr]

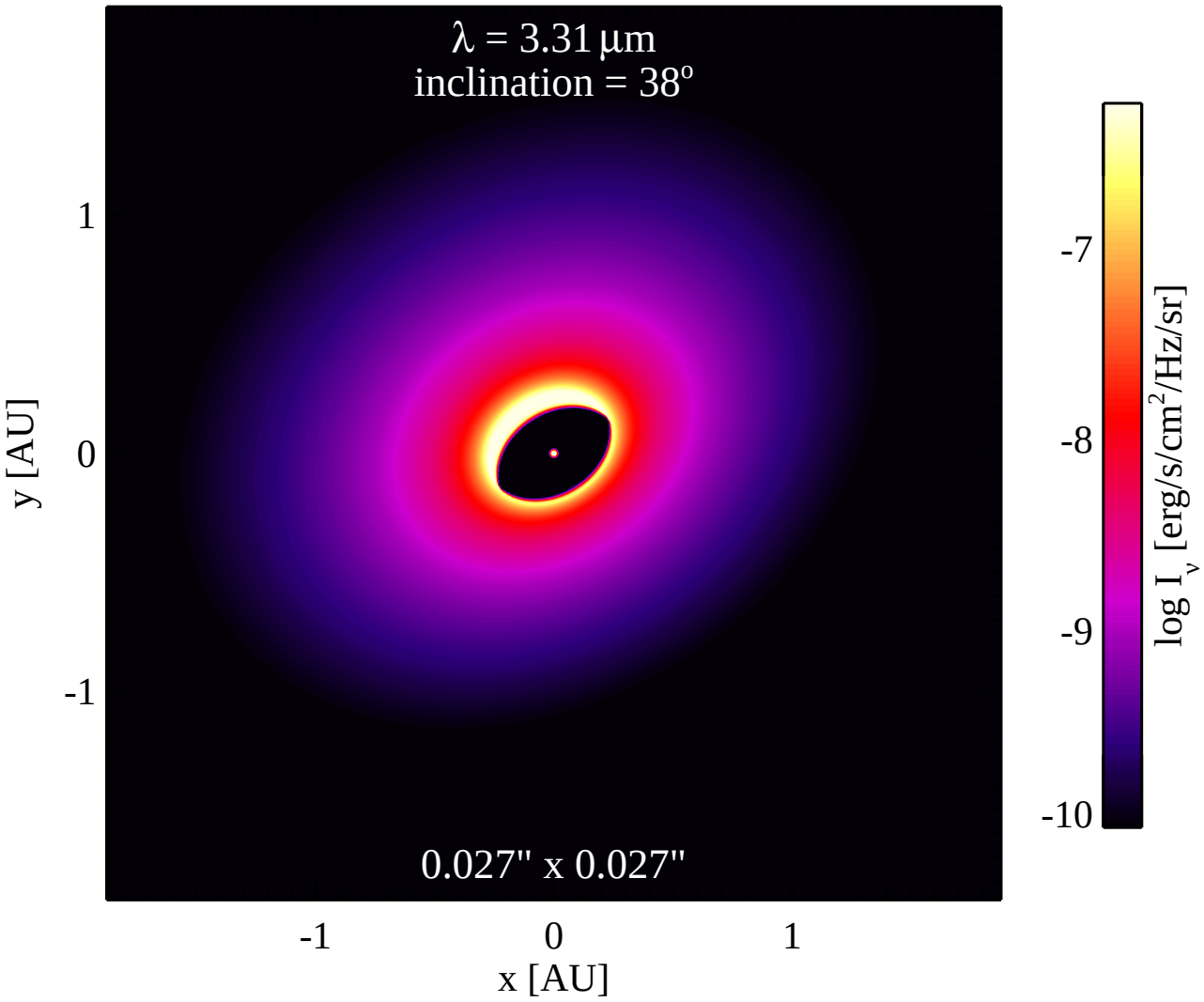

λ = 1.47 μm
inclination = 38°
0.033" x 0.033"
y [AU]
x [AU]
2
1
0
-1
-2
-2
-1
0
1
2
-7
-8
-9
-10
log I_ν [erg/s/cm²/Hz/sr]

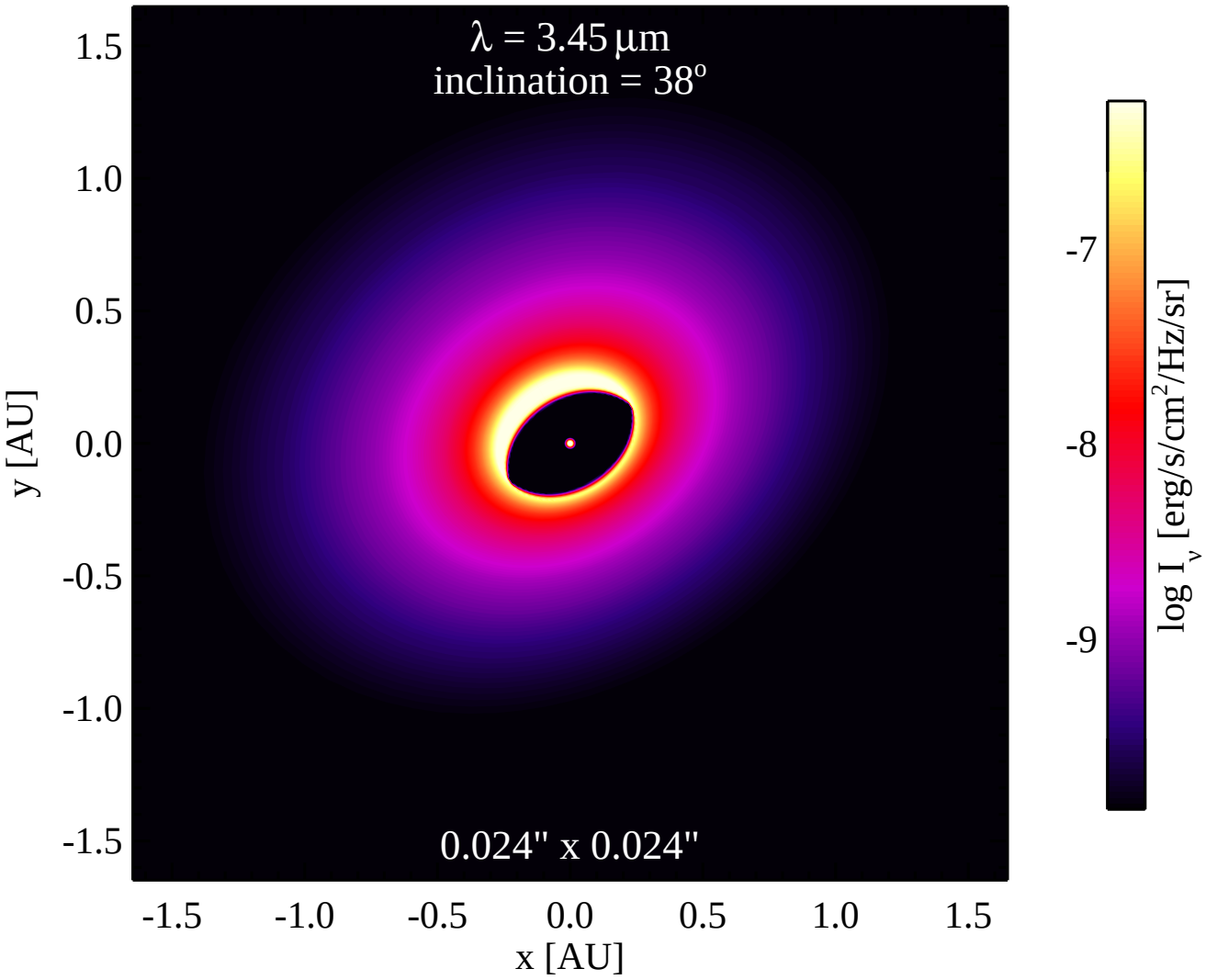

λ = 1.81 μm
inclination = 38°
0.025" x 0.025"
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
y [AU]
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
x [AU]
-7
-8
-9
-10
log I_ν [erg/s/cm²/Hz/sr]

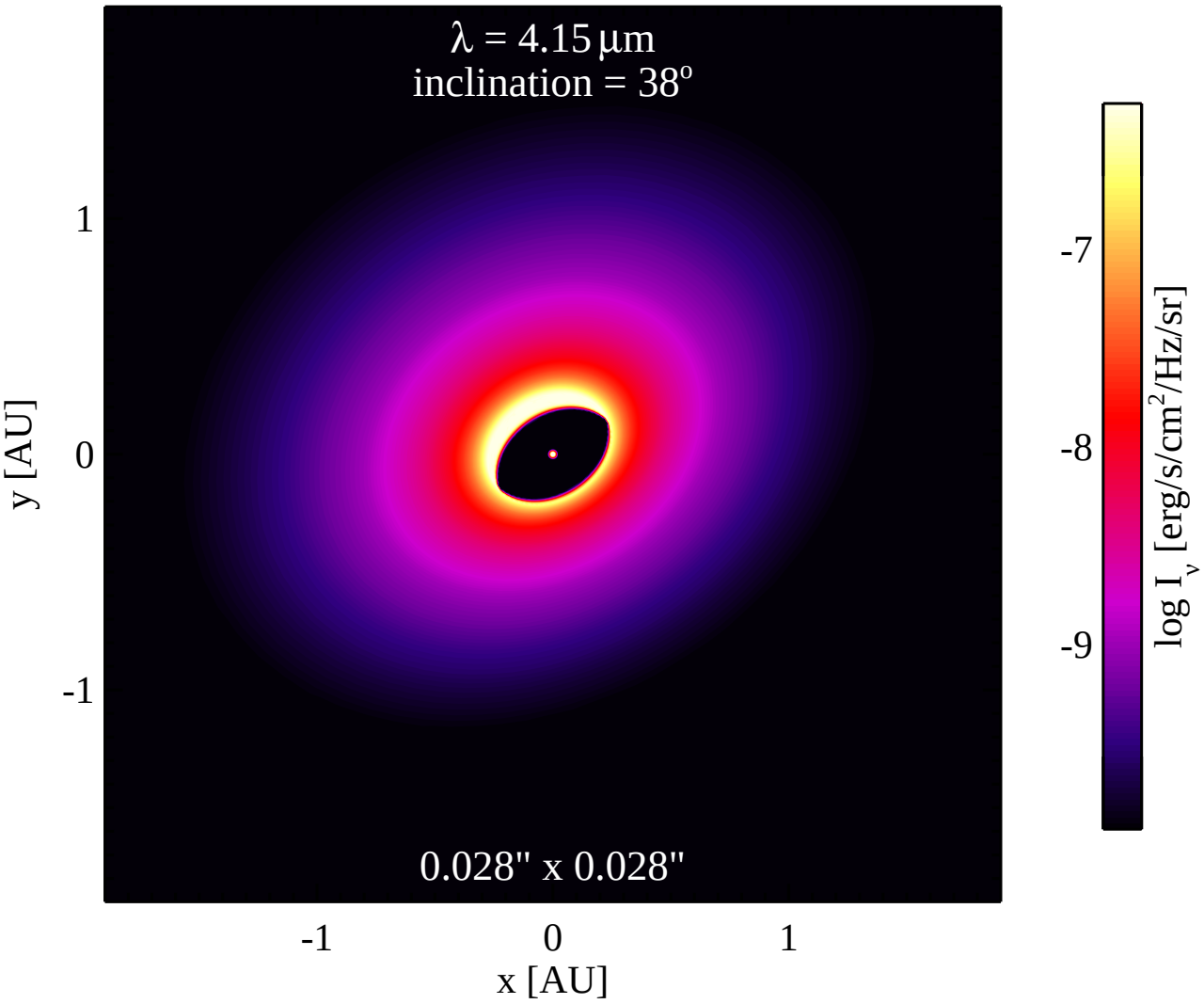

λ = 2.23 μm
inclination = 38°
0.022" x 0.022"
1.0
0.5
0.0
-0.5
-1.0
y [AU]
-1.0
-0.5
0.0
0.5
1.0
x [AU]
-7
-8
-9
-10
log I_ν [erg/s/cm²/Hz/sr]

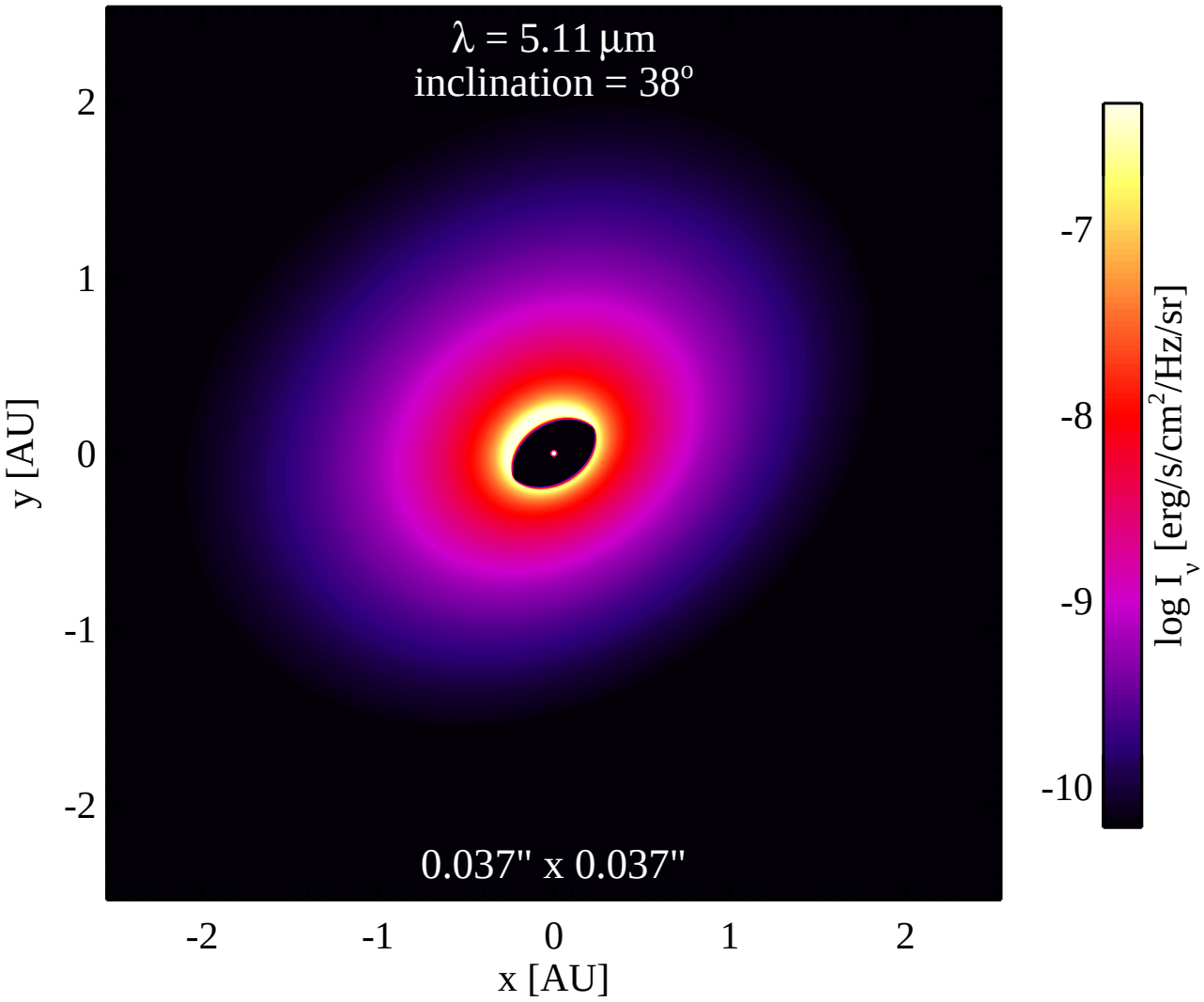

λ = 2.74 μm
inclination = 38°
0.023" x 0.023"
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
y [AU]
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
x [AU]
-7
-8
-9
log I_ν [erg/s/cm²/Hz/sr]

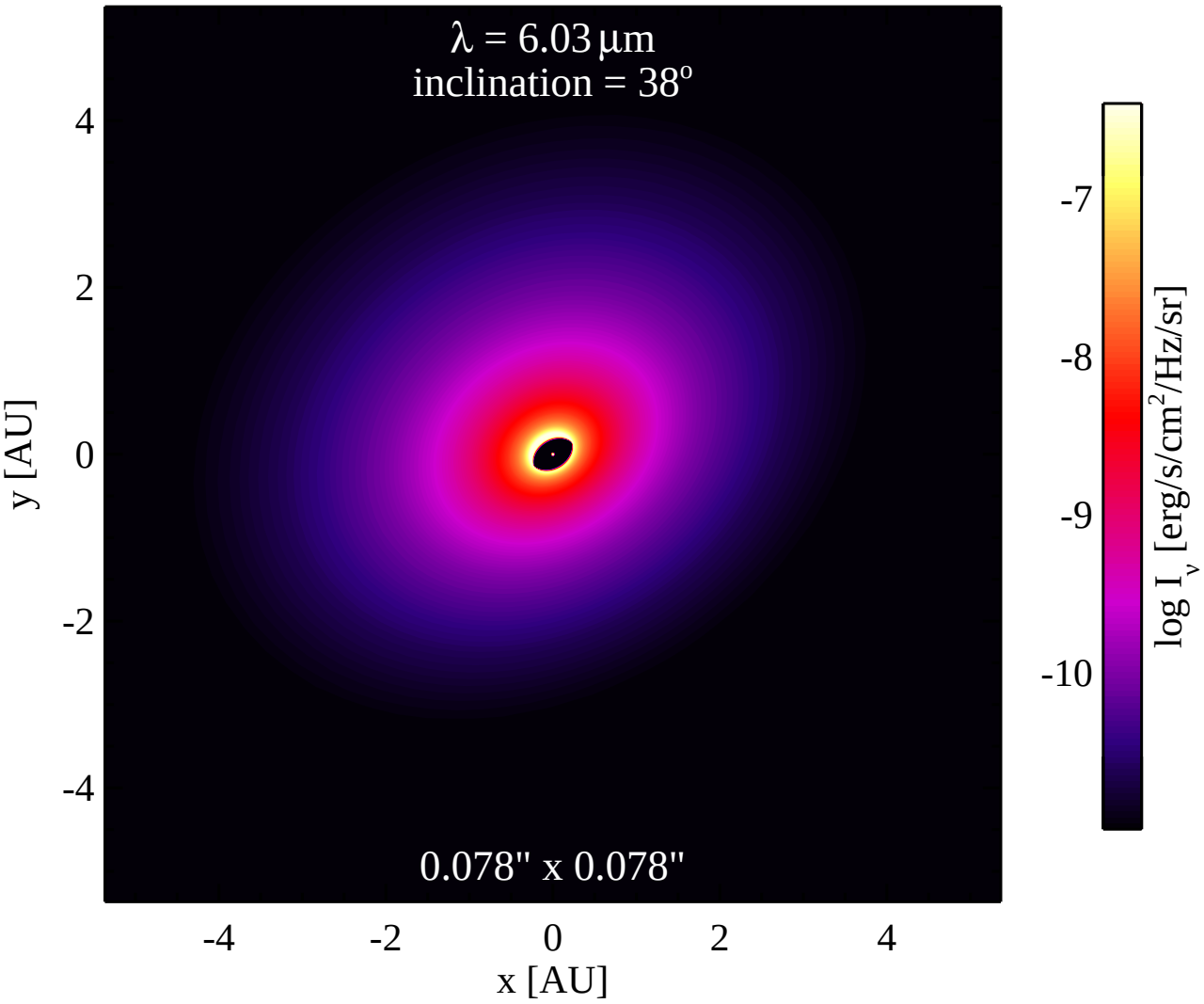

λ = 3.21 μm
inclination = 38°
0.025" x 0.025"
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
y [AU]
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
x [AU]
-7
-8
-9
log I_ν [erg/s/cm²/Hz/sr]

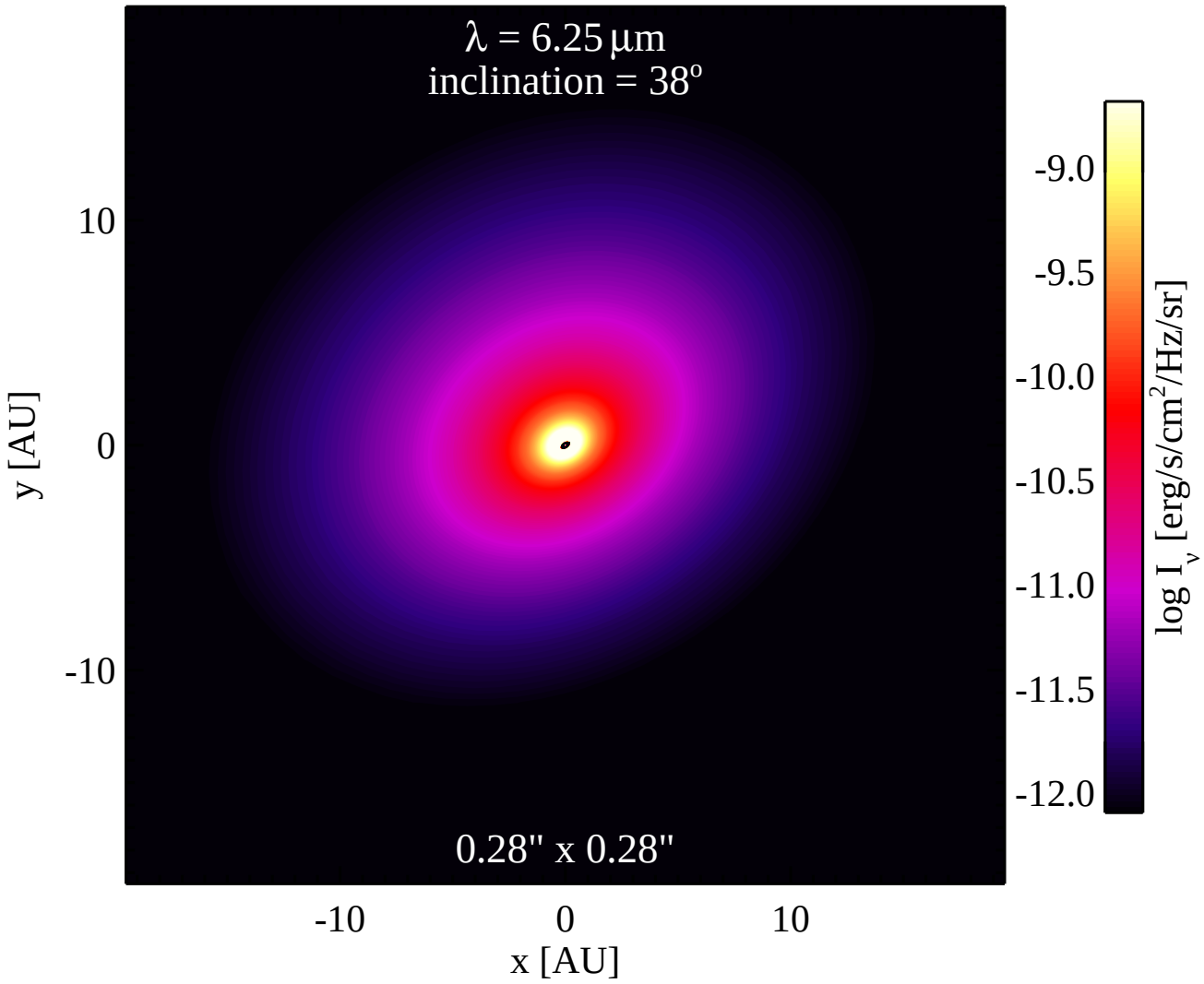

λ = 3.31 μm
inclination = 38°
0.027" x 0.027"
y [AU]
1
0
-1
x [AU]
-1
0
1
log I_ν [erg/s/cm²/Hz/sr]
-7
-8
-9
-10

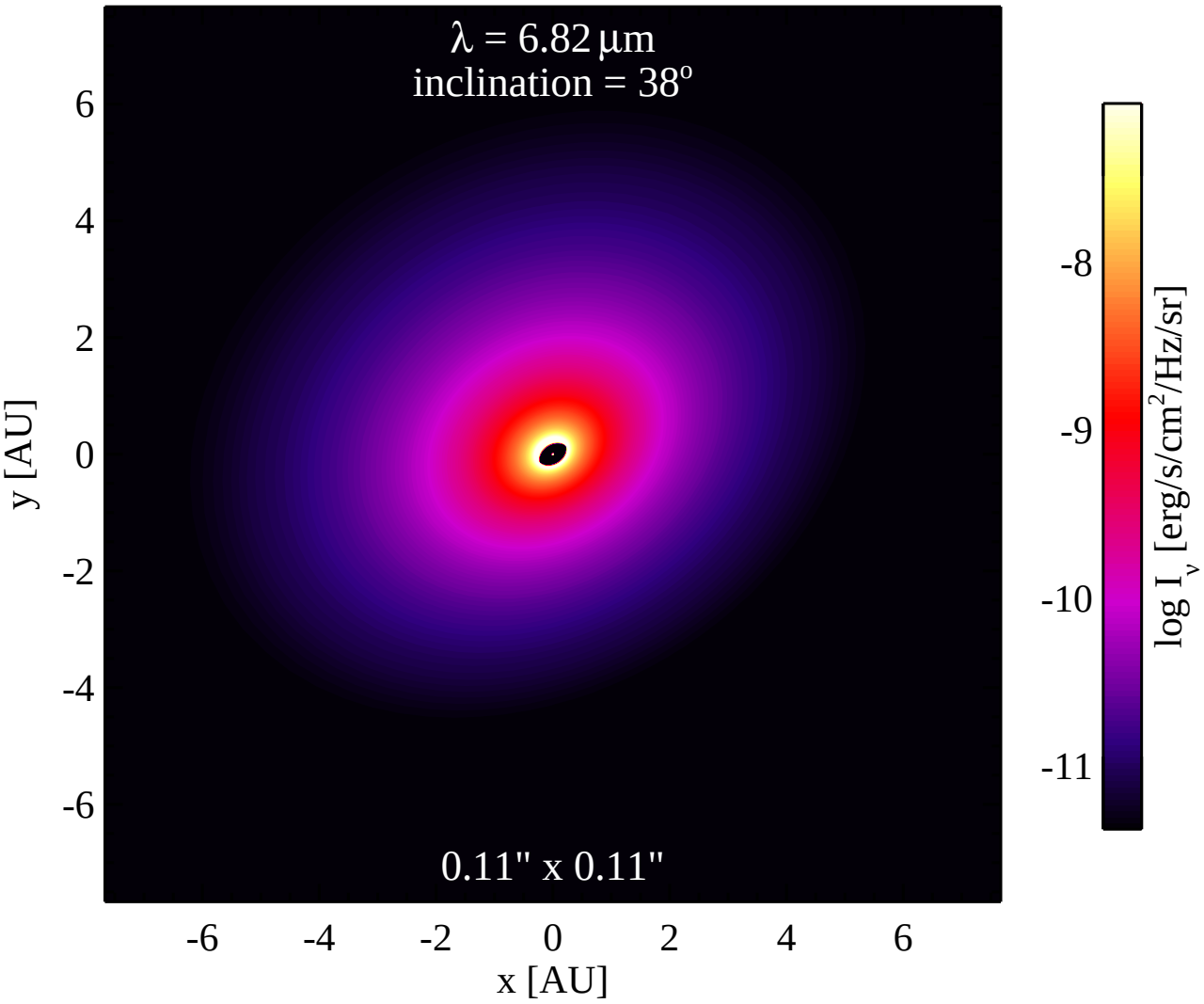

λ = 3.45 μm
inclination = 38°
0.024" x 0.024"
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
y [AU]
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
x [AU]
-7
-8
-9
log I_ν [erg/s/cm²/Hz/sr]

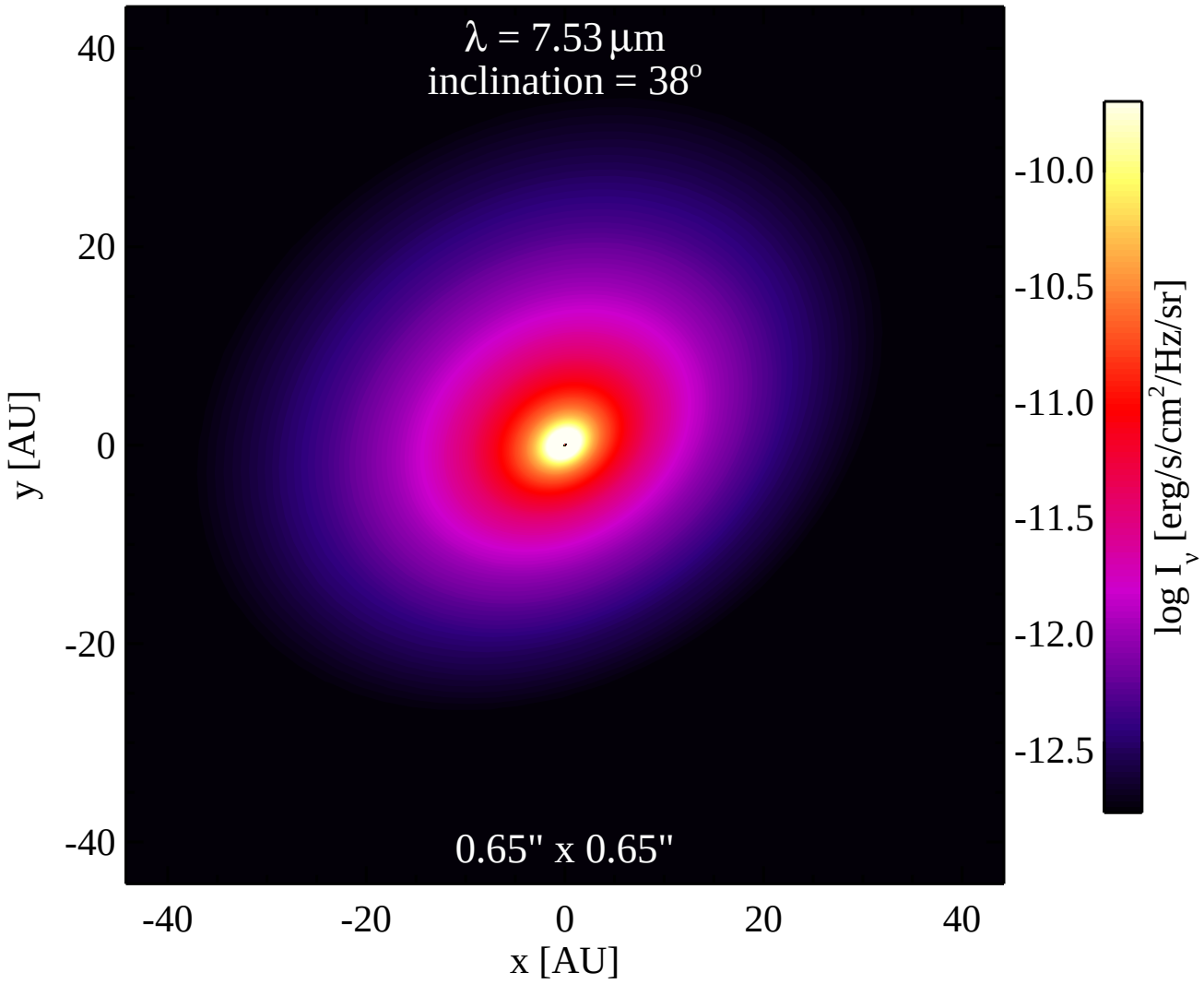

λ = 4.15 μm
inclination = 38°
0.028" x 0.028"
y [AU]
x [AU]
1
0
-1
-1
0
1
-7
-8
-9
log I_ν [erg/s/cm²/Hz/sr]

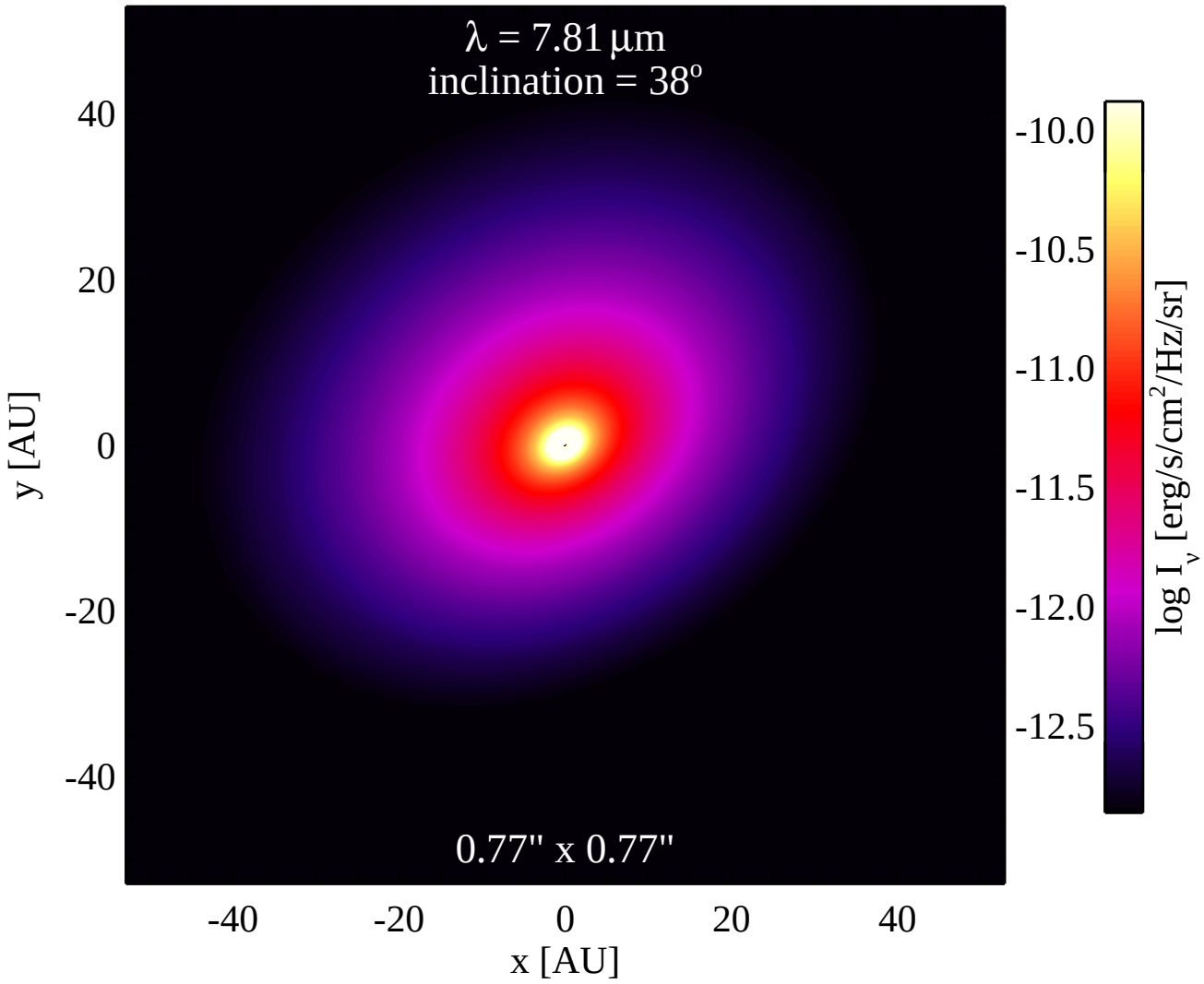

λ = 5.11 μm
inclination = 38°
0.037" x 0.037"
y [AU]
x [AU]
2
1
0
-1
-2
-2
-1
0
1
2
-7
-8
-9
-10
log I_ν [erg/s/cm²/Hz/sr]

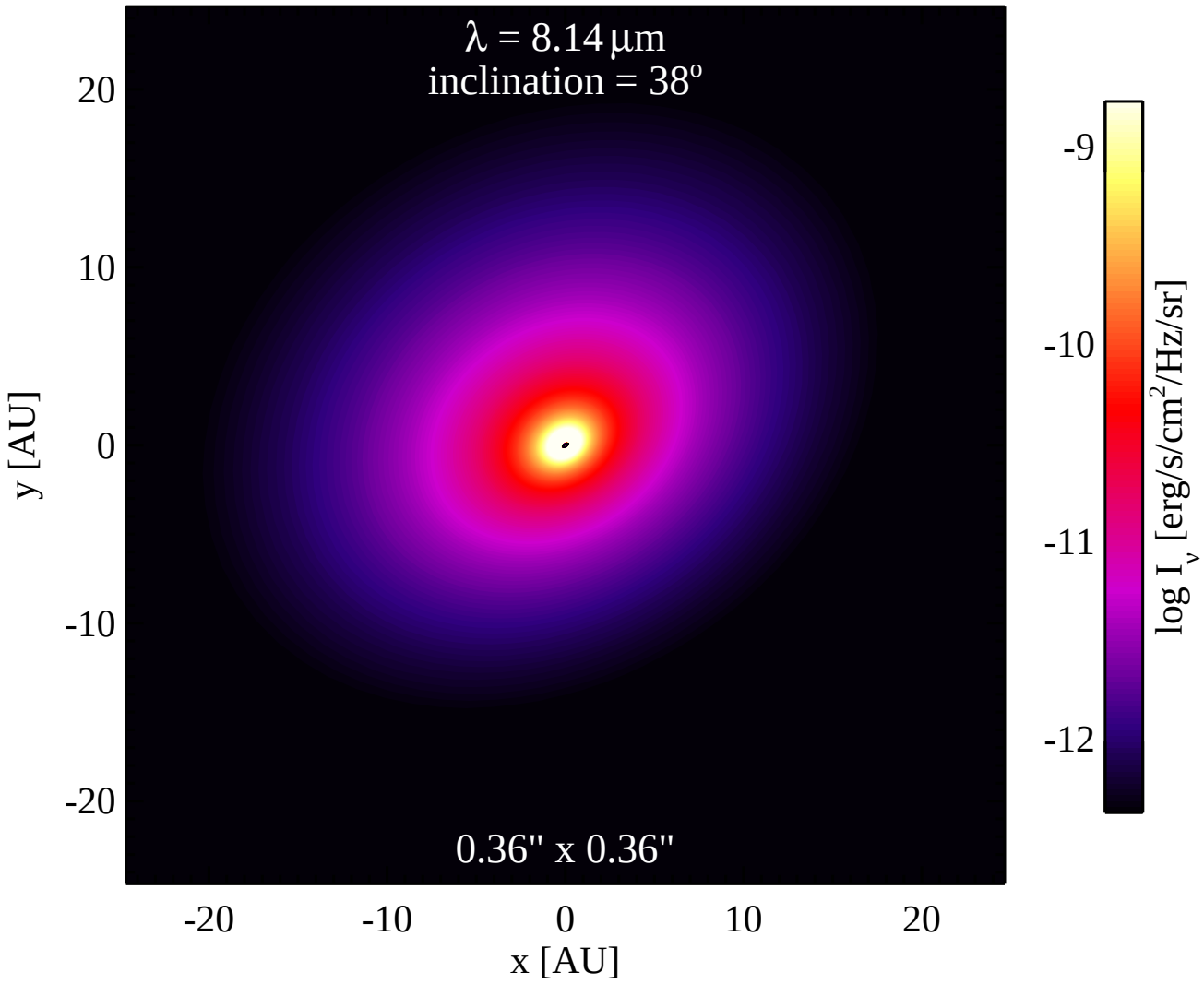

λ = 6.03 μm
inclination = 38°
0.078" x 0.078"
y [AU]
x [AU]
4
2
0
-2
-4
-4
-2
0
2
4
-7
-8
-9
-10
log I_ν [erg/s/cm²/Hz/sr]

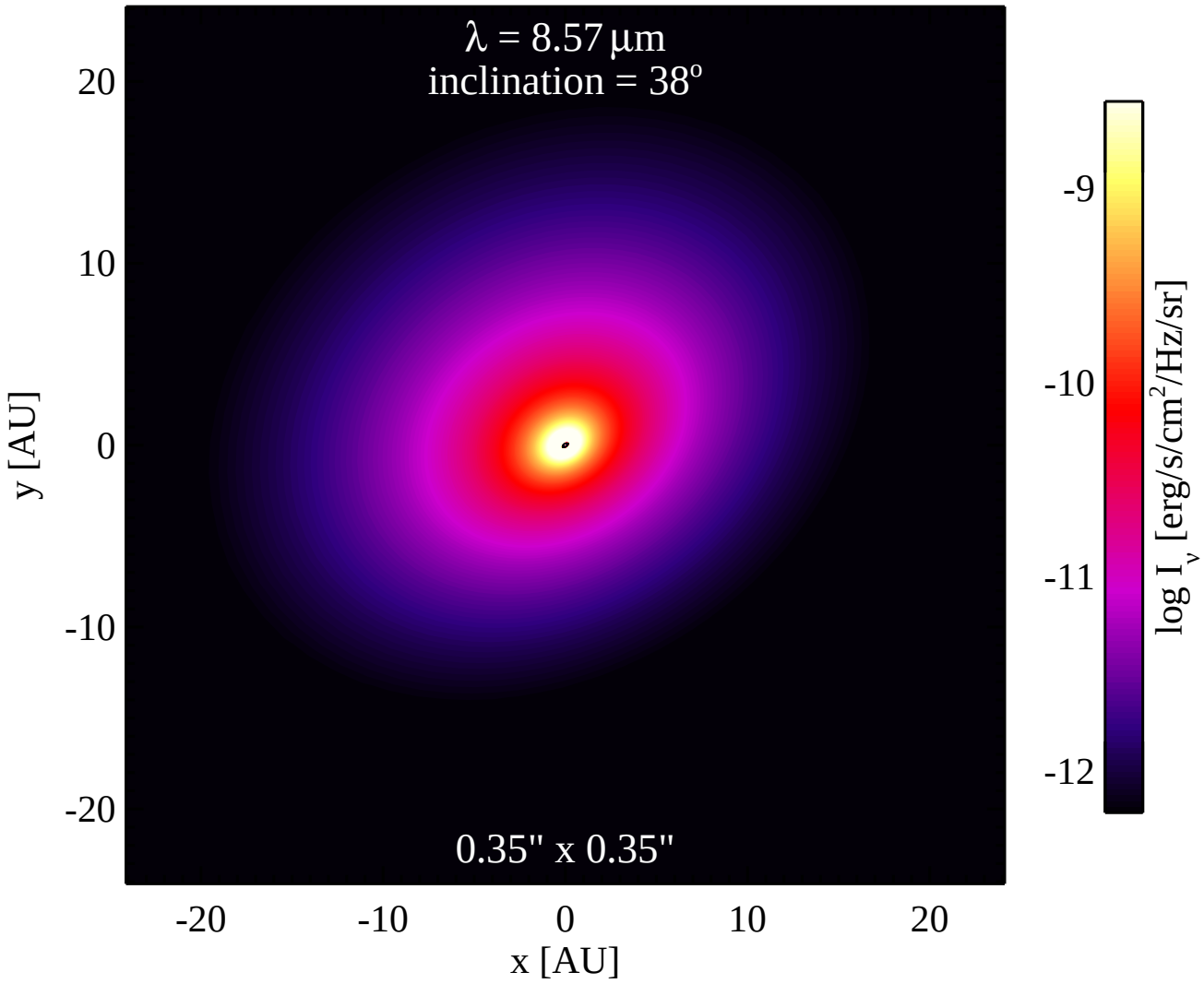

λ = 6.25 μm
inclination = 38°
0.28" x 0.28"
10
0
-10
y [AU]
-10
0
10
x [AU]
-9.0
-9.5
-10.0
-10.5
-11.0
-11.5
-12.0
log I_ν [erg/s/cm²/Hz/sr]

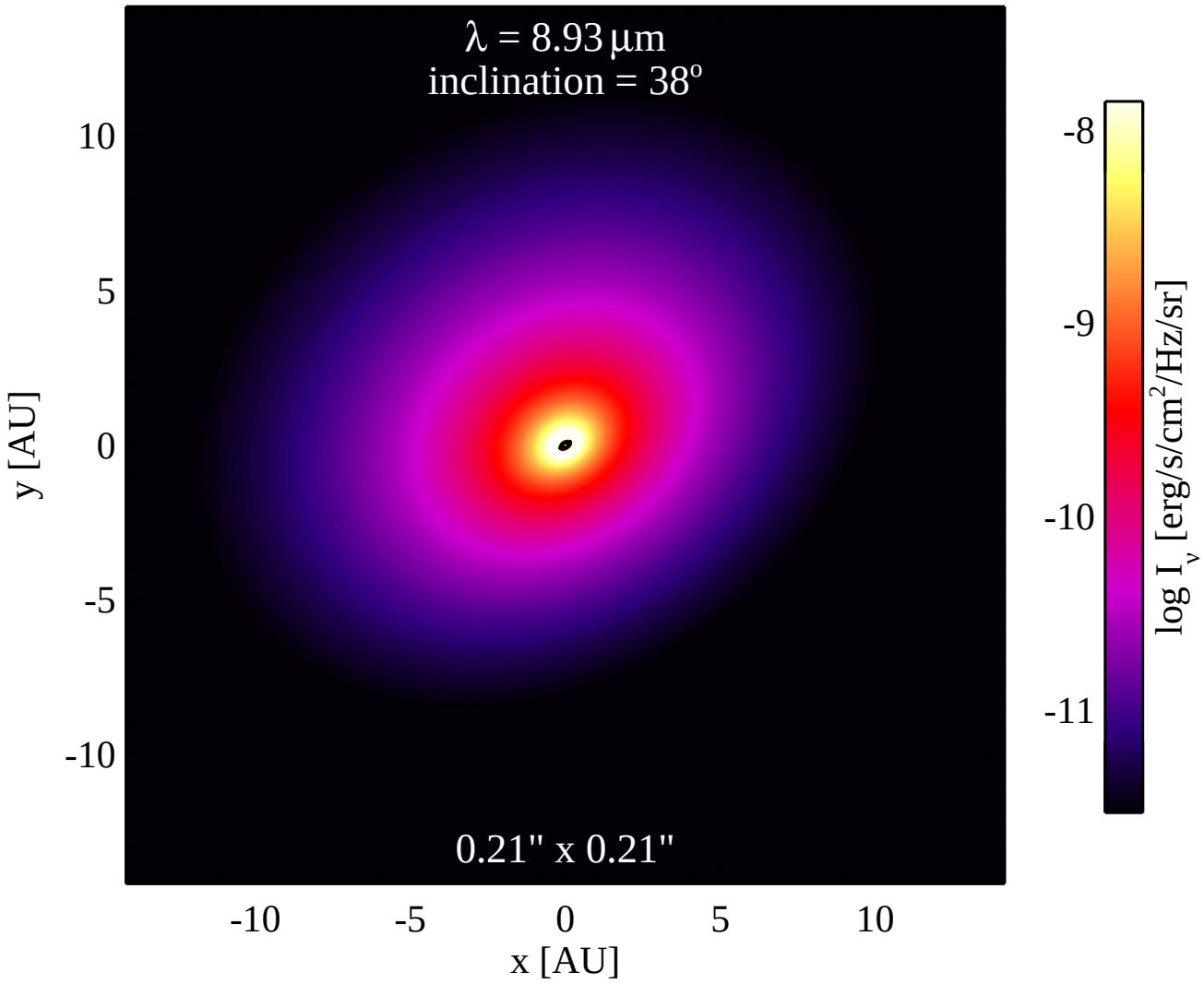

λ = 6.82 μm
inclination = 38°
0.11" x 0.11"
y [AU]
x [AU]
6
4
2
0
-2
-4
-6
-6
-4
-2
0
2
4
6
-8
-9
-10
-11
log I_ν [erg/s/cm²/Hz/sr]

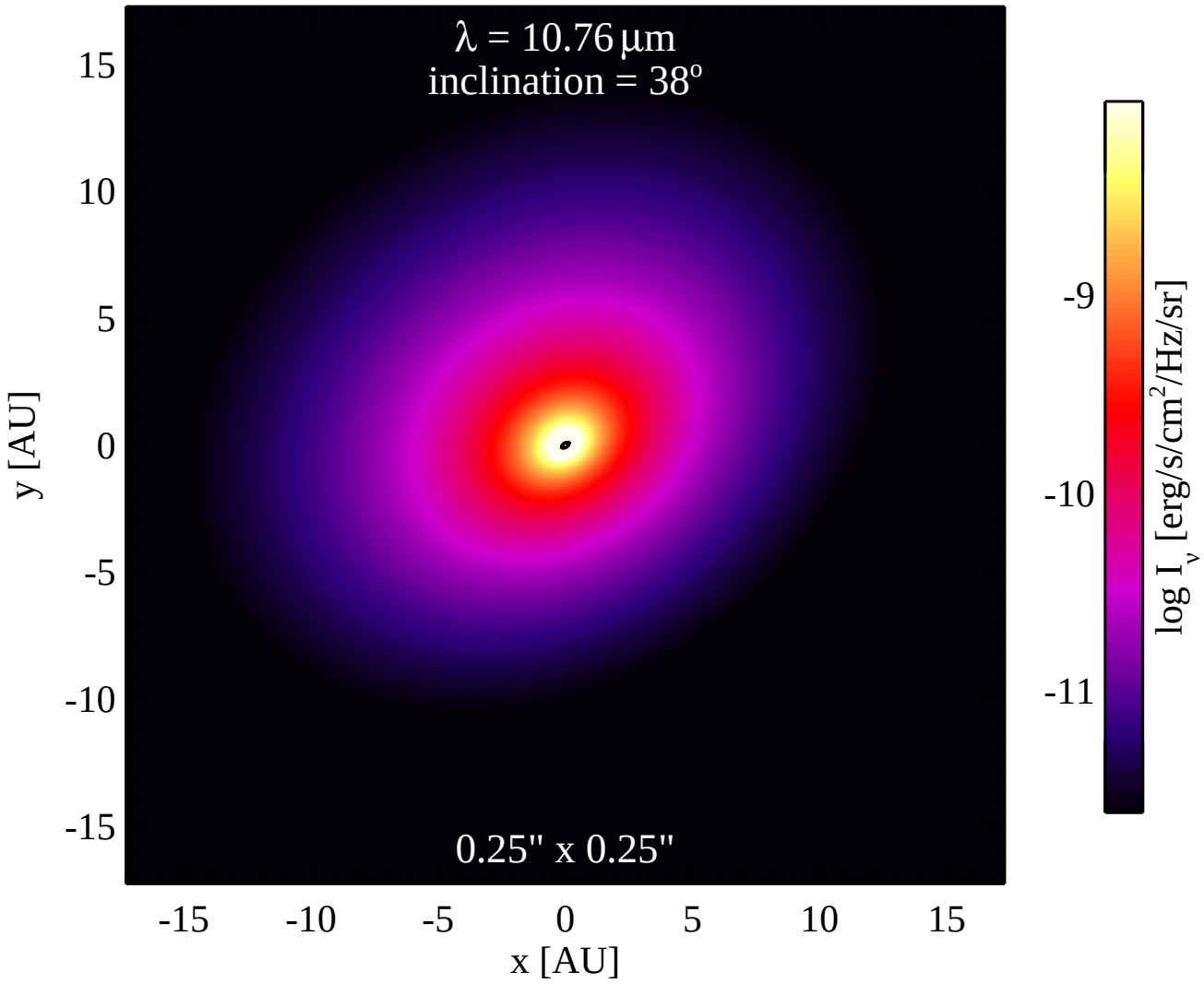

λ = 7.53 μm
inclination = 38°
0.65" x 0.65"
40
20
0
-20
-40
y [AU]
-40
-20
0
20
40
x [AU]
-10.0
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

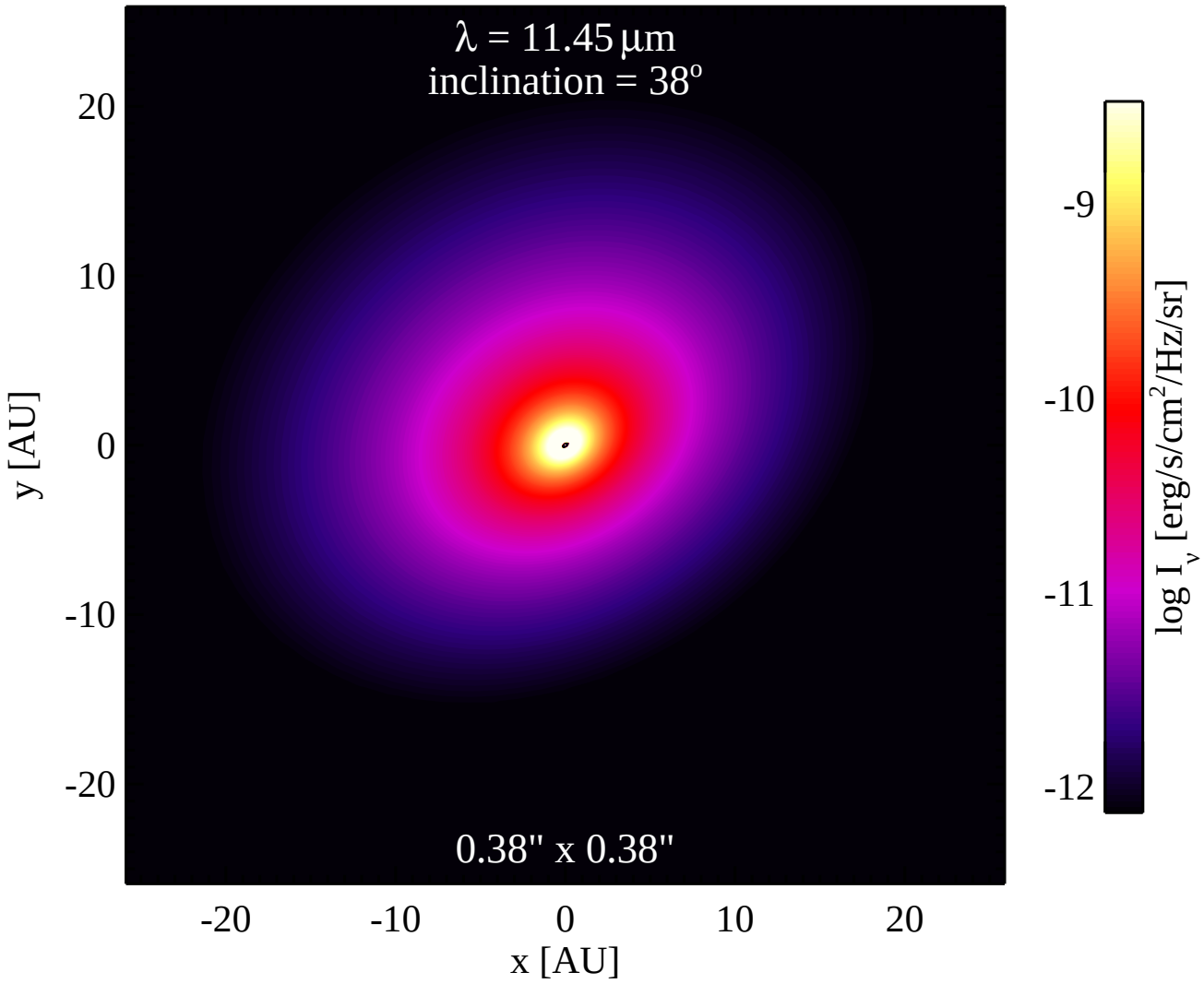

λ = 7.81 μm
inclination = 38°
0.77" x 0.77"
40
20
0
-20
-40
y [AU]
-40
-20
0
20
40
x [AU]
-10.0
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

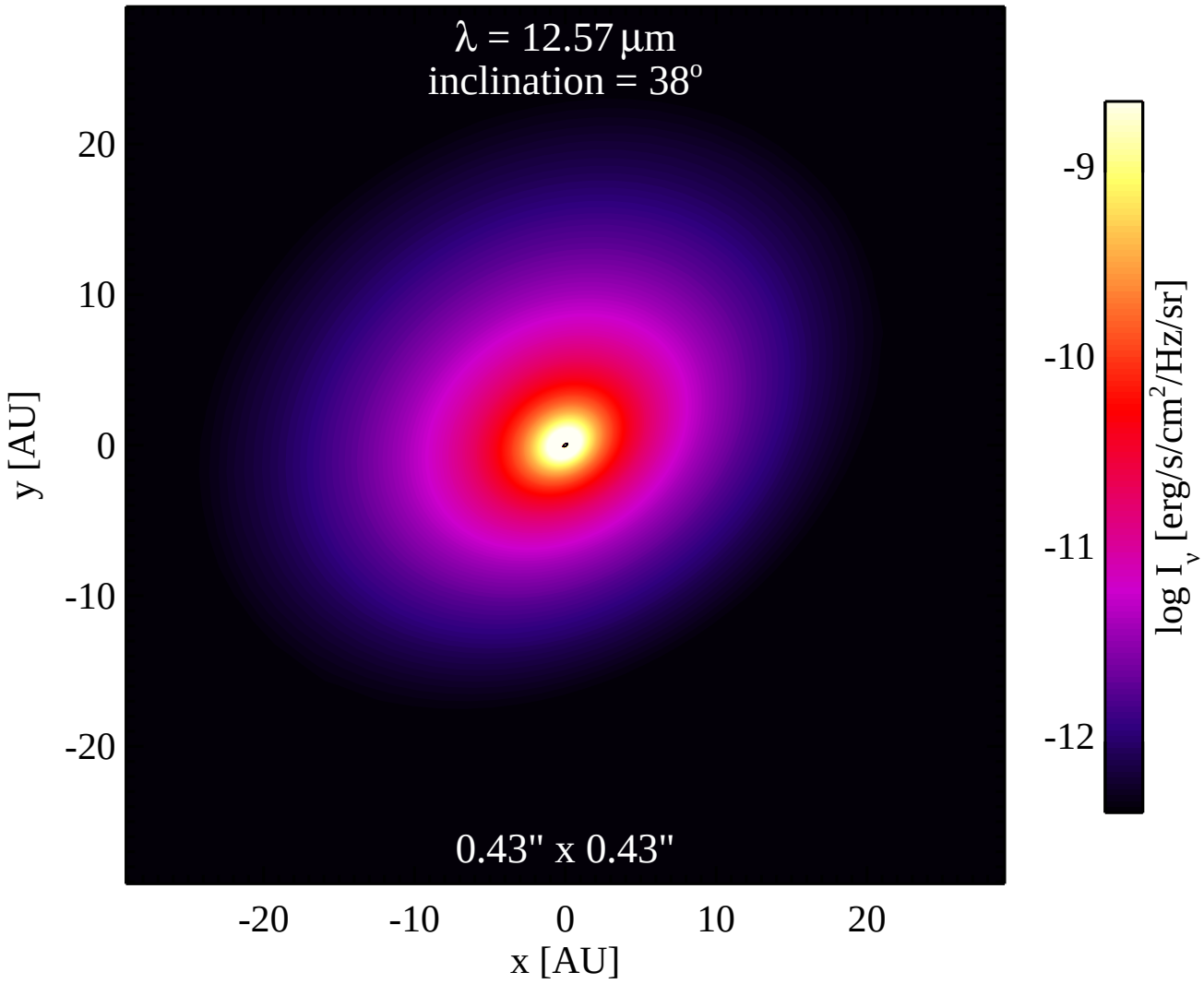

λ = 8.14 μm
inclination = 38°
0.36" x 0.36"
20
10
0
-10
-20
y [AU]
-20
-10
0
10
20
x [AU]
-9
-10
-11
-12
log I_ν [erg/s/cm²/Hz/sr]

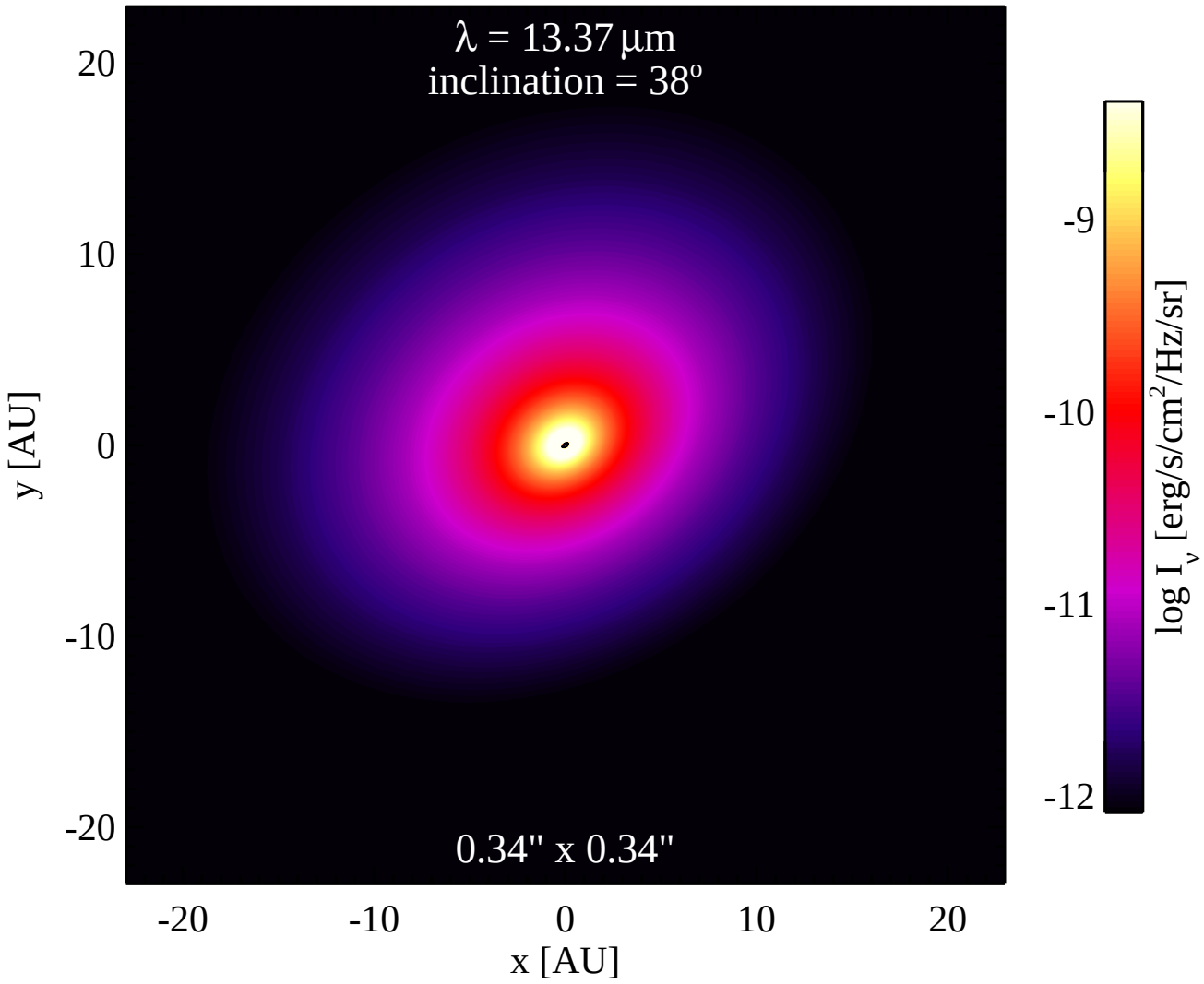

λ = 8.57 μm
inclination = 38°
0.35" x 0.35"
20
10
0
-10
-20
y [AU]
-20
-10
0
10
20
x [AU]
-9
-10
-11
-12
log I_ν [erg/s/cm²/Hz/sr]

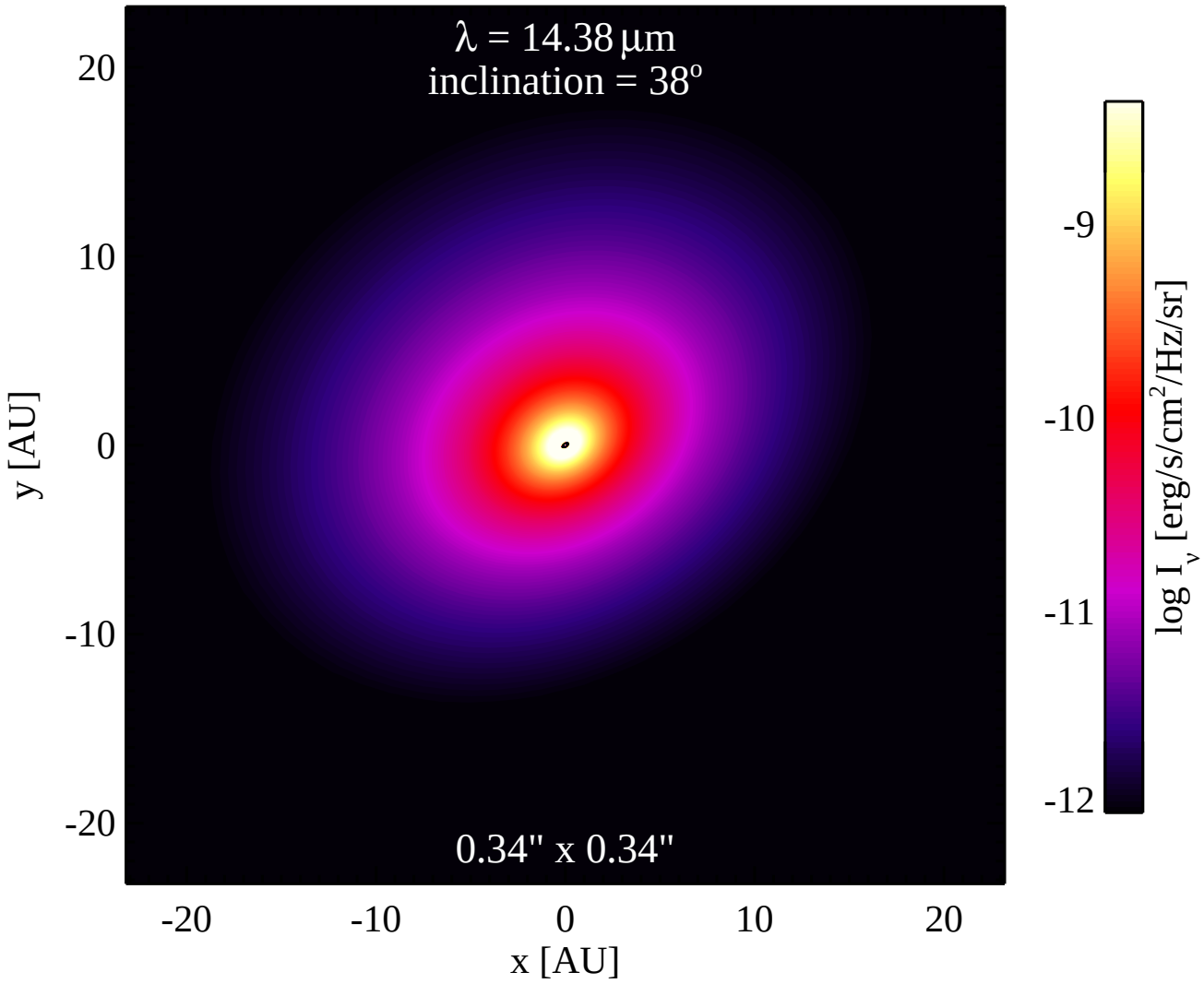

λ = 8.93 μm
inclination = 38°
0.21" x 0.21"
10
5
0
-5
-10
y [AU]
-10
-5
0
5
10
x [AU]
-8
-9
-10
-11
log I_ν [erg/s/cm²/Hz/sr]

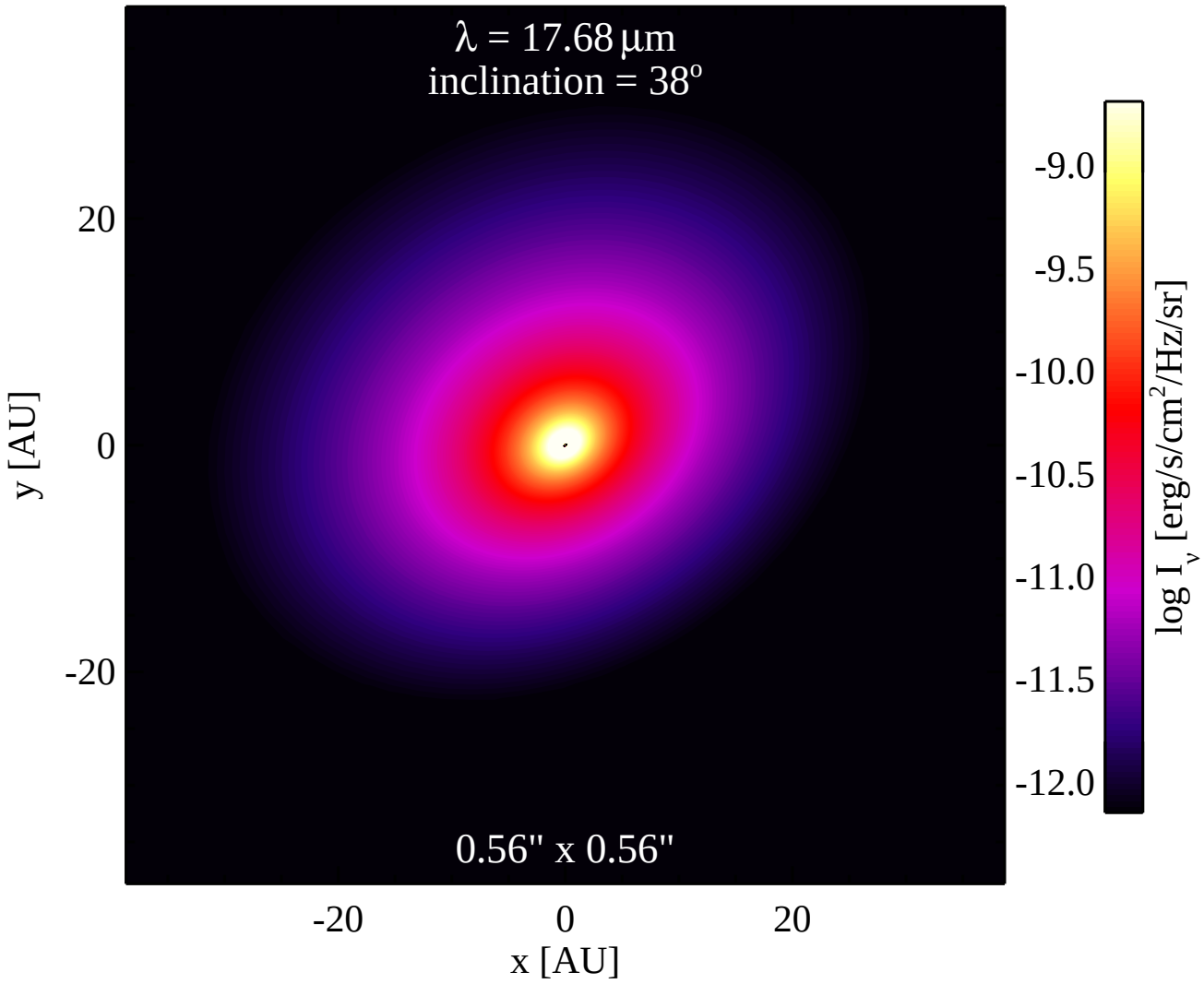

λ = 10.76 μm
inclination = 38°
0.25" x 0.25"
15
10
5
0
-5
-10
-15
y [AU]
-15
-10
-5
0
5
10
15
x [AU]
-9
-10
-11
log I_ν [erg/s/cm²/Hz/sr]

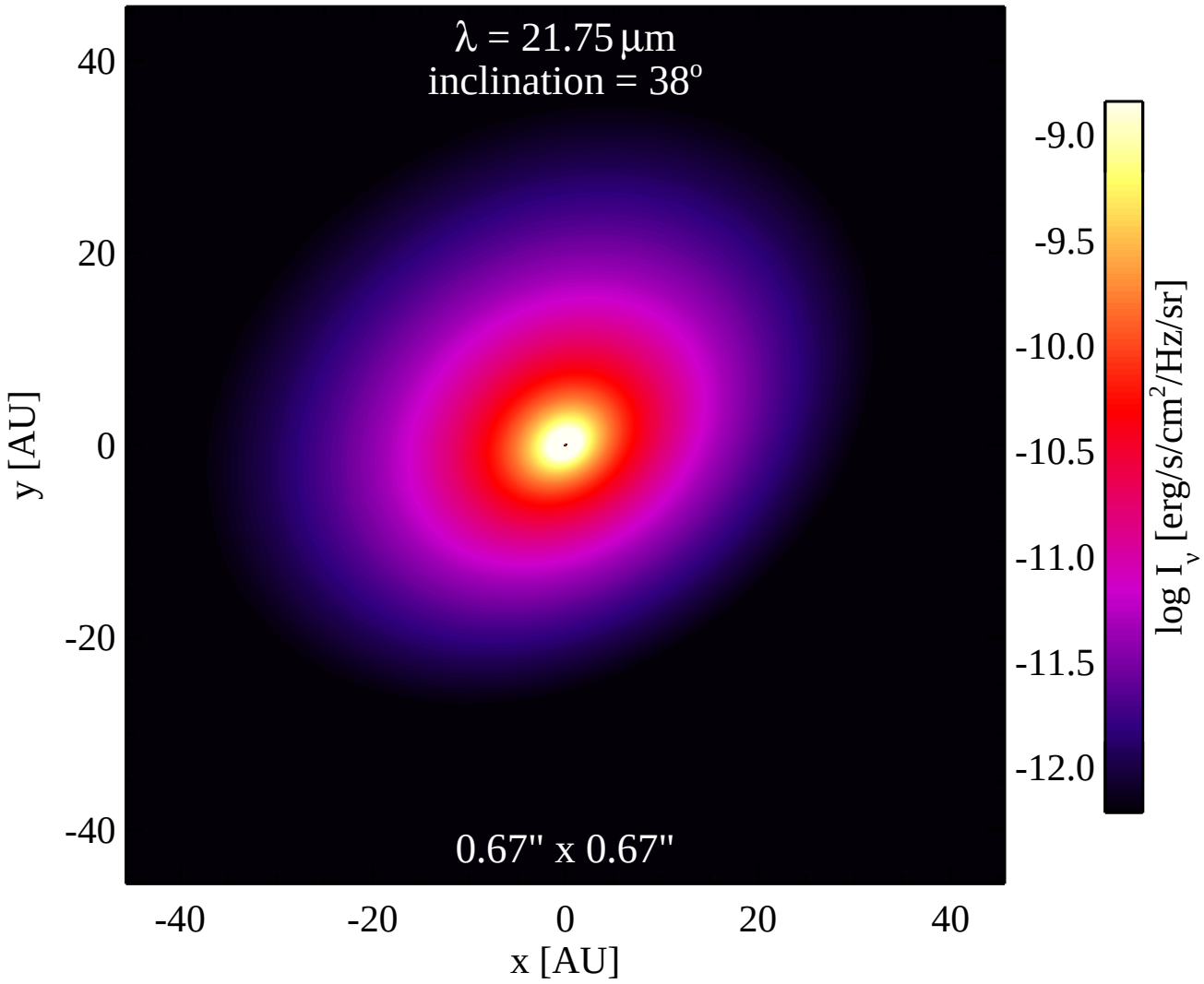

λ = 11.45 μm
inclination = 38°
0.38" x 0.38"
20
10
0
-10
-20
y [AU]
-20
-10
0
10
20
x [AU]
-9
-10
-11
-12
log I_ν [erg/s/cm²/Hz/sr]

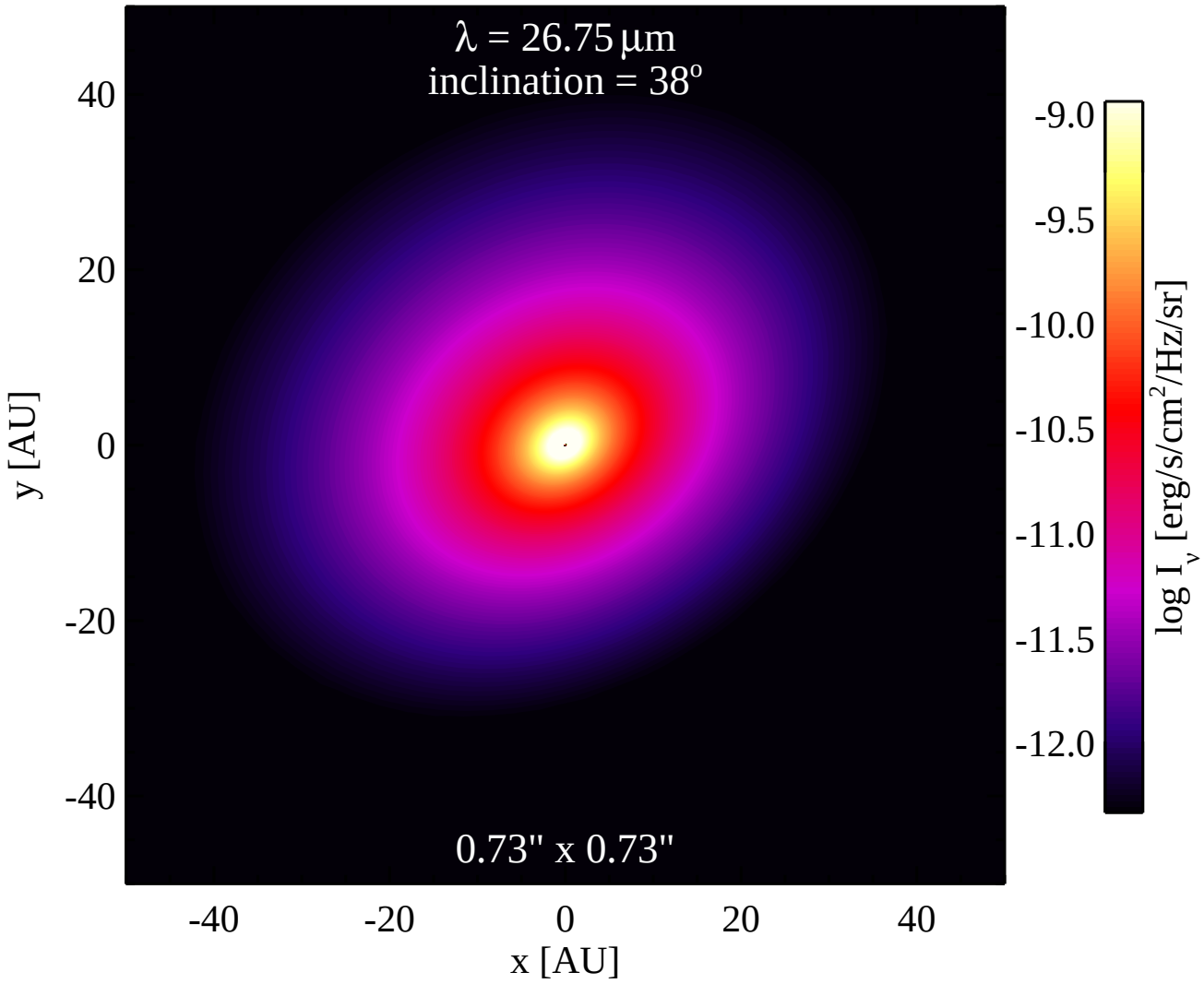

λ = 12.57 μm
inclination = 38°
0.43" x 0.43"
20
10
0
-10
-20
y [AU]
-20
-10
0
10
20
x [AU]
-9
-10
-11
-12
log I_ν [erg/s/cm²/Hz/sr]

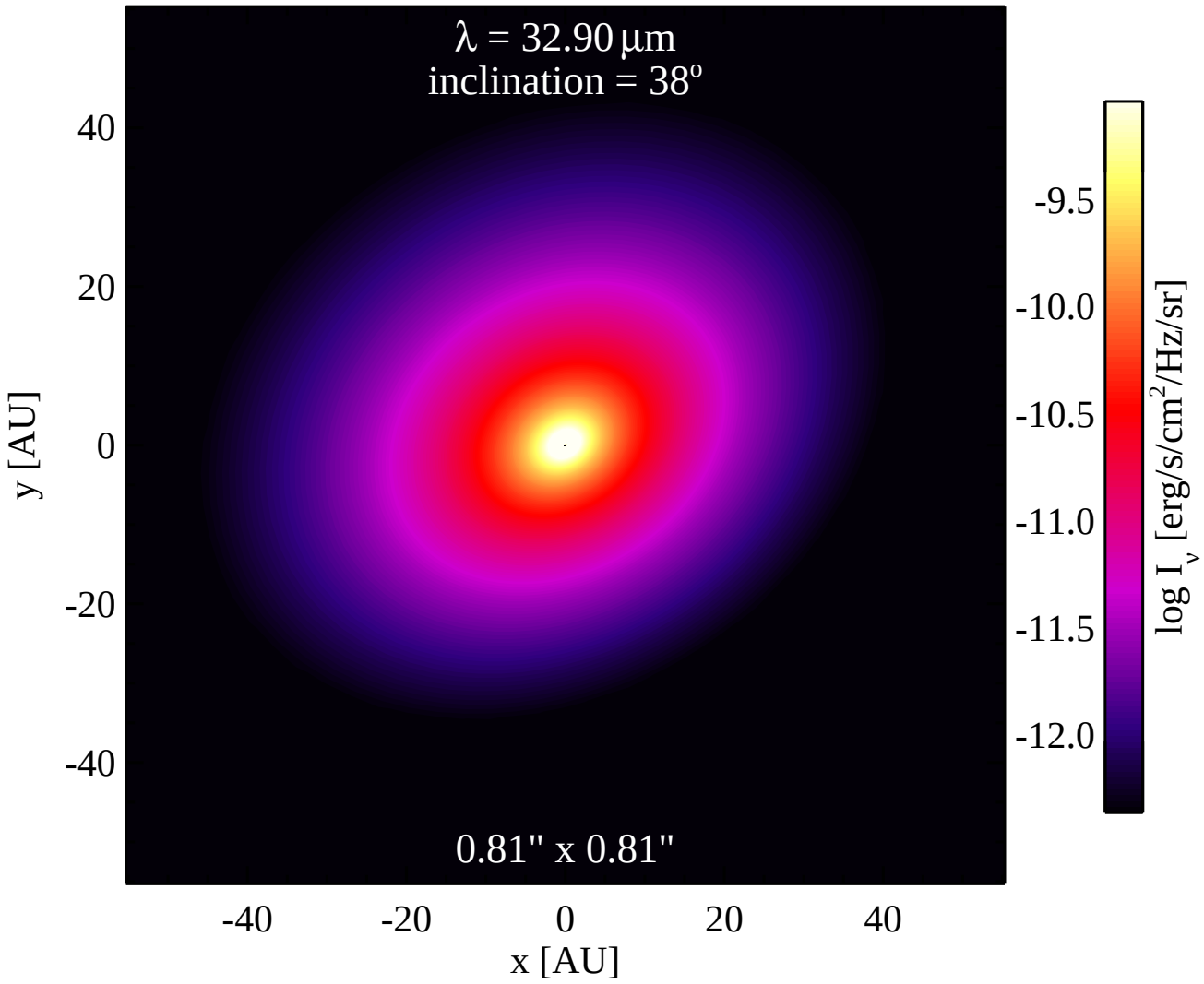

λ = 13.37 μm
inclination = 38°
0.34" x 0.34"
20
10
0
-10
-20
y [AU]
-20
-10
0
10
20
x [AU]
-9
-10
-11
-12
log I_ν [erg/s/cm²/Hz/sr]

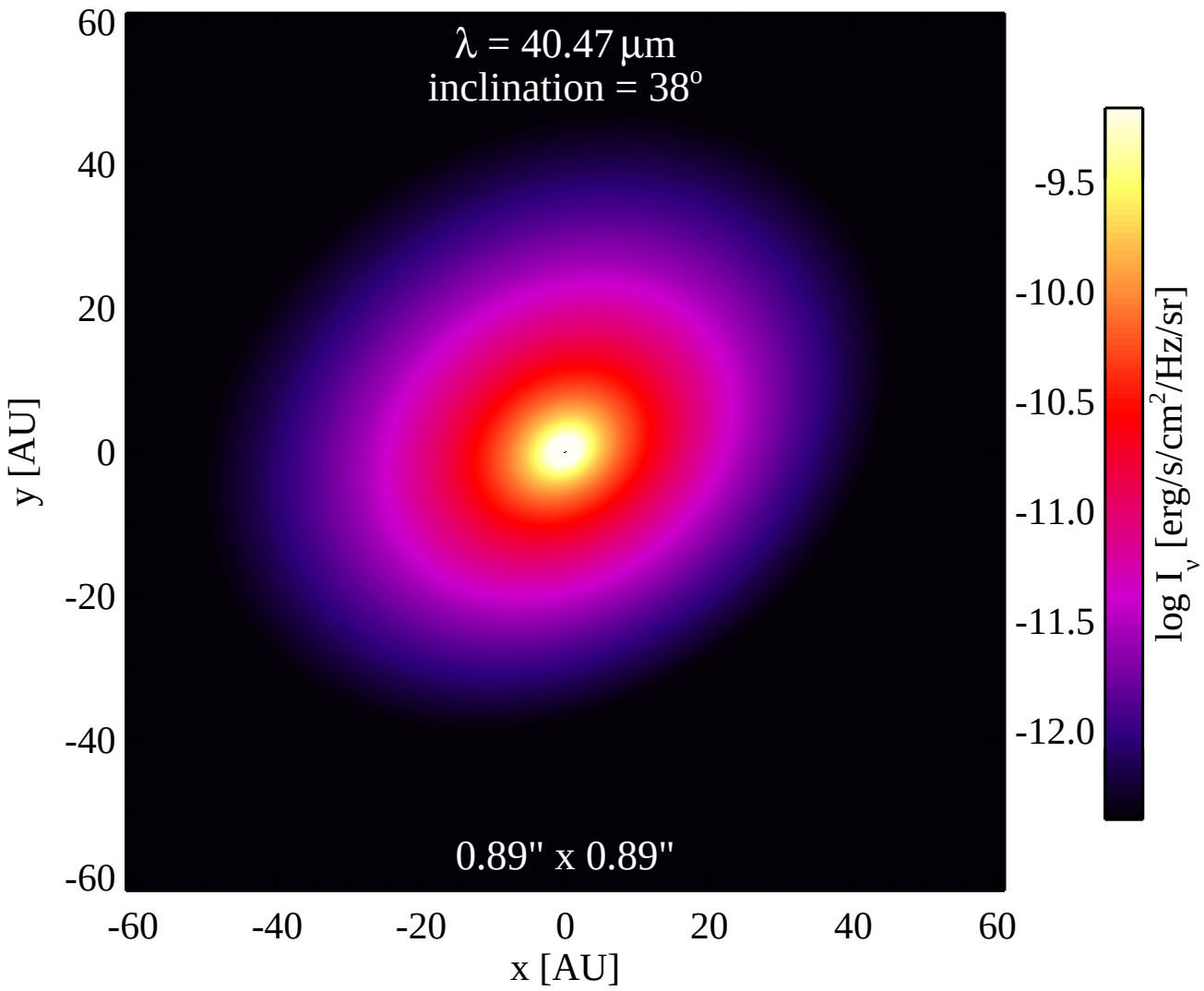

λ = 14.38 μm
inclination = 38°
0.34" x 0.34"
20
10
0
-10
-20
y [AU]
-20
-10
0
10
20
x [AU]
-9
-10
-11
-12
log I_ν [erg/s/cm²/Hz/sr]

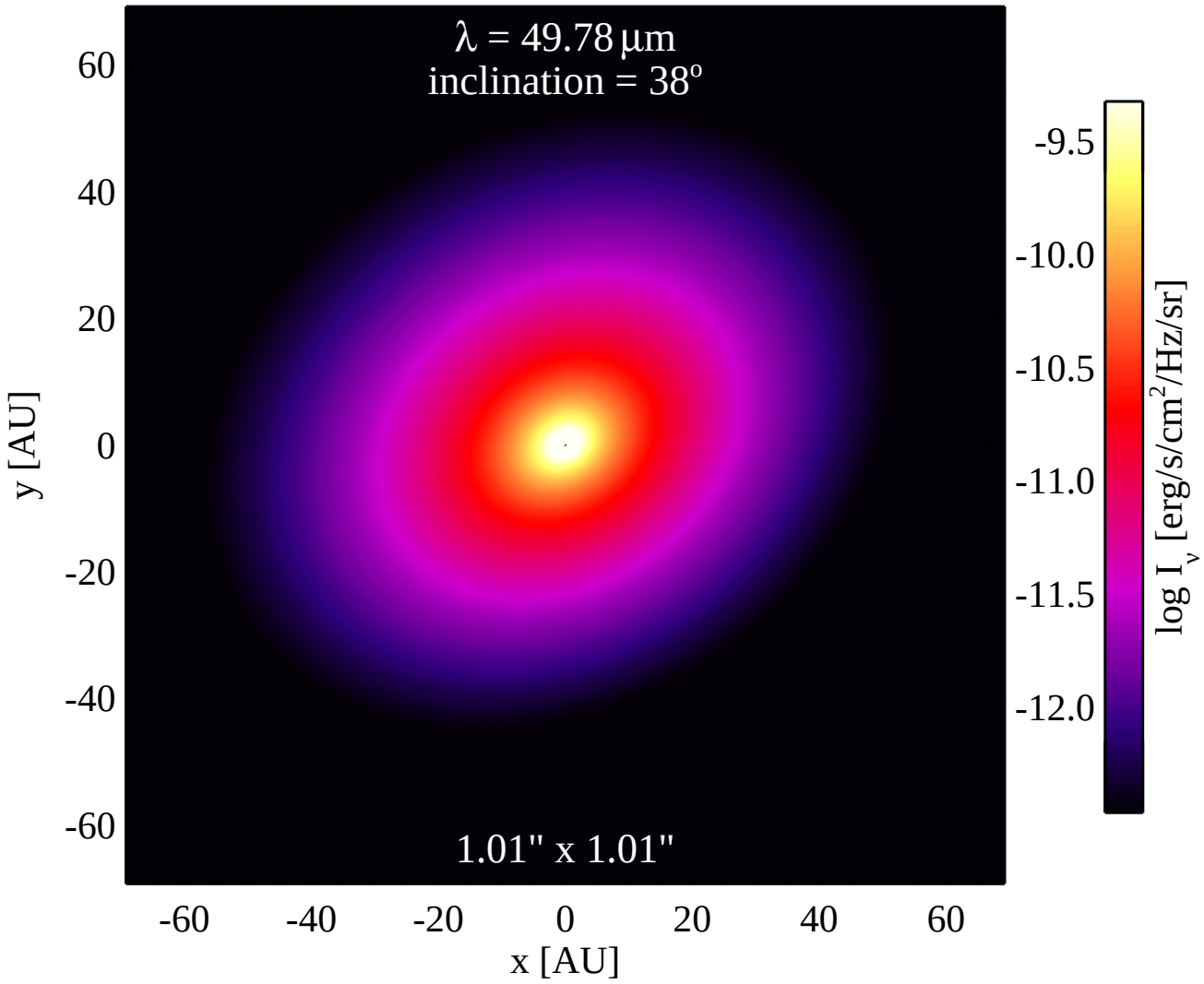

λ = 17.68 μm
inclination = 38°
0.56" x 0.56"
20
0
-20
y [AU]
-20
0
20
x [AU]
-9.0
-9.5
-10.0
-10.5
-11.0
-11.5
-12.0
log I_ν [erg/s/cm²/Hz/sr]

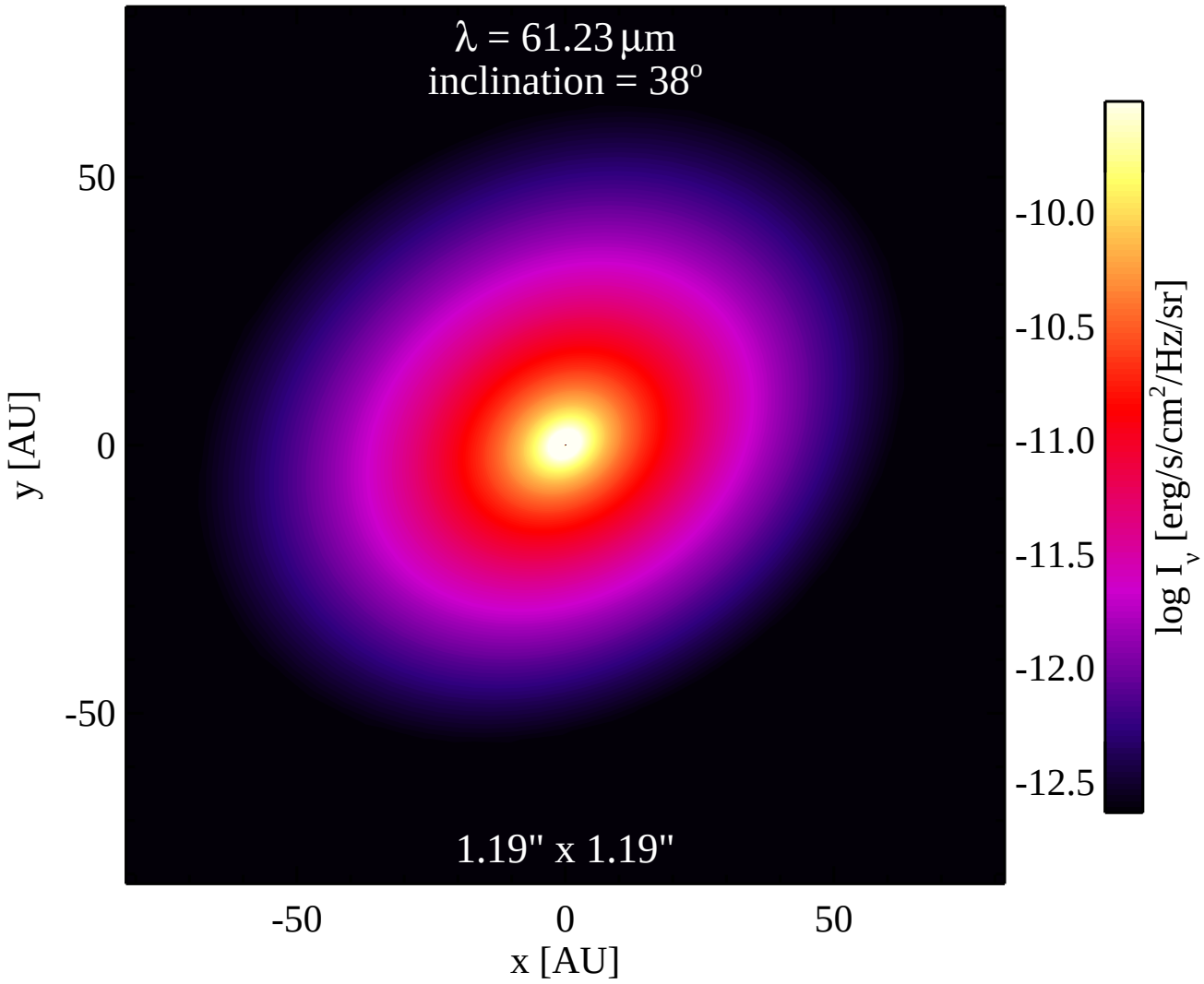

λ = 21.75 μm
inclination = 38°
0.67" x 0.67"
40
20
0
-20
-40
y [AU]
-40
-20
0
20
40
x [AU]
-9.0
-9.5
-10.0
-10.5
-11.0
-11.5
-12.0
log I_ν [erg/s/cm²/Hz/sr]

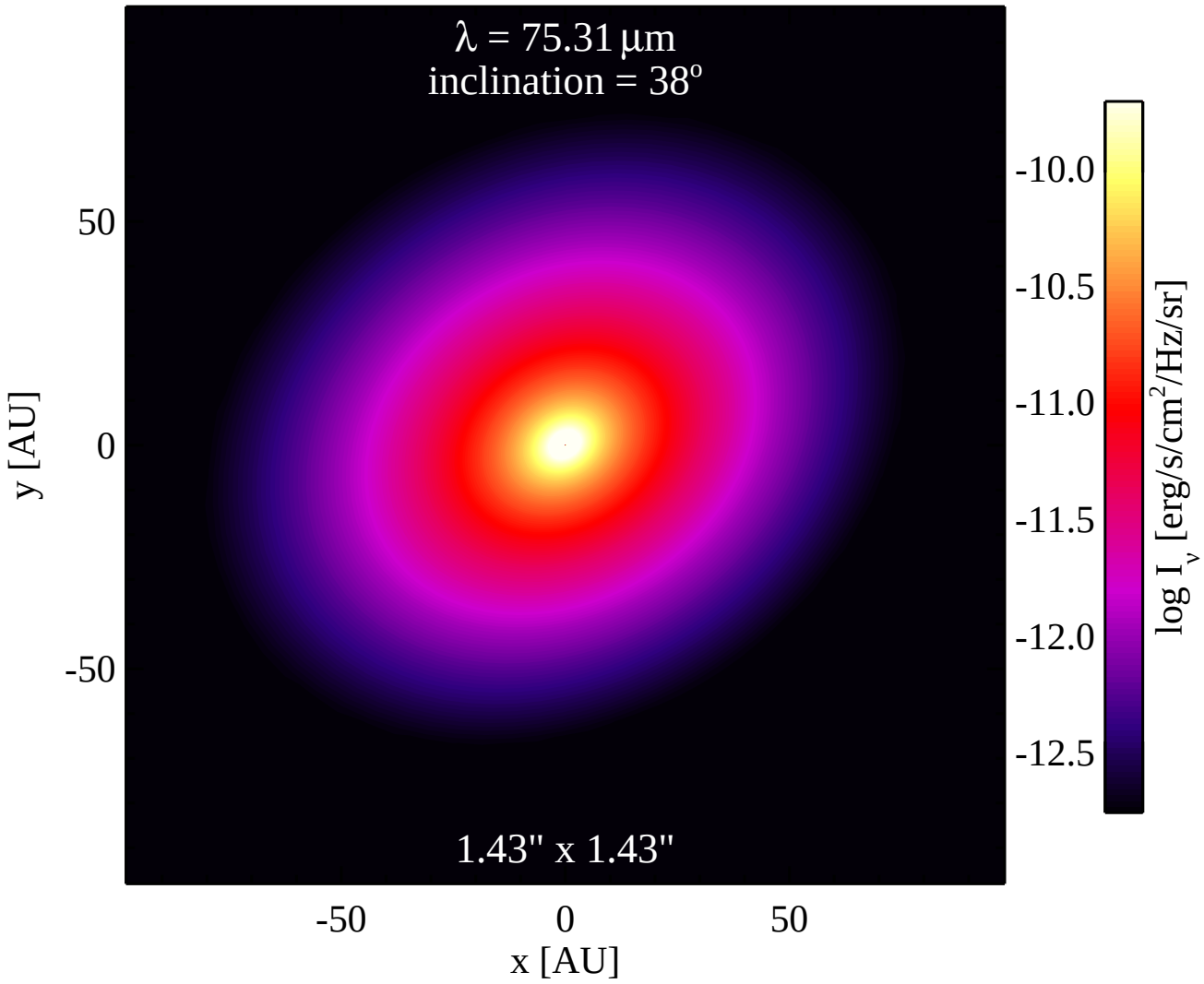

λ = 26.75 μm
inclination = 38°
0.73" x 0.73"
40
20
0
-20
-40
y [AU]
-40
-20
0
20
40
x [AU]
-9.0
-9.5
-10.0
-10.5
-11.0
-11.5
-12.0
log I_ν [erg/s/cm²/Hz/sr]

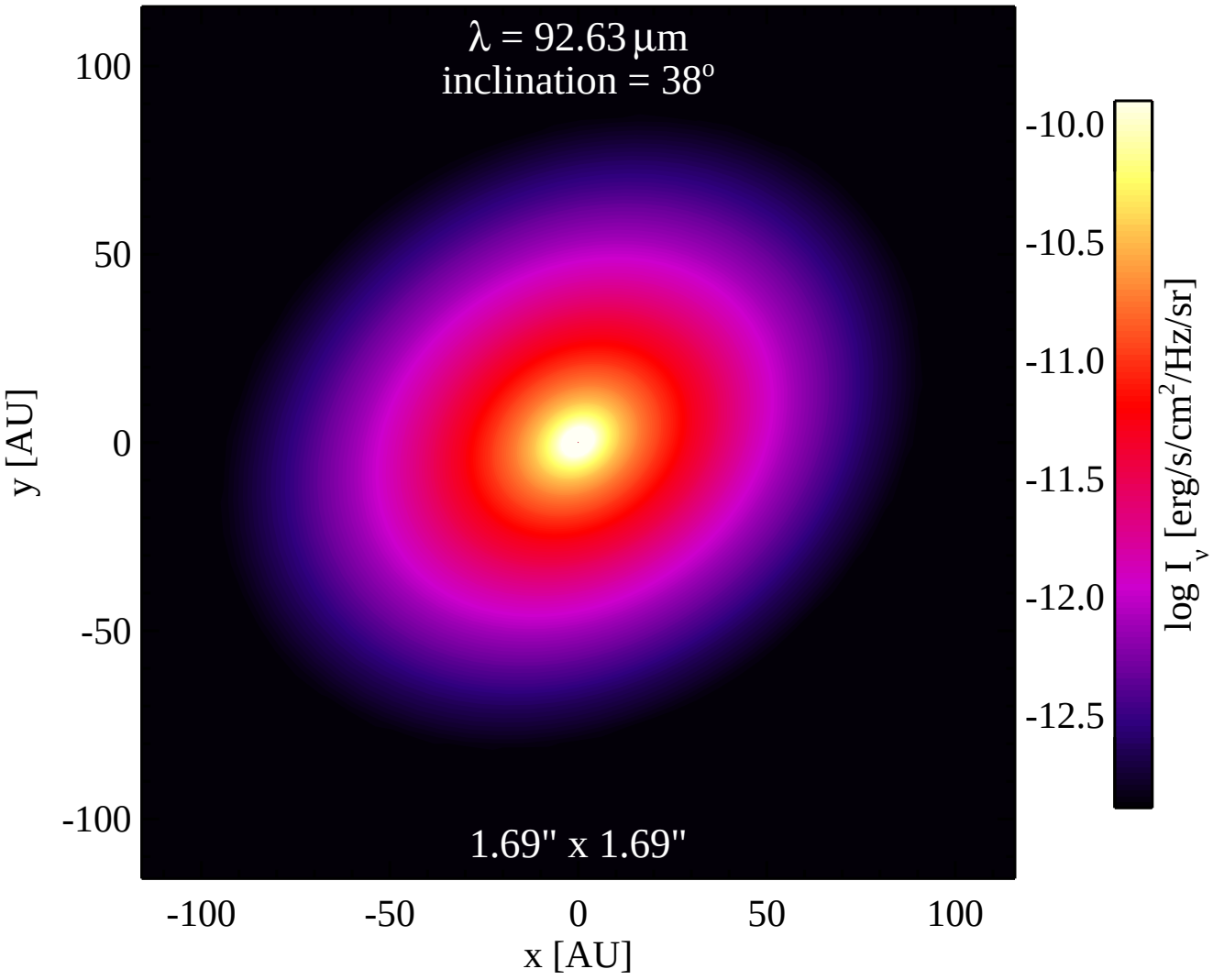

λ = 32.90 μm
inclination = 38°
0.81" x 0.81"
40
20
0
-20
-40
y [AU]
-40
-20
0
20
40
x [AU]
-9.5
-10.0
-10.5
-11.0
-11.5
-12.0
log I_ν [erg/s/cm²/Hz/sr]

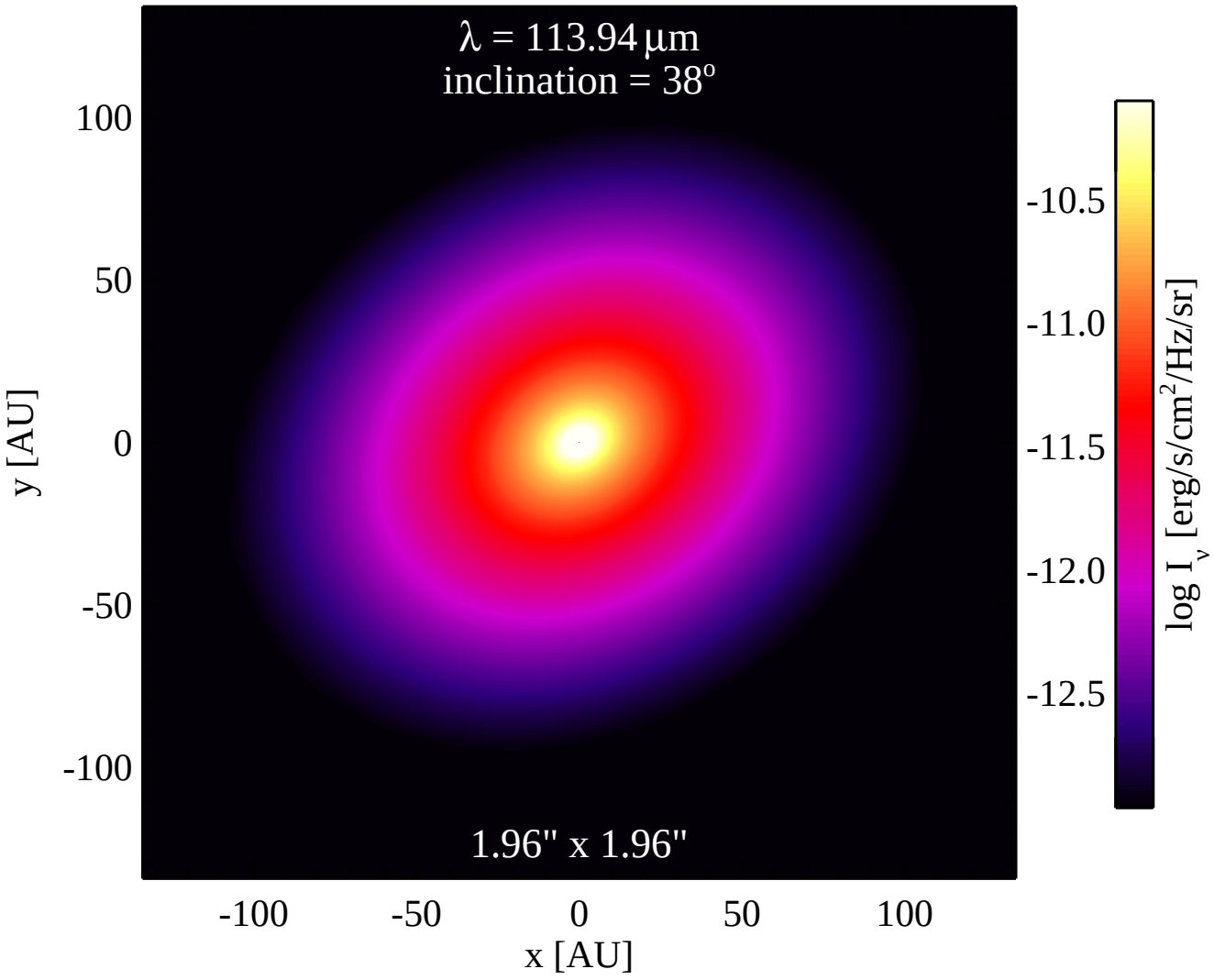

λ = 40.47 μm
inclination = 38°
0.89" x 0.89"
60
40
20
0
-20
-40
-60
y [AU]
-60
-40
-20
0
20
40
60
x [AU]
-9.5
-10.0
-10.5
-11.0
-11.5
-12.0
log I_ν [erg/s/cm²/Hz/sr]

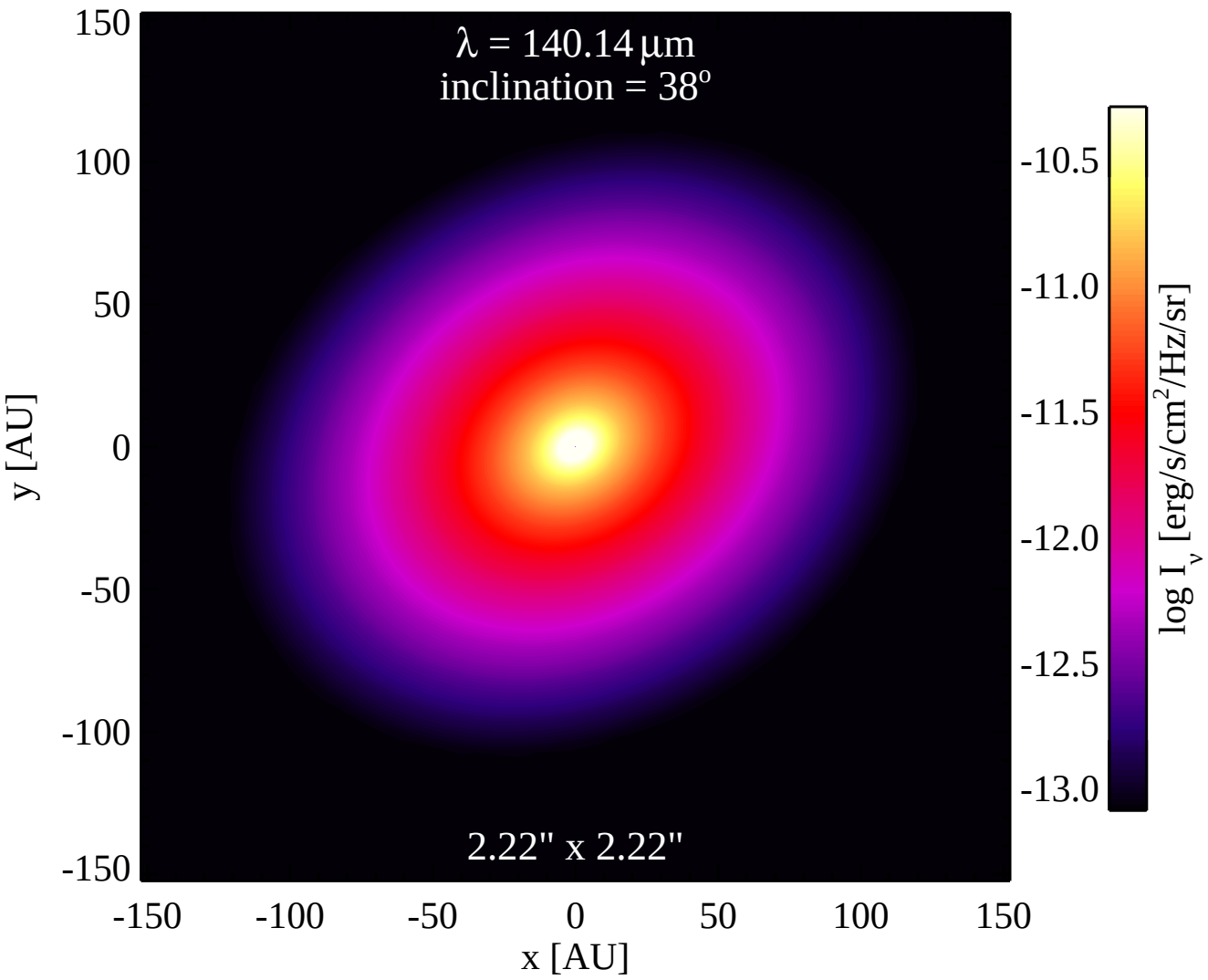

λ = 49.78 μm
inclination = 38°
1.01" x 1.01"
60
40
20
0
-20
-40
-60
y [AU]
-60
-40
-20
0
20
40
60
x [AU]
-9.5
-10.0
-10.5
-11.0
-11.5
-12.0
log I_ν [erg/s/cm²/Hz/sr]

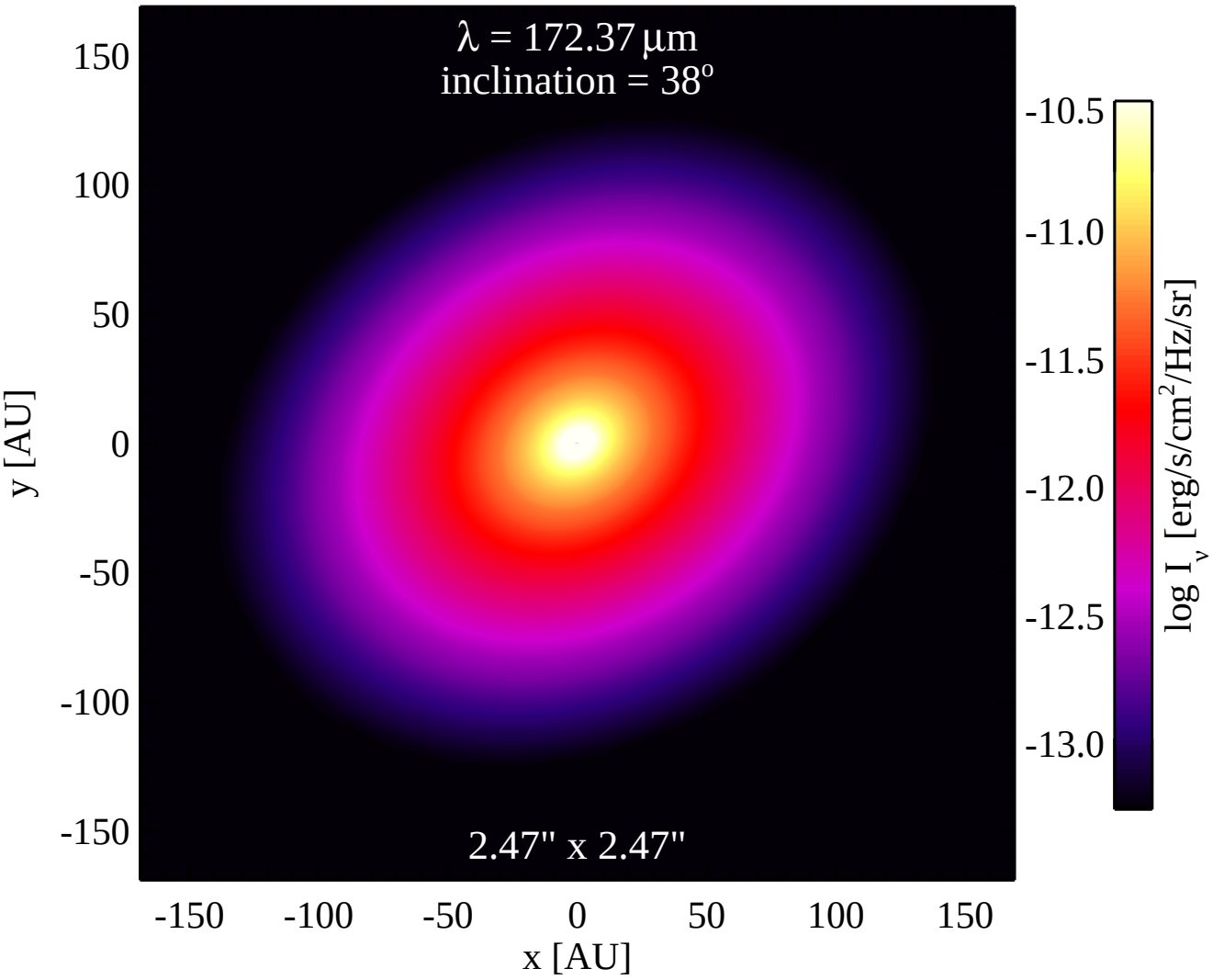

λ = 61.23 μm
inclination = 38°
1.19" x 1.19"
50
0
-50
y [AU]
-50
0
50
x [AU]
-10.0
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

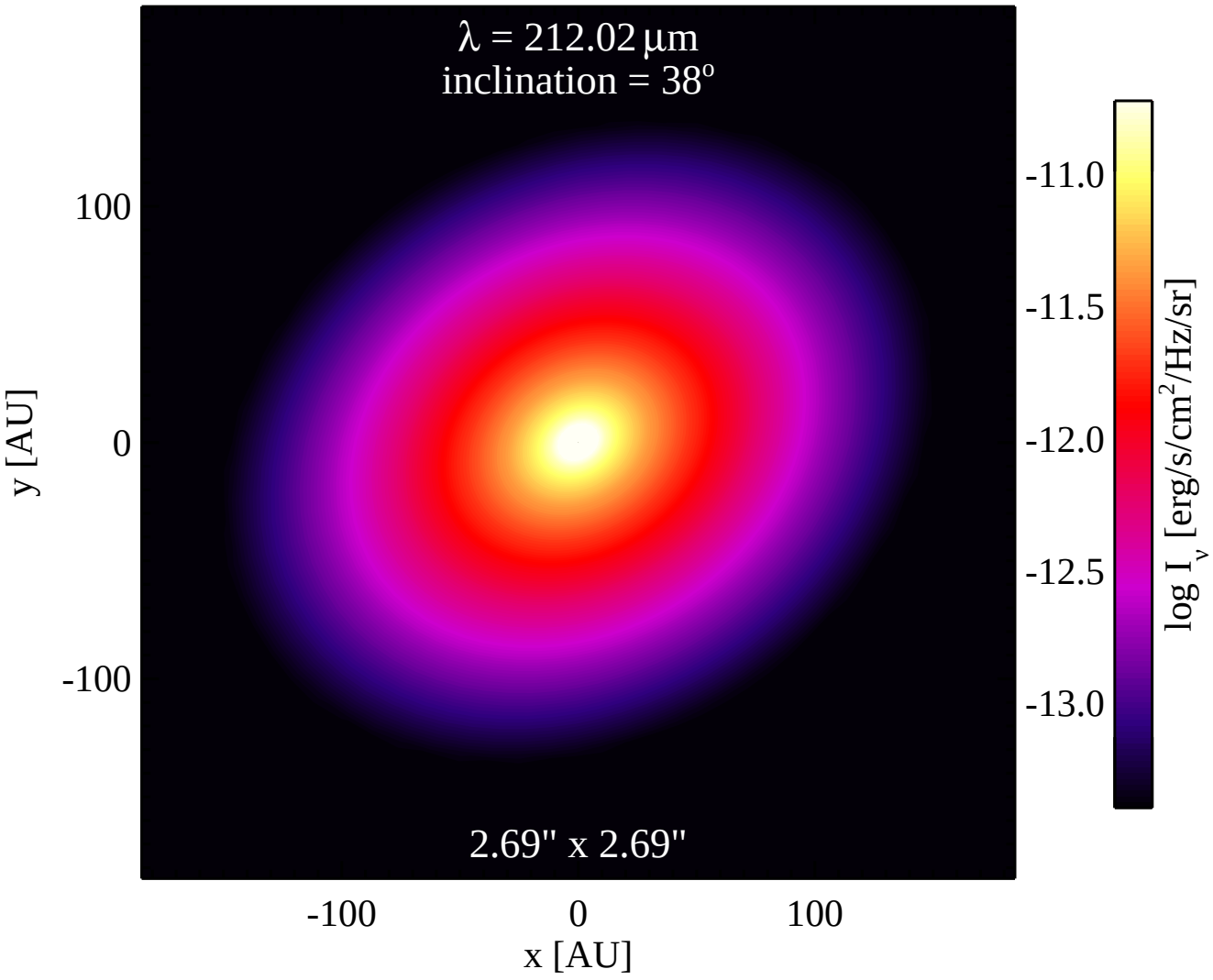

λ = 75.31 μm
inclination = 38°
1.43" x 1.43"
50
0
-50
y [AU]
-50
0
50
x [AU]
-10.0
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

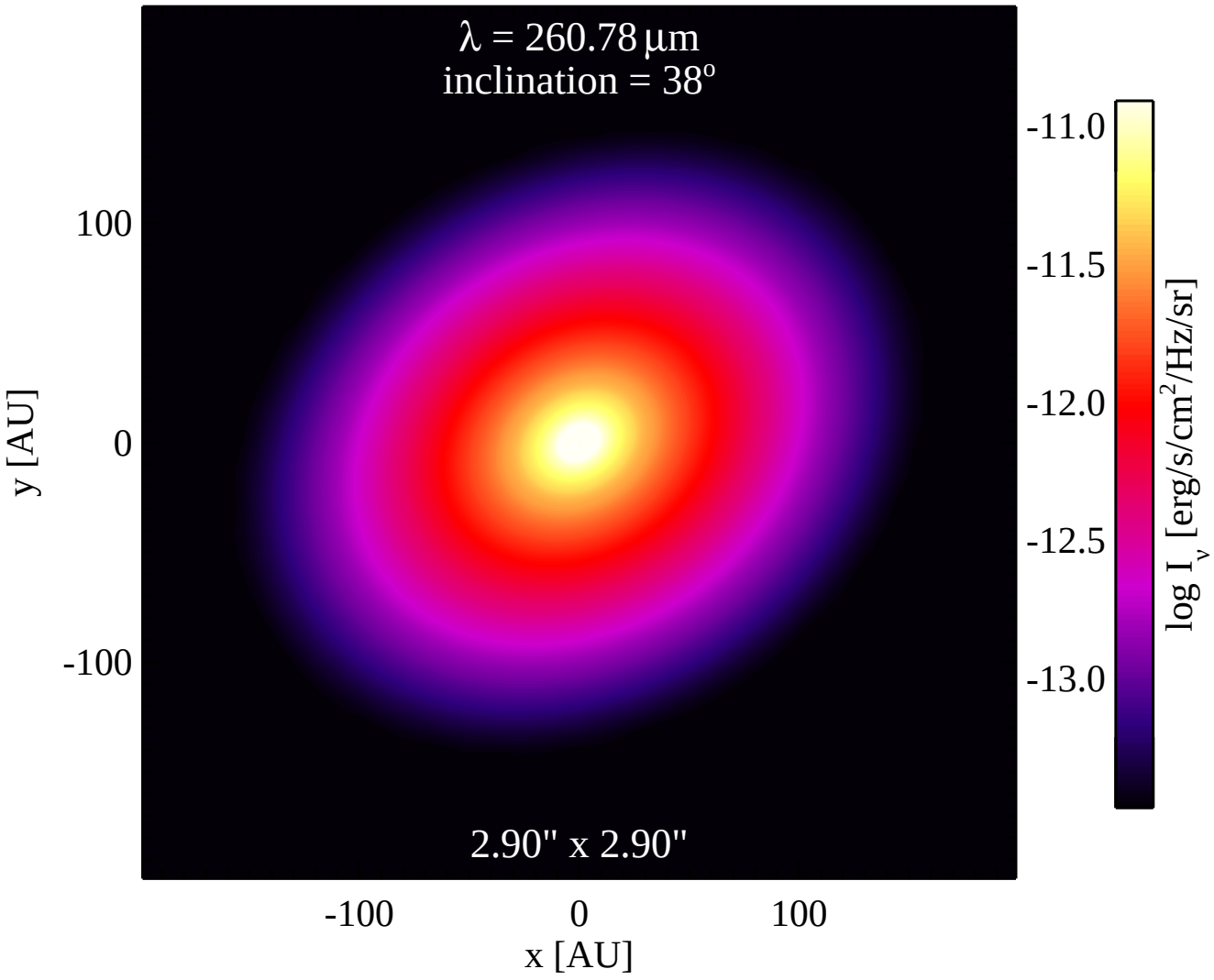

λ = 92.63 μm
inclination = 38°
1.69" x 1.69"
100
50
0
-50
-100
y [AU]
-100
-50
0
50
100
x [AU]
-10.0
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

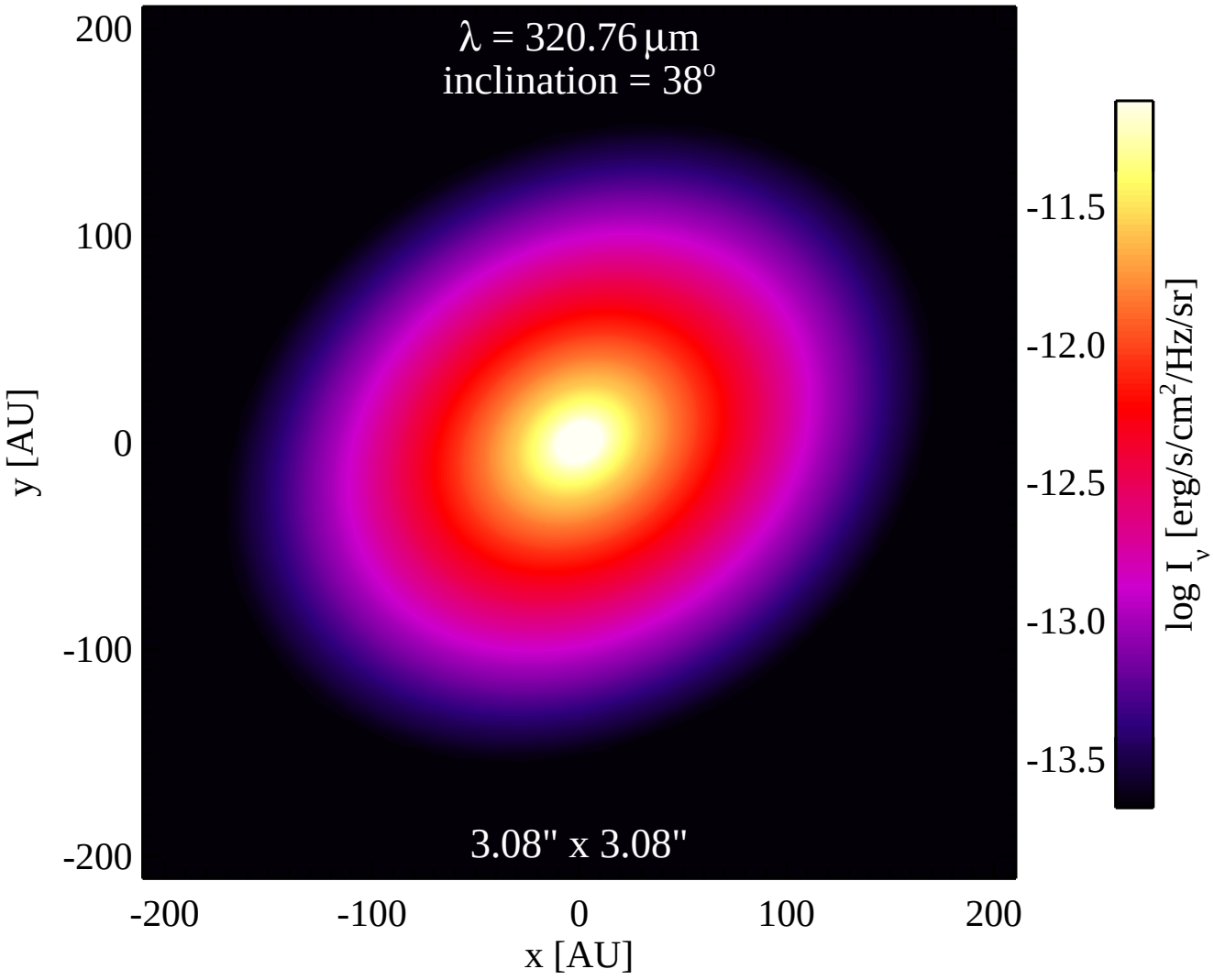

λ = 113.94 μm
inclination = 38°
1.96" x 1.96"
100
50
0
-50
-100
y [AU]
-100
-50
0
50
100
x [AU]
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

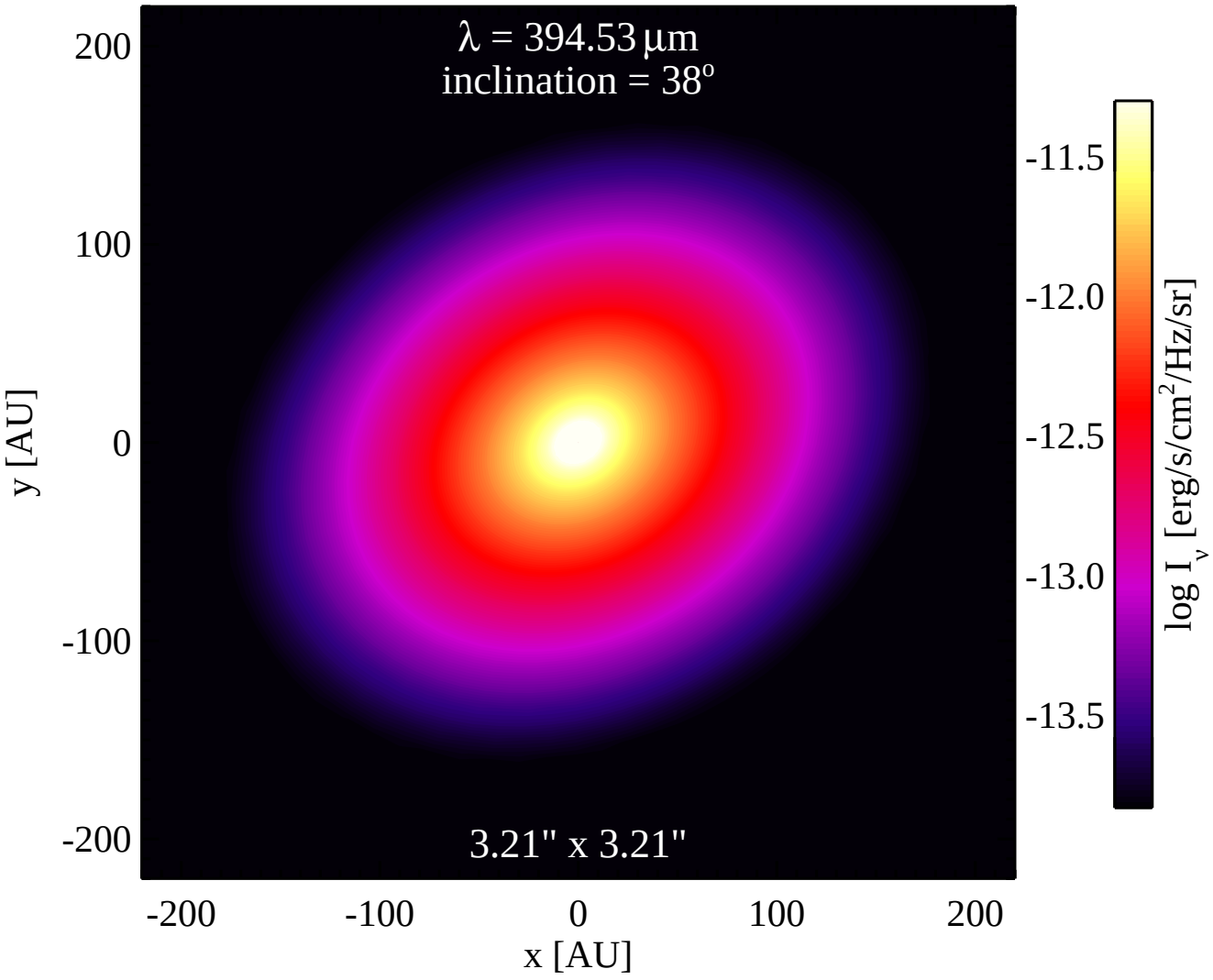

λ = 140.14 μm
inclination = 38°
2.22" x 2.22"
150
100
50
0
-50
-100
-150
y [AU]
-150
-100
-50
0
50
100
150
x [AU]
-10.5
-11.0
-11.5
-12.0
-12.5
-13.0
log I_ν [erg/s/cm²/Hz/sr]

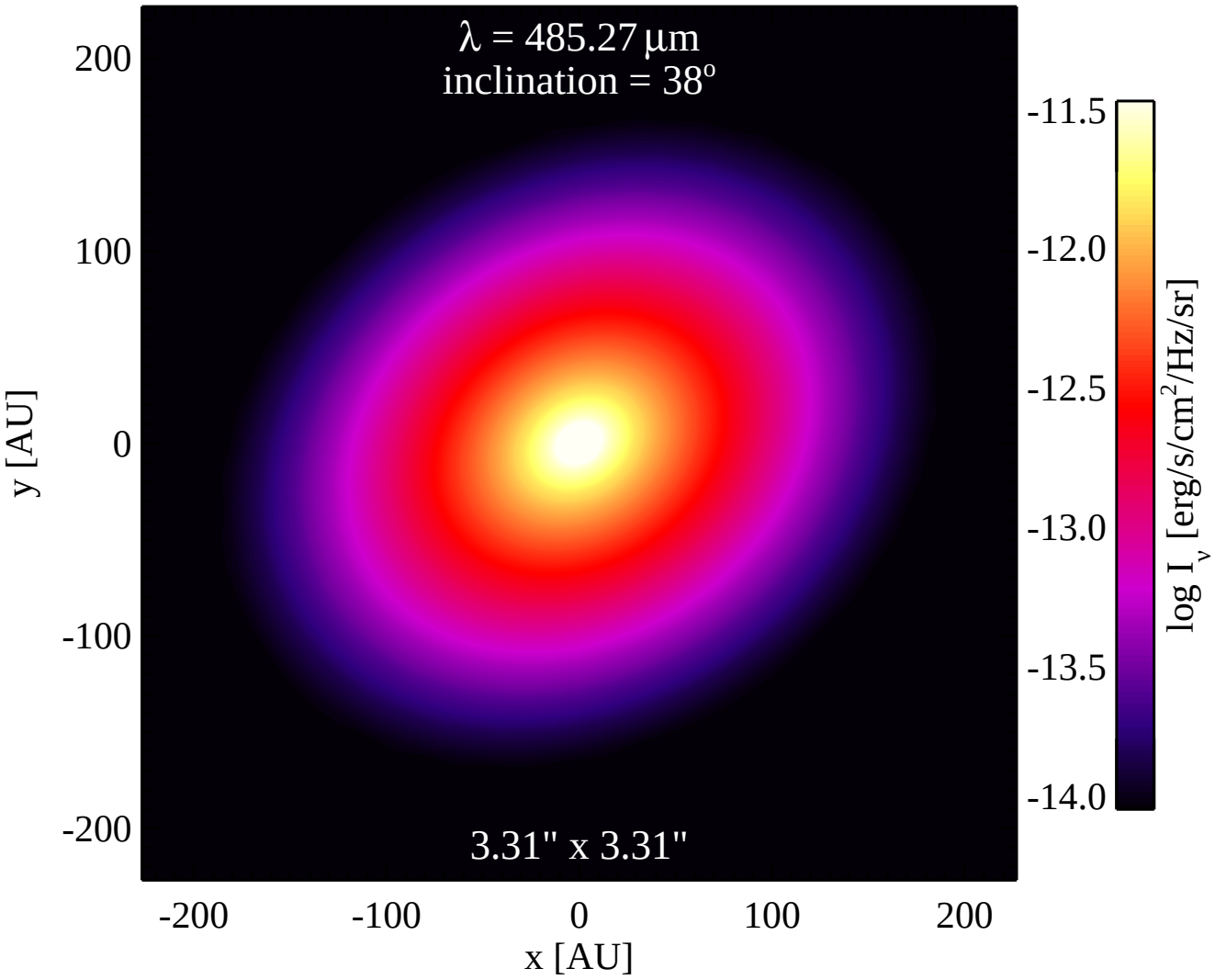

λ = 172.37 μm
inclination = 38°
2.47" x 2.47"
150
100
50
0
-50
-100
-150
y [AU]
-150
-100
-50
0
50
100
150
x [AU]
-10.5
-11.0
-11.5
-12.0
-12.5
-13.0
log I_ν [erg/s/cm²/Hz/sr]

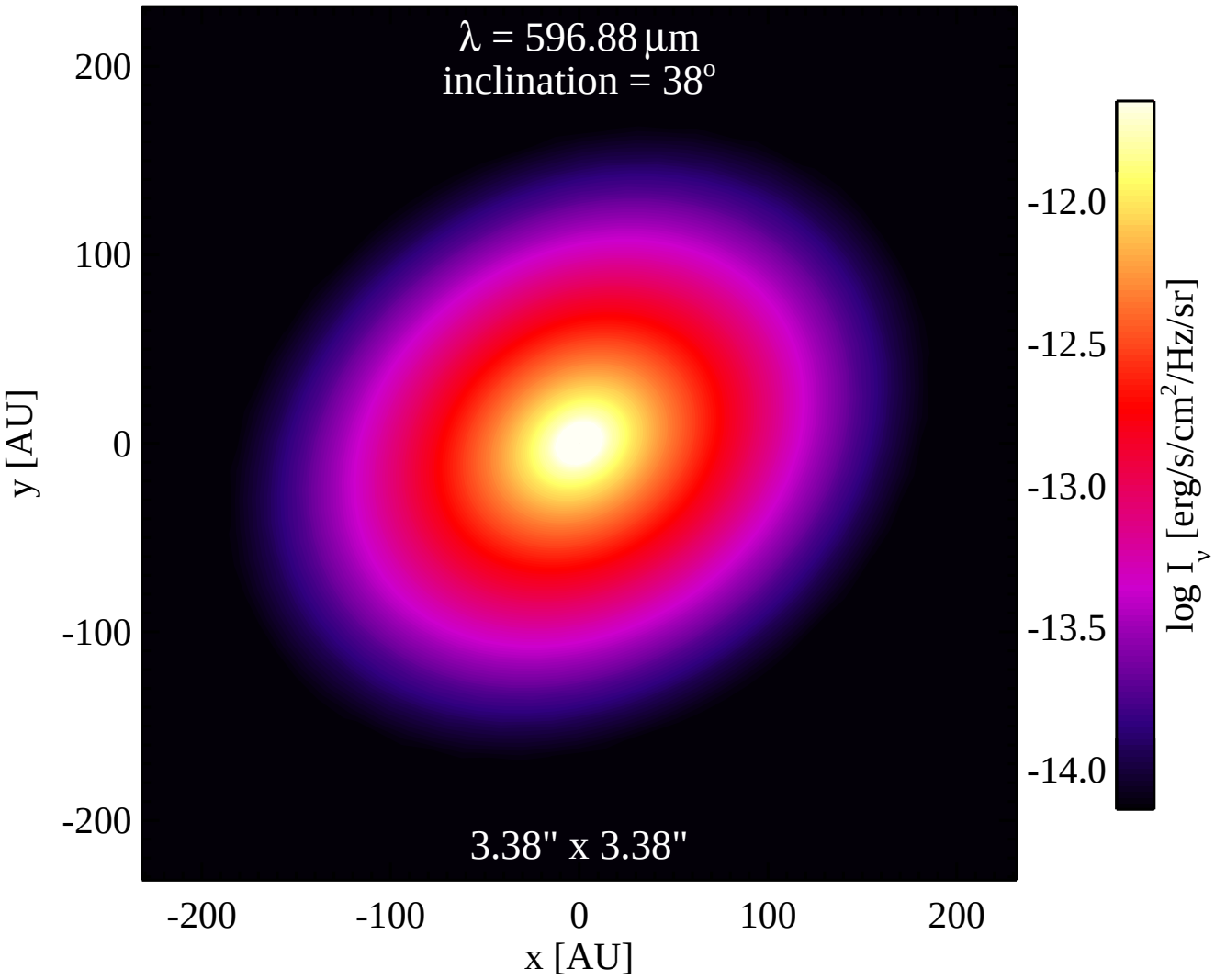

λ = 212.02 μm
inclination = 38°
2.69" x 2.69"
100
0
-100
y [AU]
-100
0
100
x [AU]
-11.0
-11.5
-12.0
-12.5
-13.0
log I_ν [erg/s/cm²/Hz/sr]

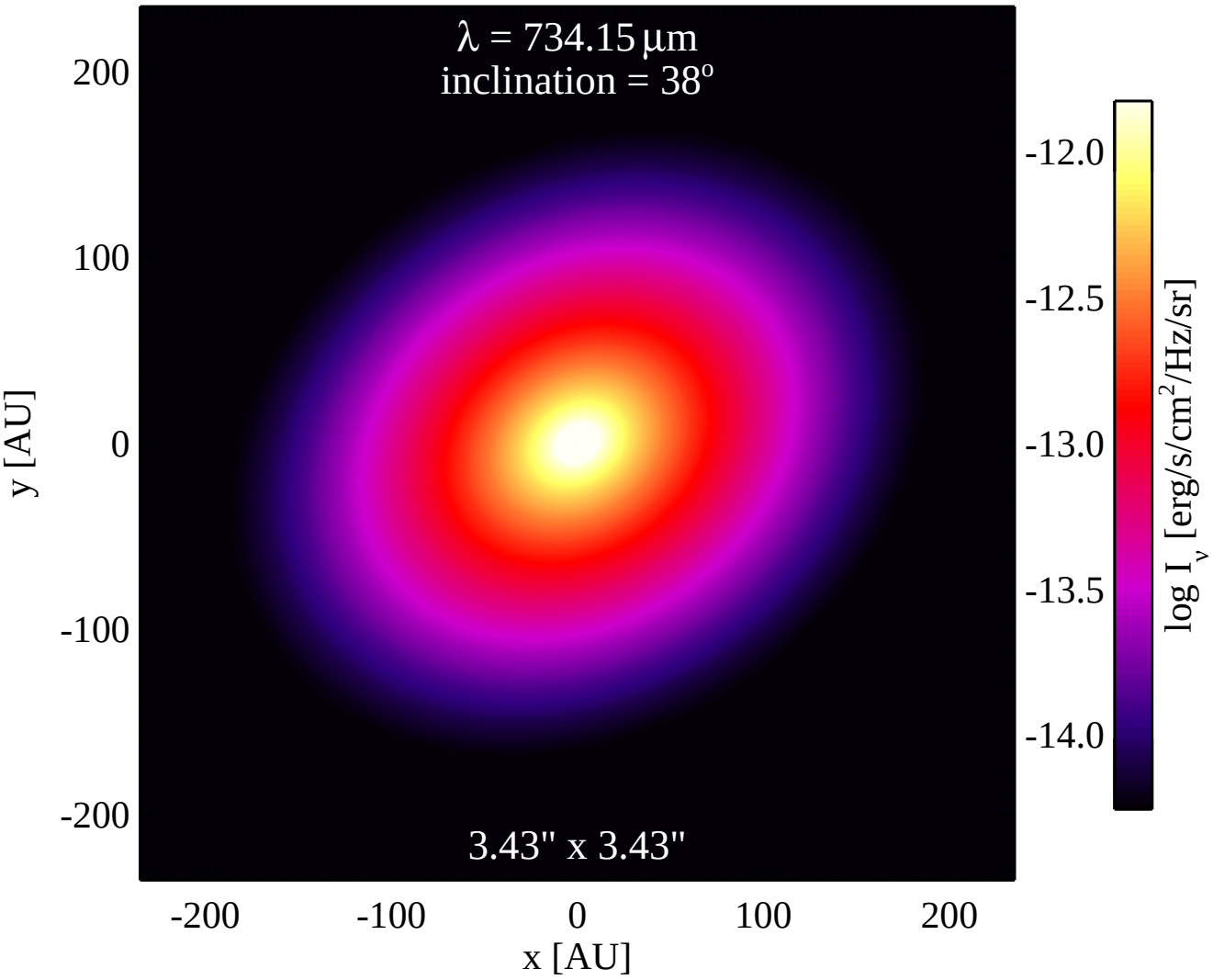

λ = 260.78 μm
inclination = 38°
2.90" x 2.90"
100
0
-100
y [AU]
-100
0
100
x [AU]
-11.0
-11.5
-12.0
-12.5
-13.0
log I_ν [erg/s/cm²/Hz/sr]

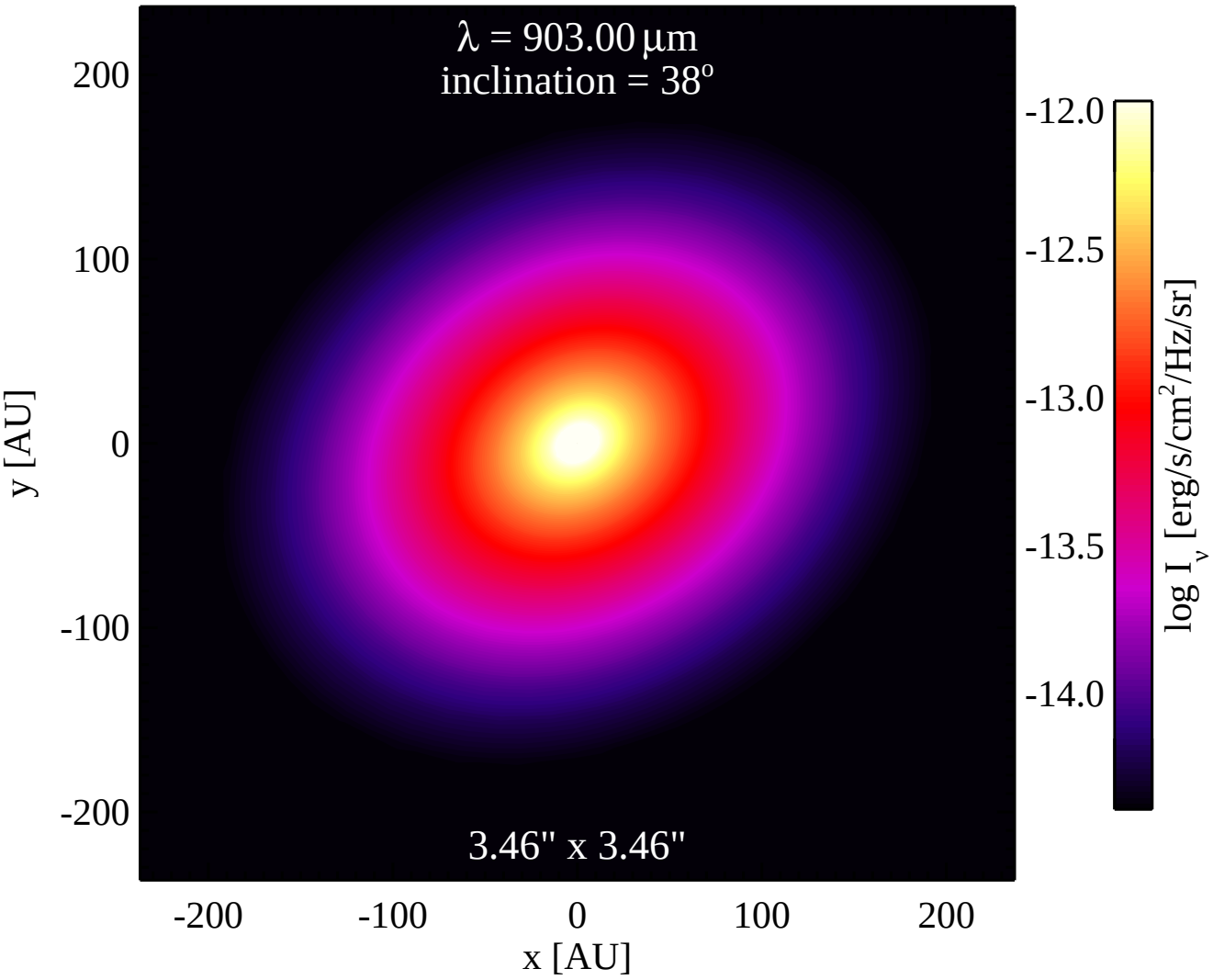

λ = 320.76 μm
inclination = 38°
3.08" x 3.08"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-11.5
-12.0
-12.5
-13.0
-13.5
log I_ν [erg/s/cm²/Hz/sr]

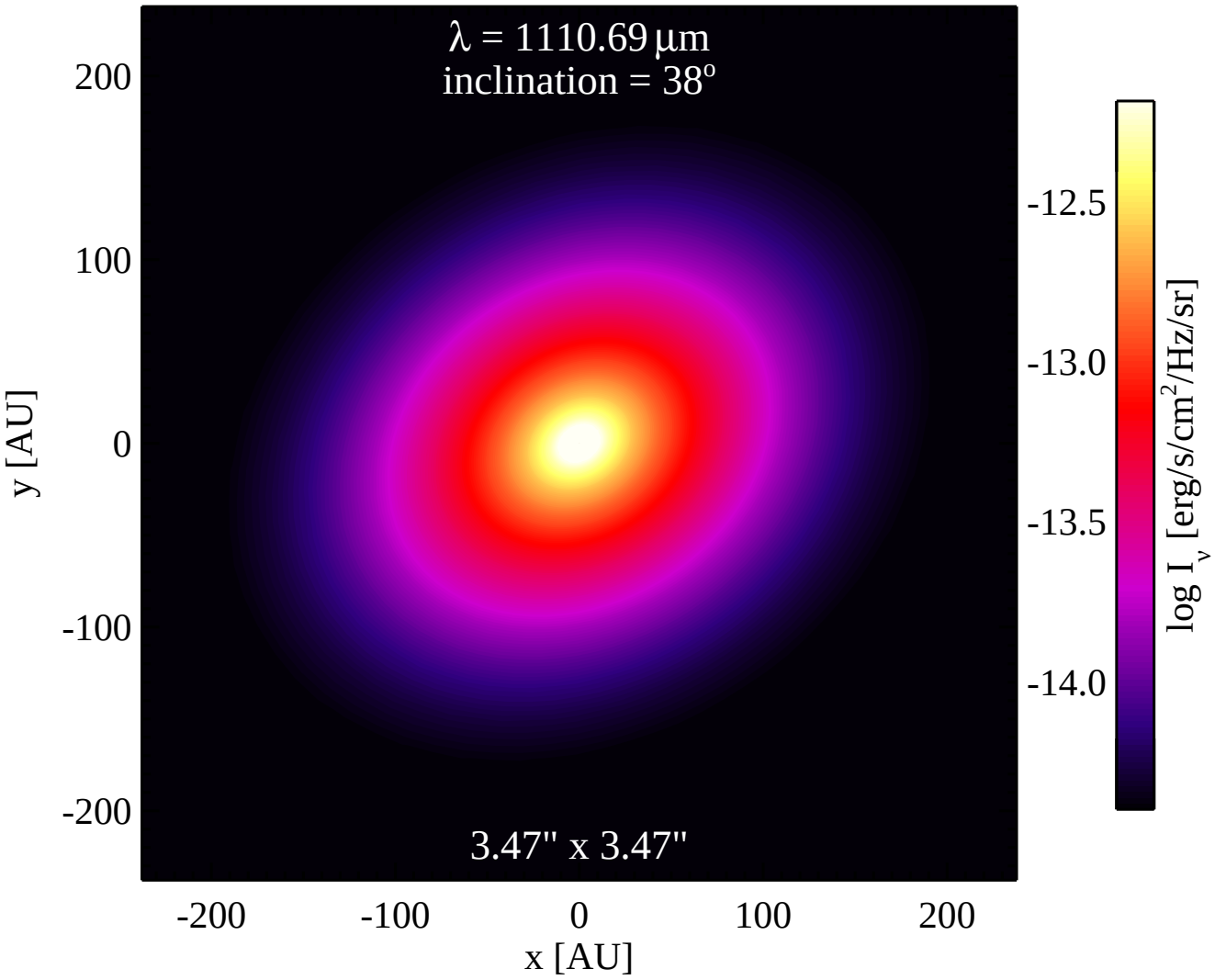

λ = 394.53 μm
inclination = 38°
3.21" x 3.21"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-11.5
-12.0
-12.5
-13.0
-13.5
log I_ν [erg/s/cm²/Hz/sr]

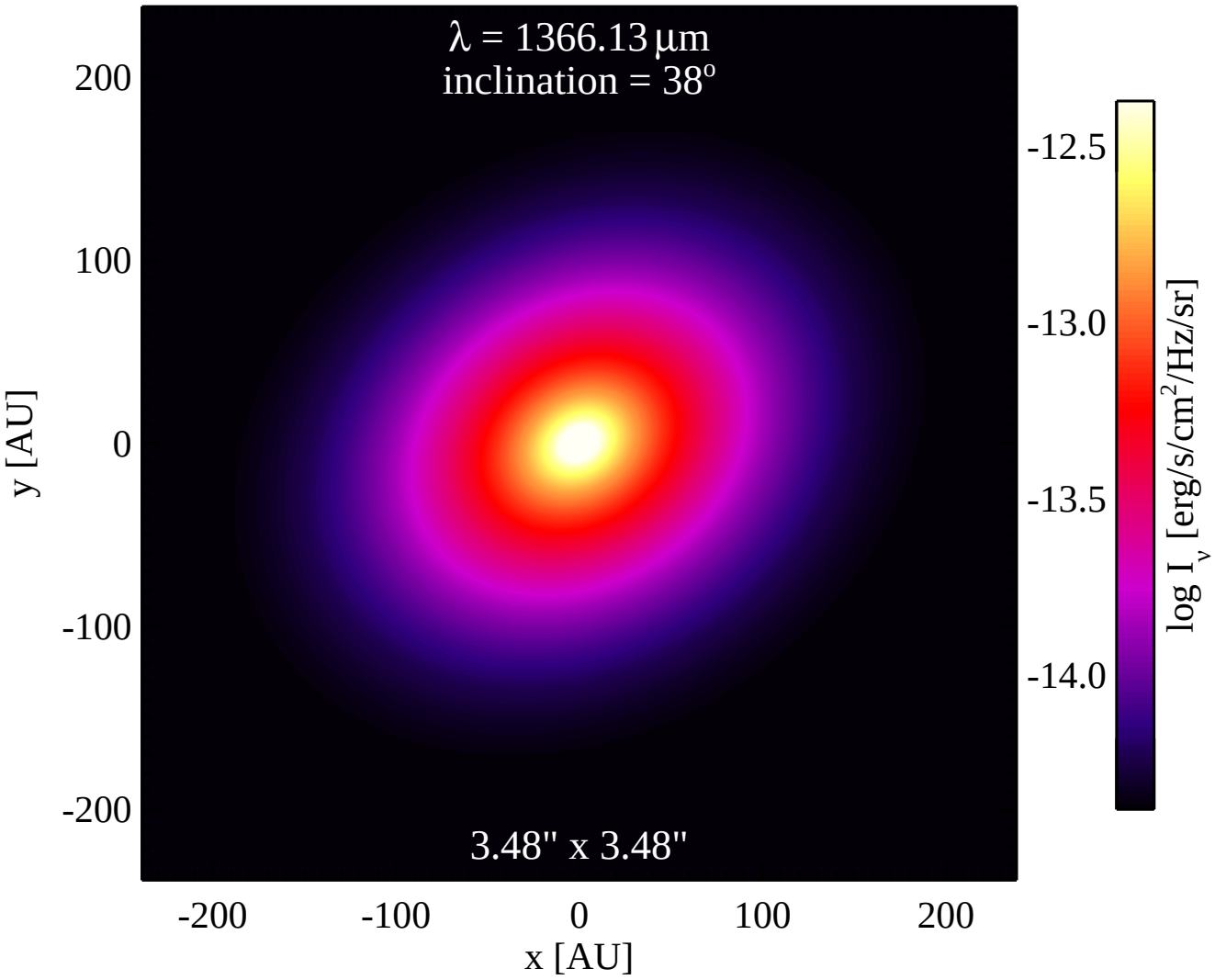

λ = 485.27 μm
inclination = 38°
3.31" x 3.31"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-11.5
-12.0
-12.5
-13.0
-13.5
-14.0
log I_ν [erg/s/cm²/Hz/sr]

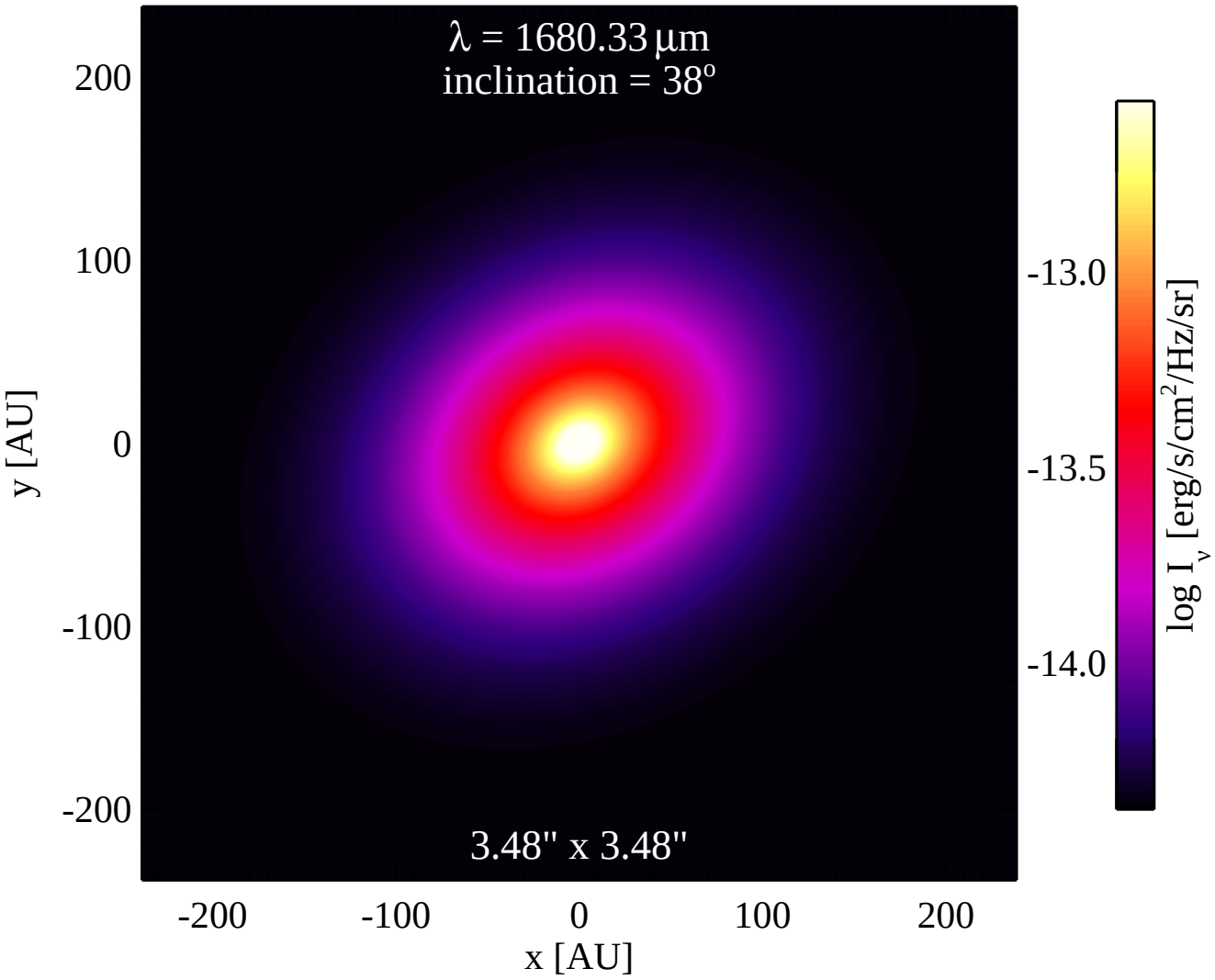

λ = 596.88 μm
inclination = 38°
3.38" x 3.38"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-12.0
-12.5
-13.0
-13.5
-14.0
log I_ν [erg/s/cm²/Hz/sr]

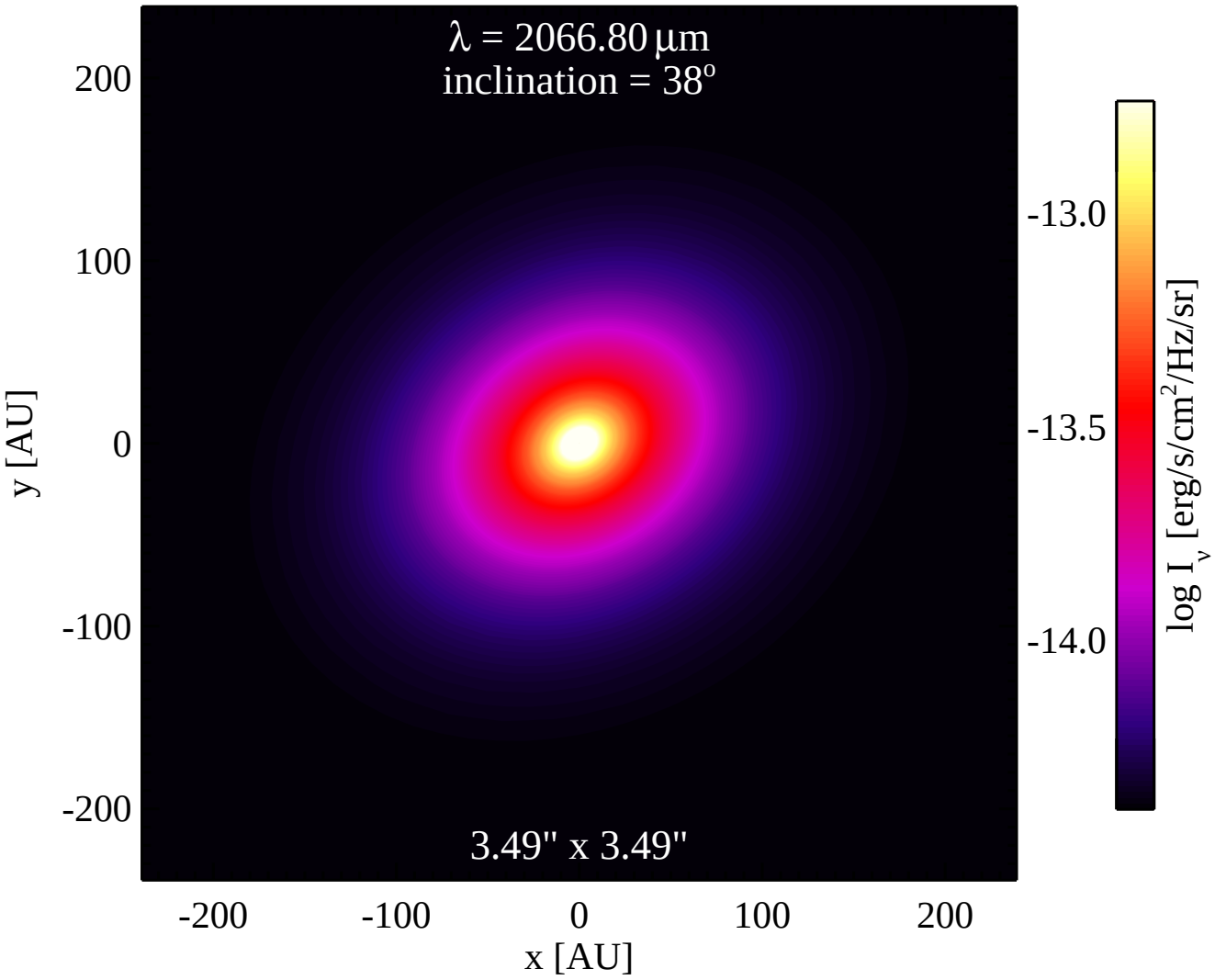

λ = 734.15 μm
inclination = 38°
3.43" x 3.43"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-12.0
-12.5
-13.0
-13.5
-14.0
log I_ν [erg/s/cm²/Hz/sr]

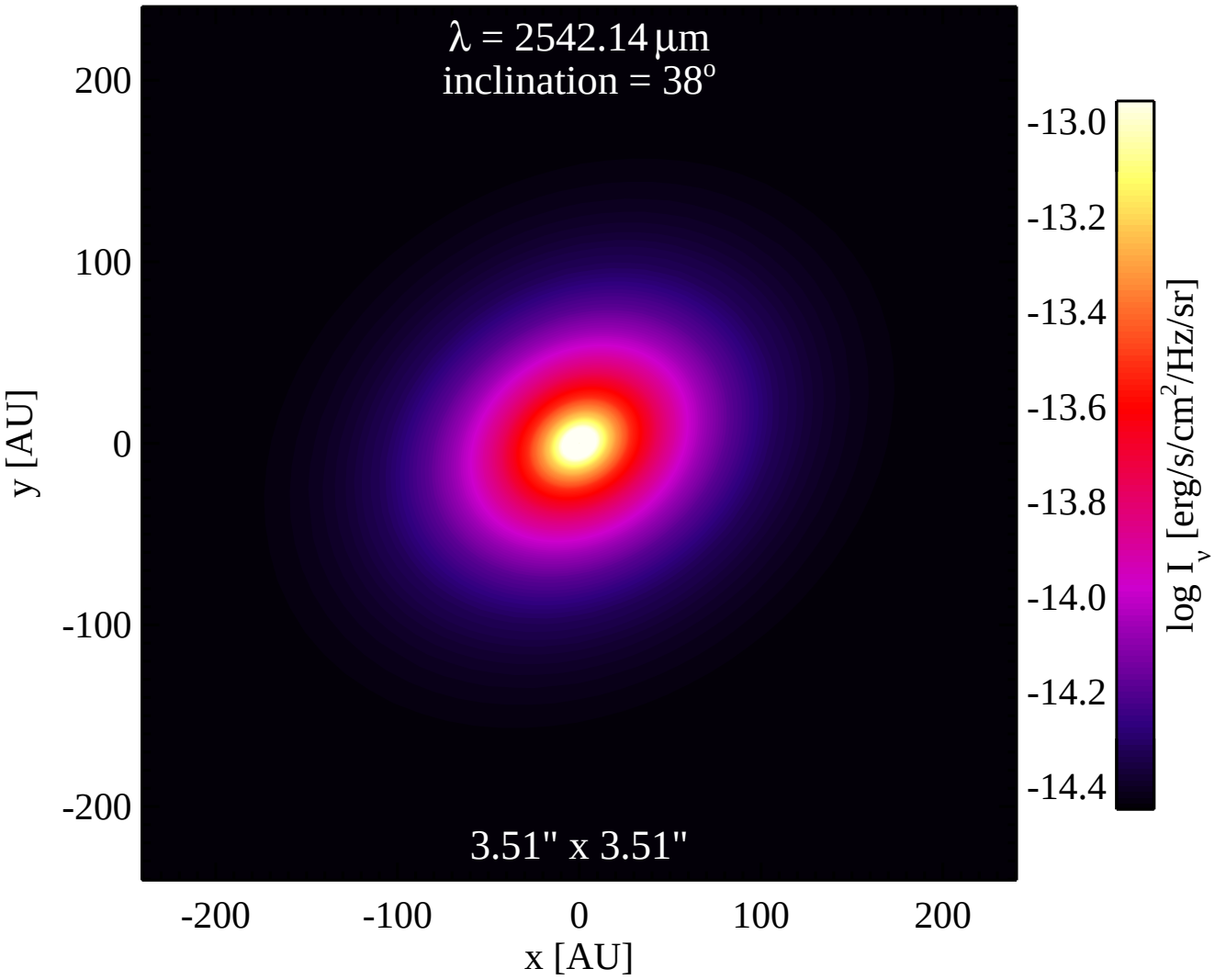

λ = 903.00 μm
inclination = 38°
3.46" x 3.46"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-12.0
-12.5
-13.0
-13.5
-14.0
log I_ν [erg/s/cm²/Hz/sr]

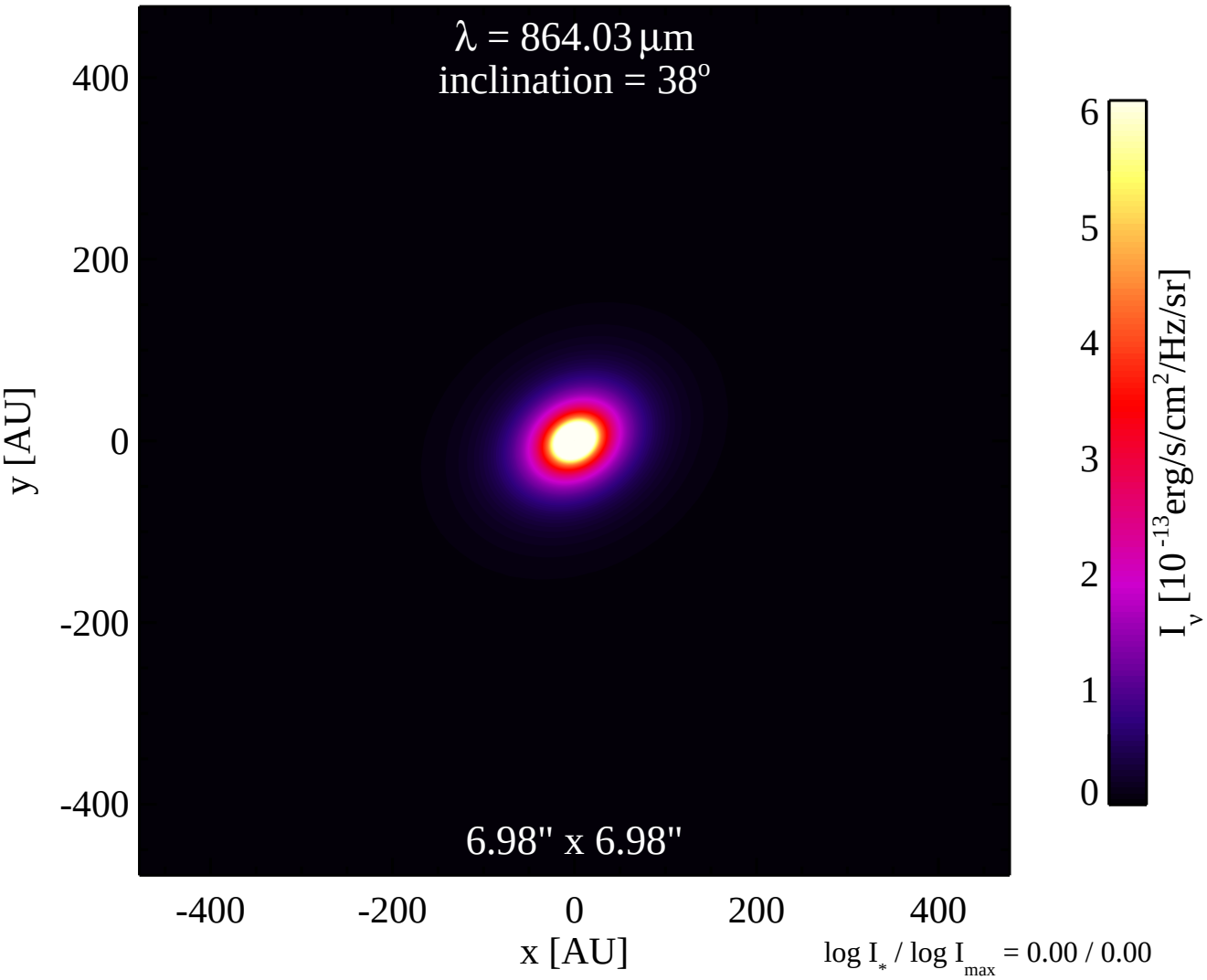

λ = 1110.69 μm
inclination = 38°
3.47" x 3.47"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-12.5
-13.0
-13.5
-14.0
log I_ν [erg/s/cm²/Hz/sr]

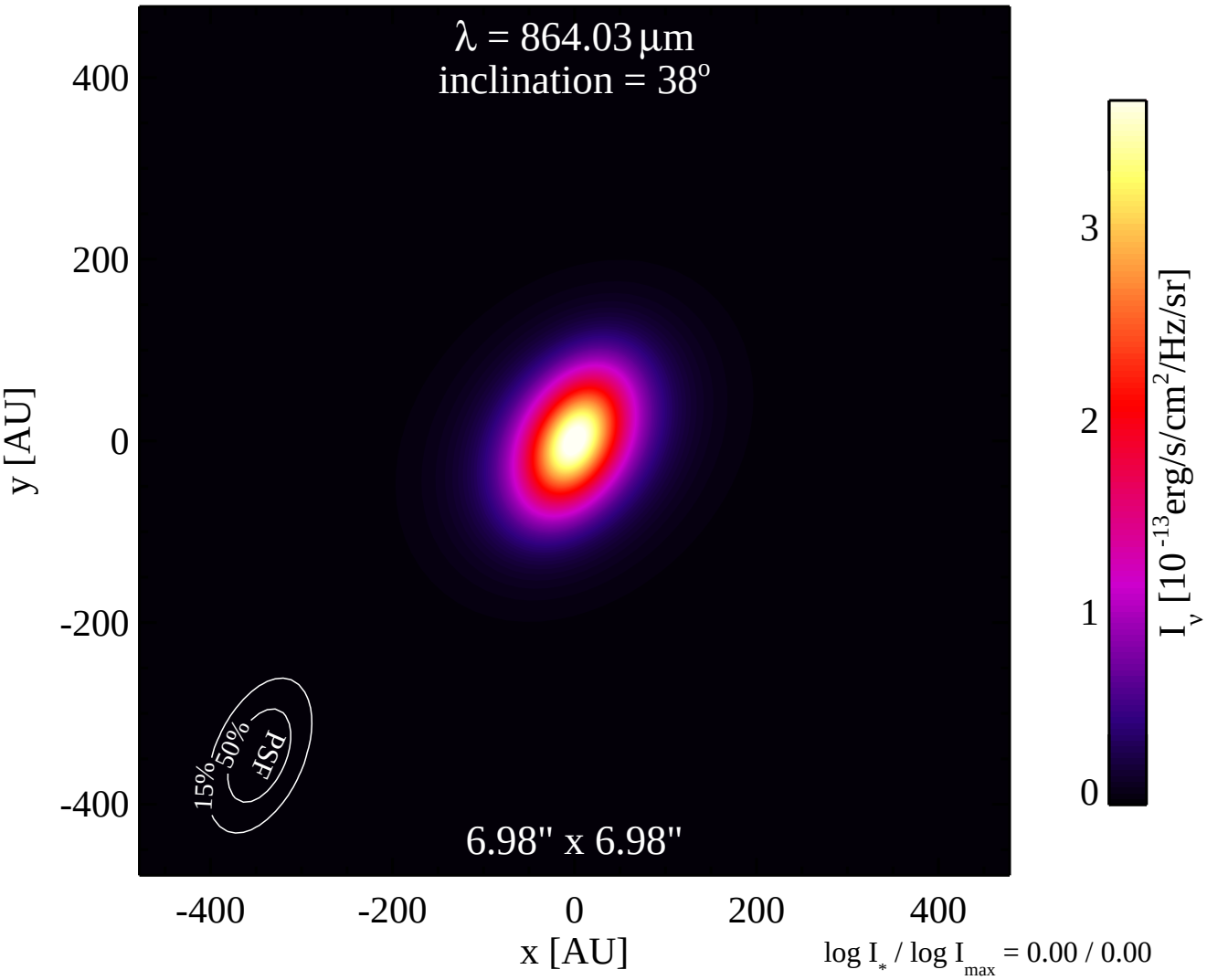

λ = 1366.13 μm
inclination = 38°
3.48" x 3.48"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-12.5
-13.0
-13.5
-14.0
log I_ν [erg/s/cm²/Hz/sr]

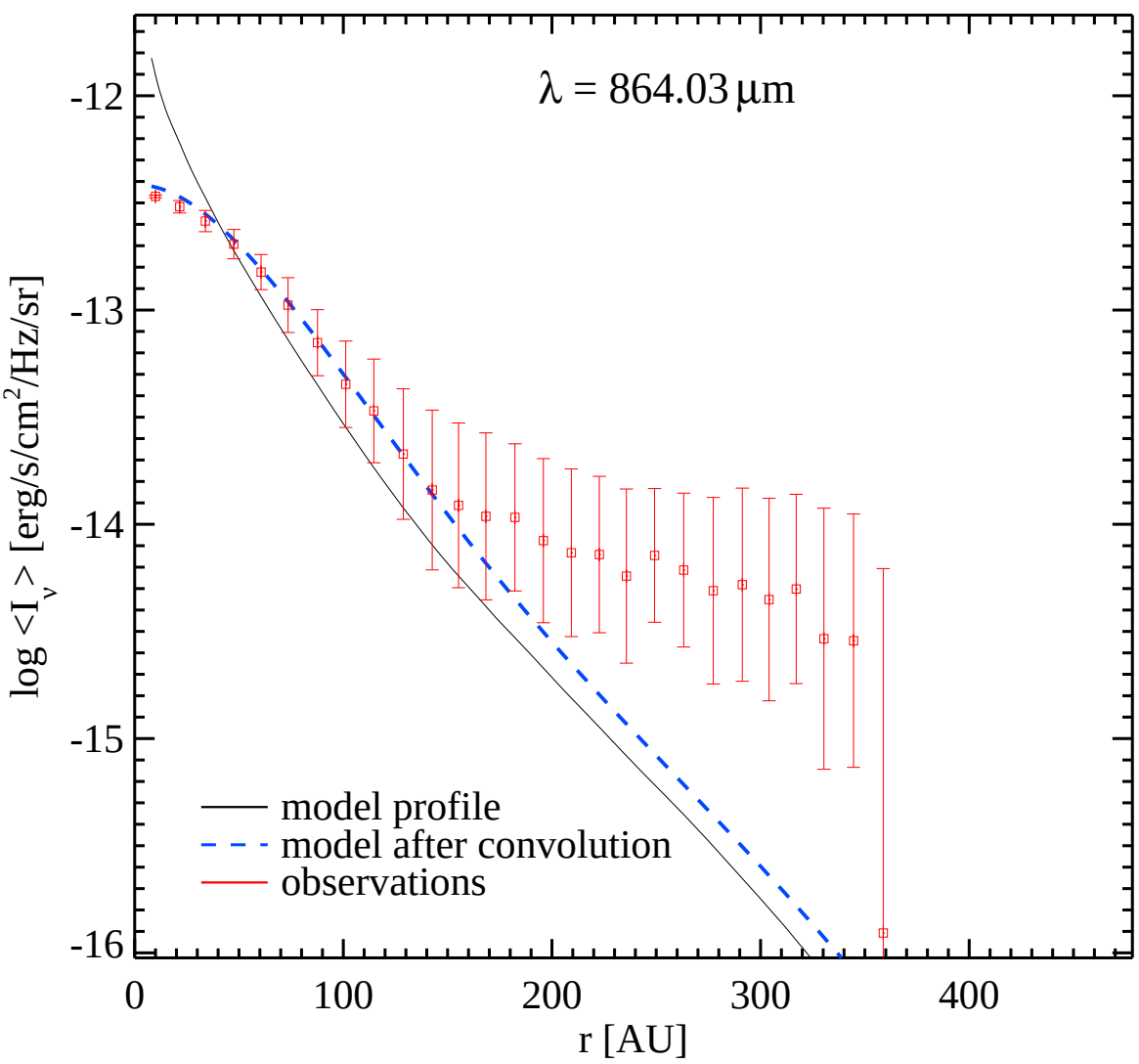

λ = 1680.33 μm
inclination = 38°
3.48" x 3.48"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-13.0
-13.5
-14.0
log I_ν [erg/s/cm²/Hz/sr]

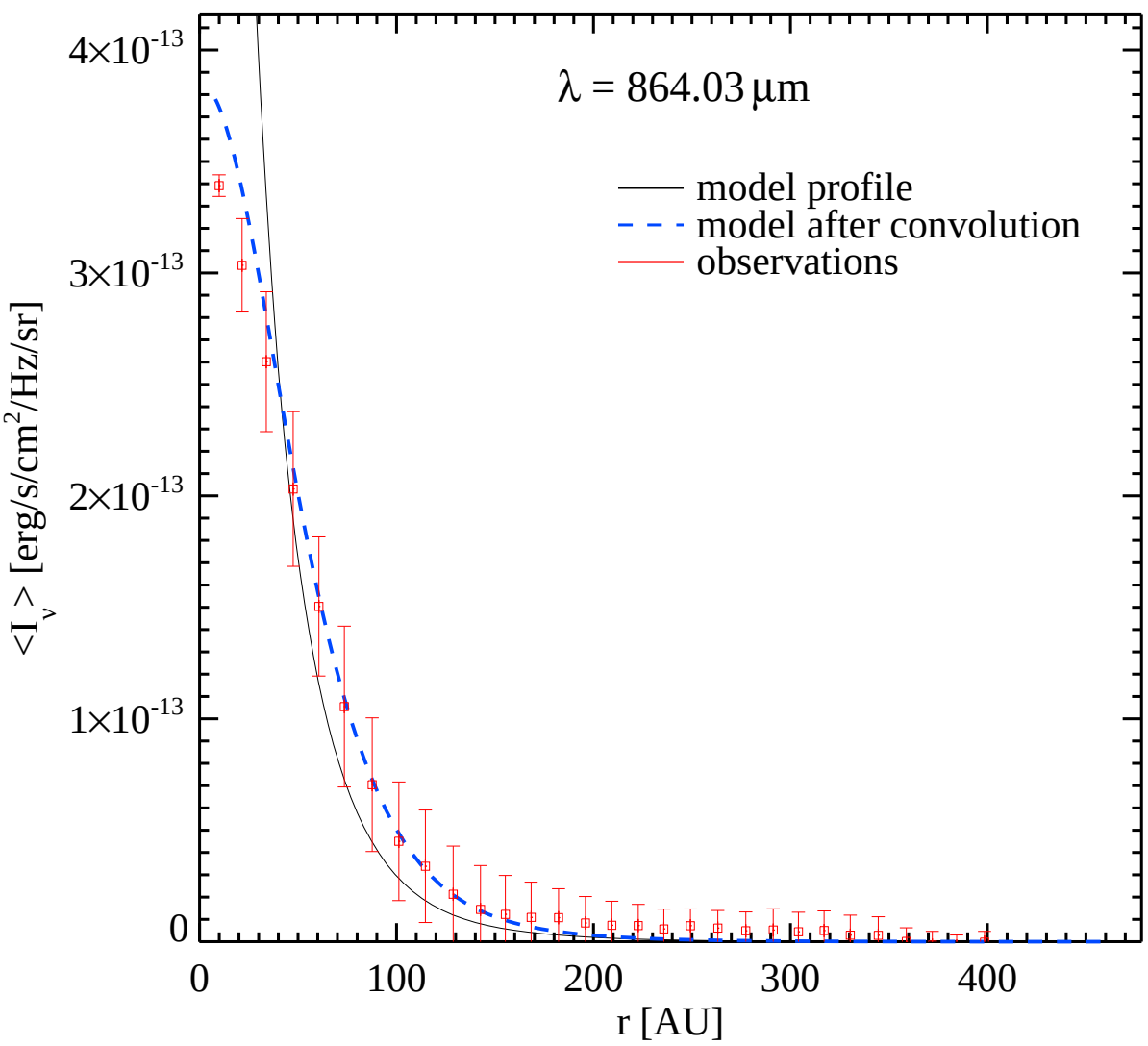

λ = 2066.80 μm
inclination = 38°
3.49" x 3.49"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-13.0
-13.5
-14.0
log I_ν [erg/s/cm²/Hz/sr]

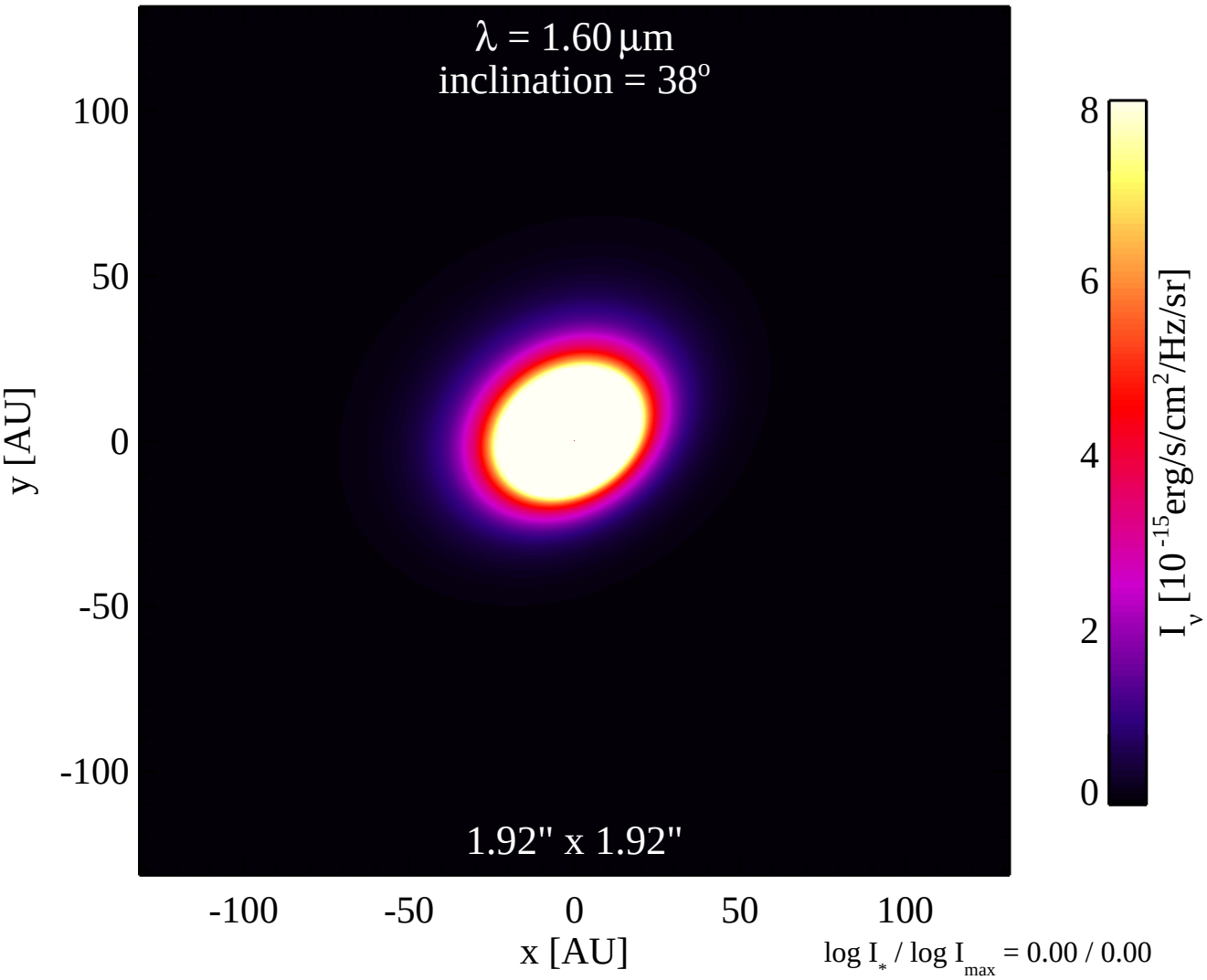

λ = 2542.14 μm
inclination = 38°
3.51" x 3.51"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-13.0
-13.2
-13.4
-13.6
-13.8
-14.0
-14.2
-14.4
log I_ν [erg/s/cm²/Hz/sr]

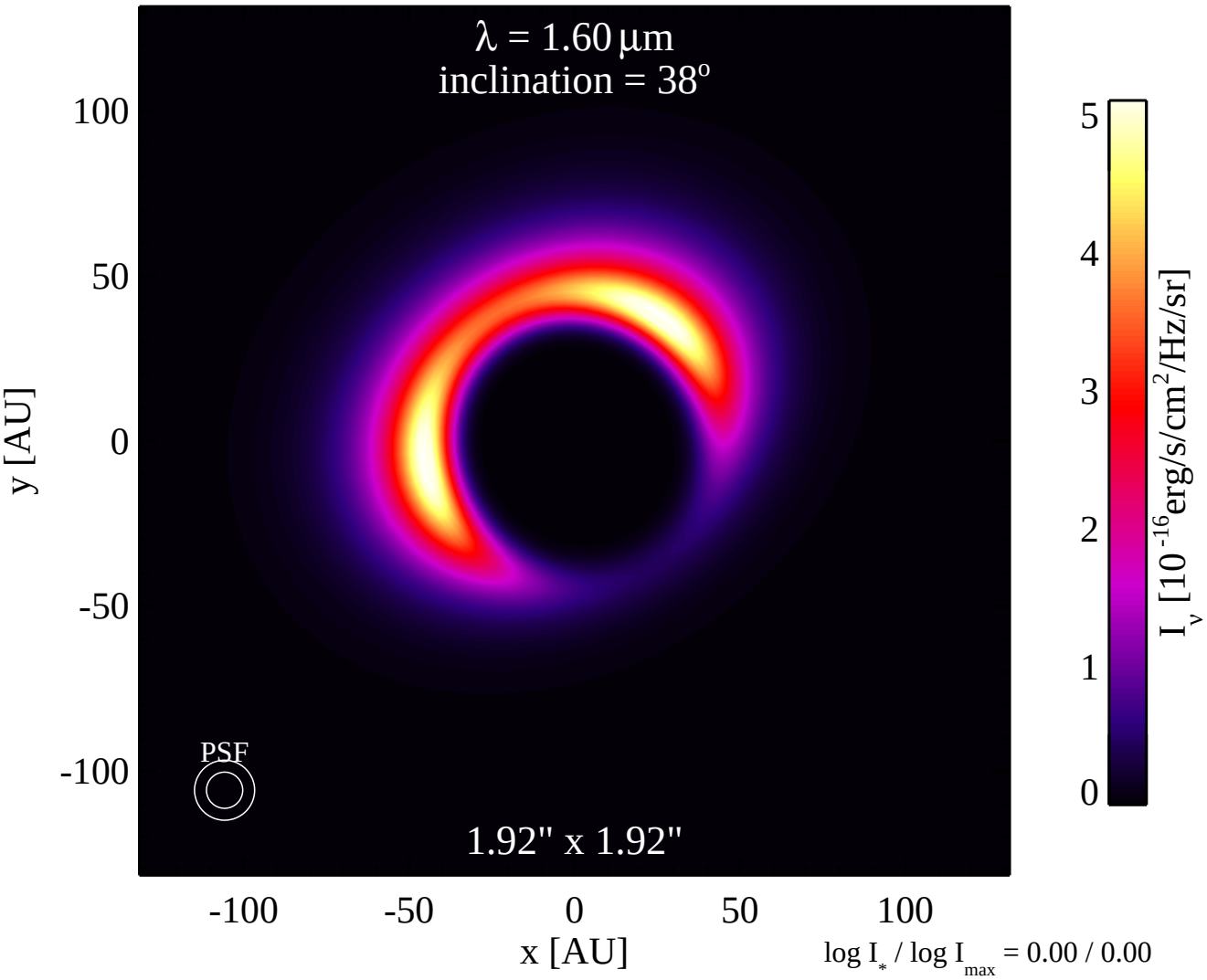

λ = 864.03 μm
inclination = 38°
6.98" x 6.98"
400
200
0
-200
-400
y [AU]
-400
-200
0
200
400
x [AU]
6
5
4
3
2
1
0
I_ν [10^-13 erg/s/cm^2/Hz/sr]
log I_* / log I_max = 0.00 / 0.00

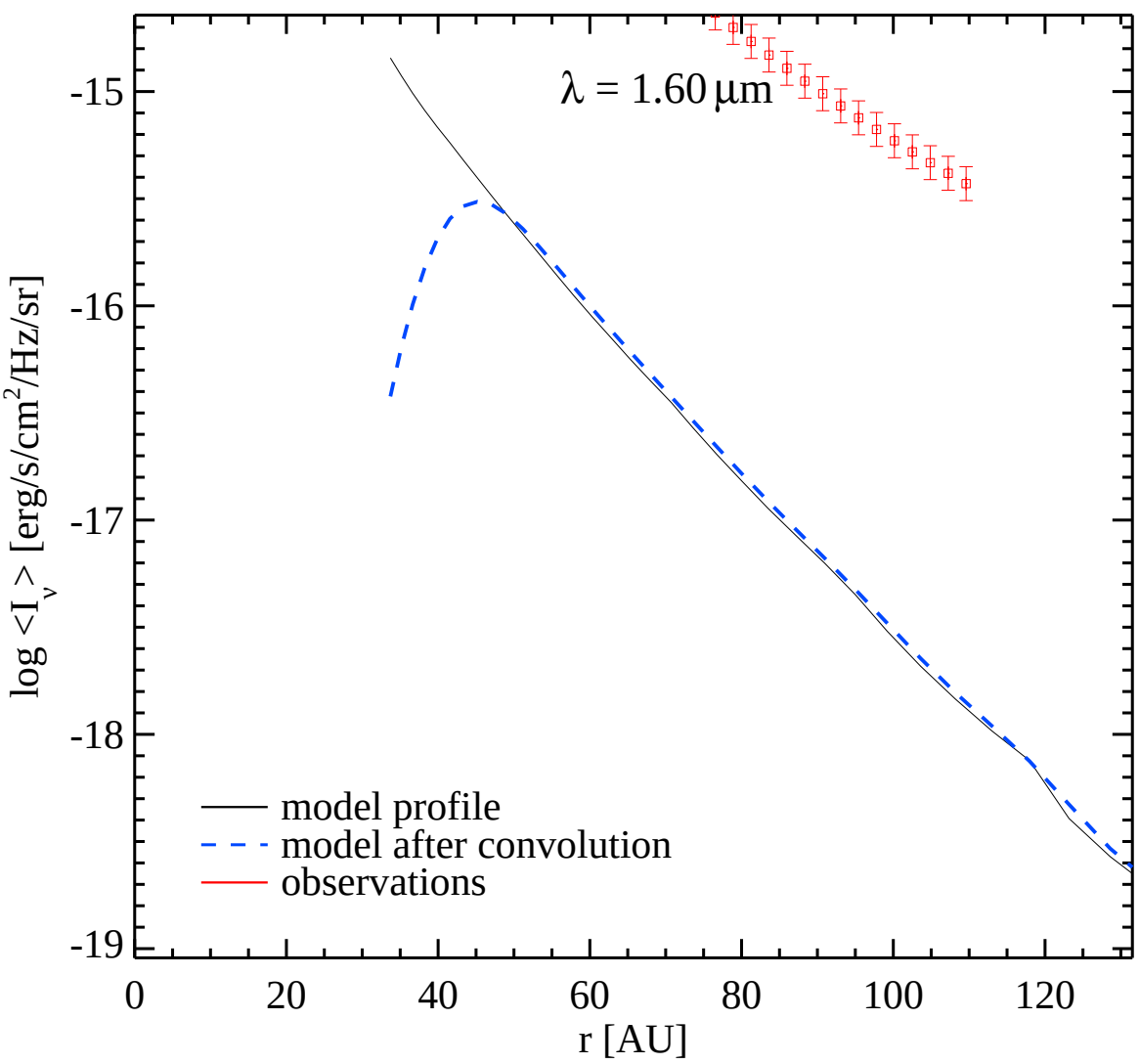

λ = 864.03 μm
inclination = 38°
6.98" x 6.98"
15%
50%
PSF
400
200
0
-200
-400
y [AU]
-400
-200
0
200
400
x [AU]
3
2
1
0
I_ν [10^-13 erg/s/cm^2/Hz/sr]
log I_* / log I_max = 0.00 / 0.00

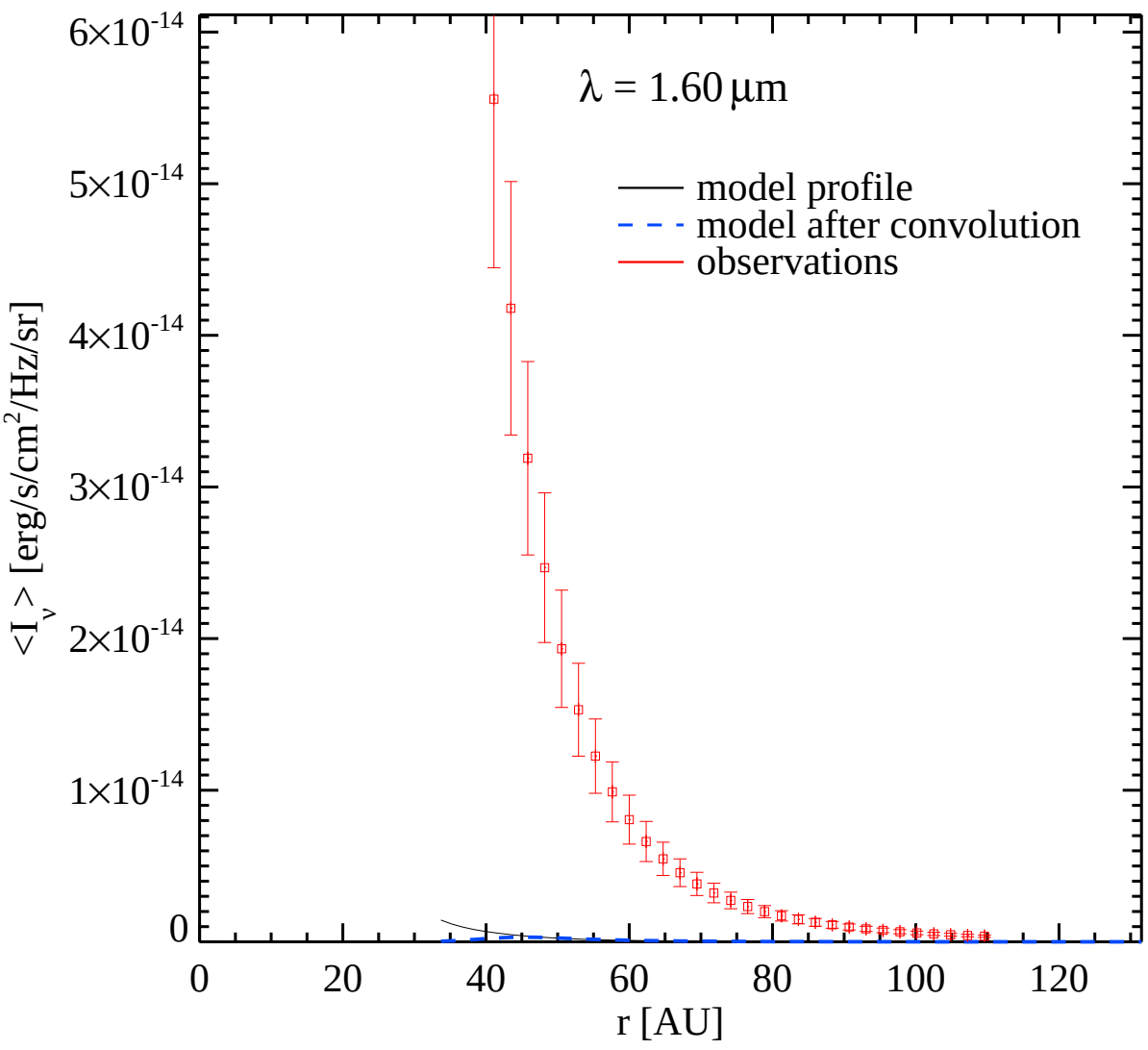

λ = 864.03 μm
-12
-13
-14
-15
-16
0
100
200
300
400
r [AU]
log <I_ν> [erg/s/cm²/Hz/sr]
model profile
model after convolution
observations

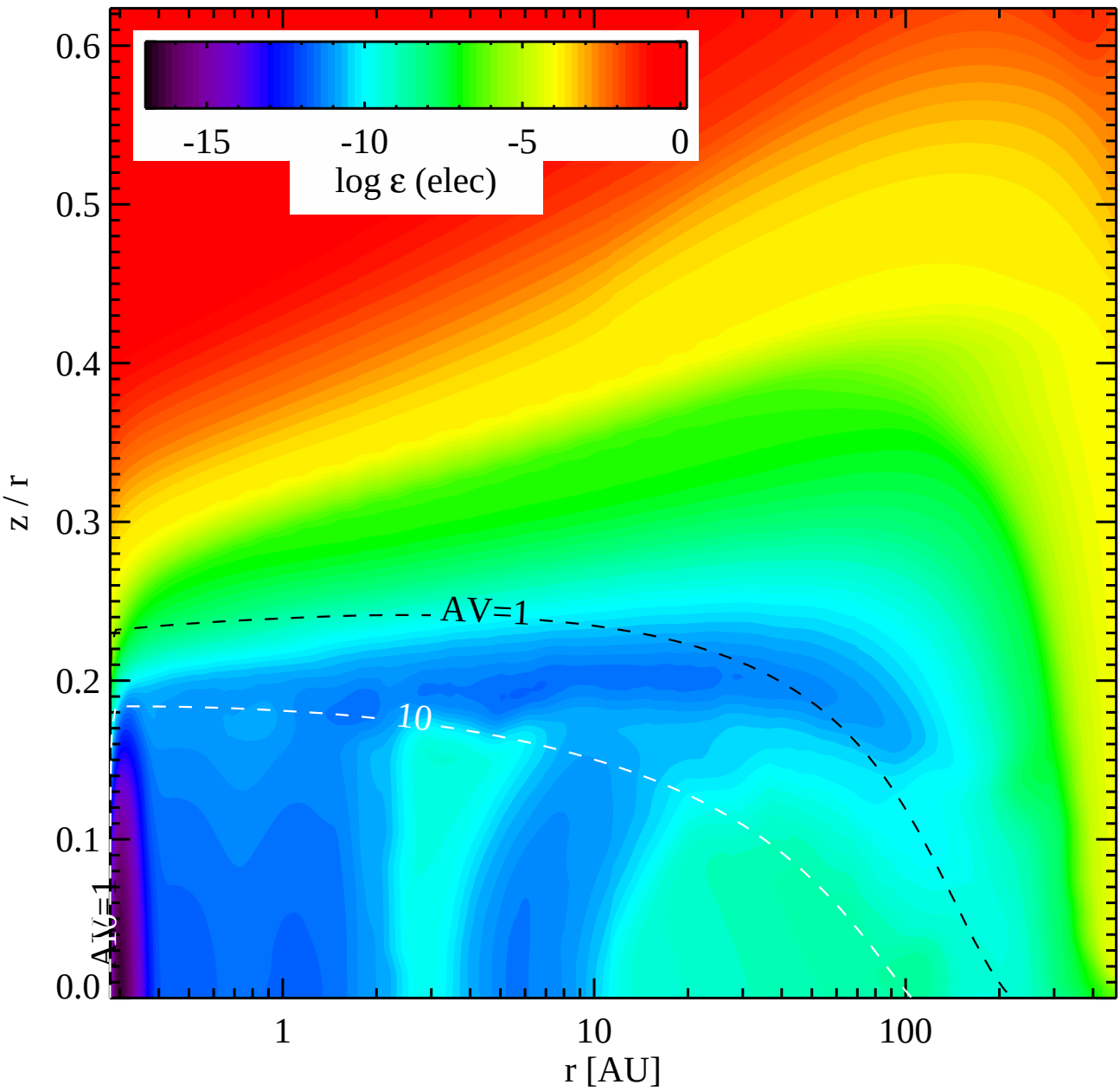

λ = 864.03 μm
model profile
model after convolution
observations
4×10-13
3×10-13
2×10-13
1×10-13
0
<Iν> [erg/s/cm2/Hz/sr]
0
100
200
300
400
r [AU]

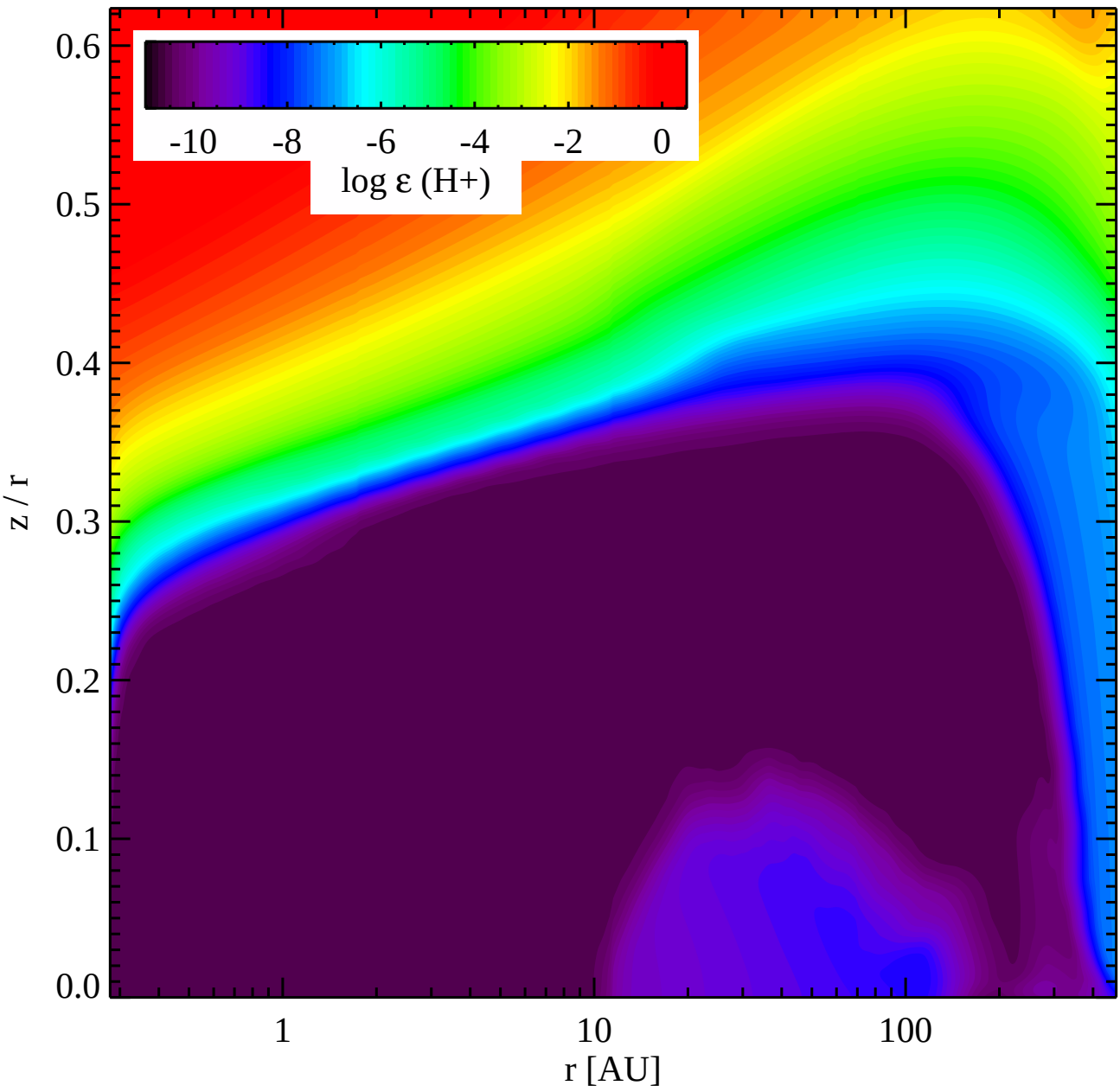

λ = 1.60 μm
inclination = 38°
1.92" x 1.92"
100
50
0
-50
-100
y [AU]
-100
-50
0
50
100
x [AU]
8
6
4
2
0
I_ν [10^-15 erg/s/cm^2/Hz/sr]
log I_* / log I_max = 0.00 / 0.00

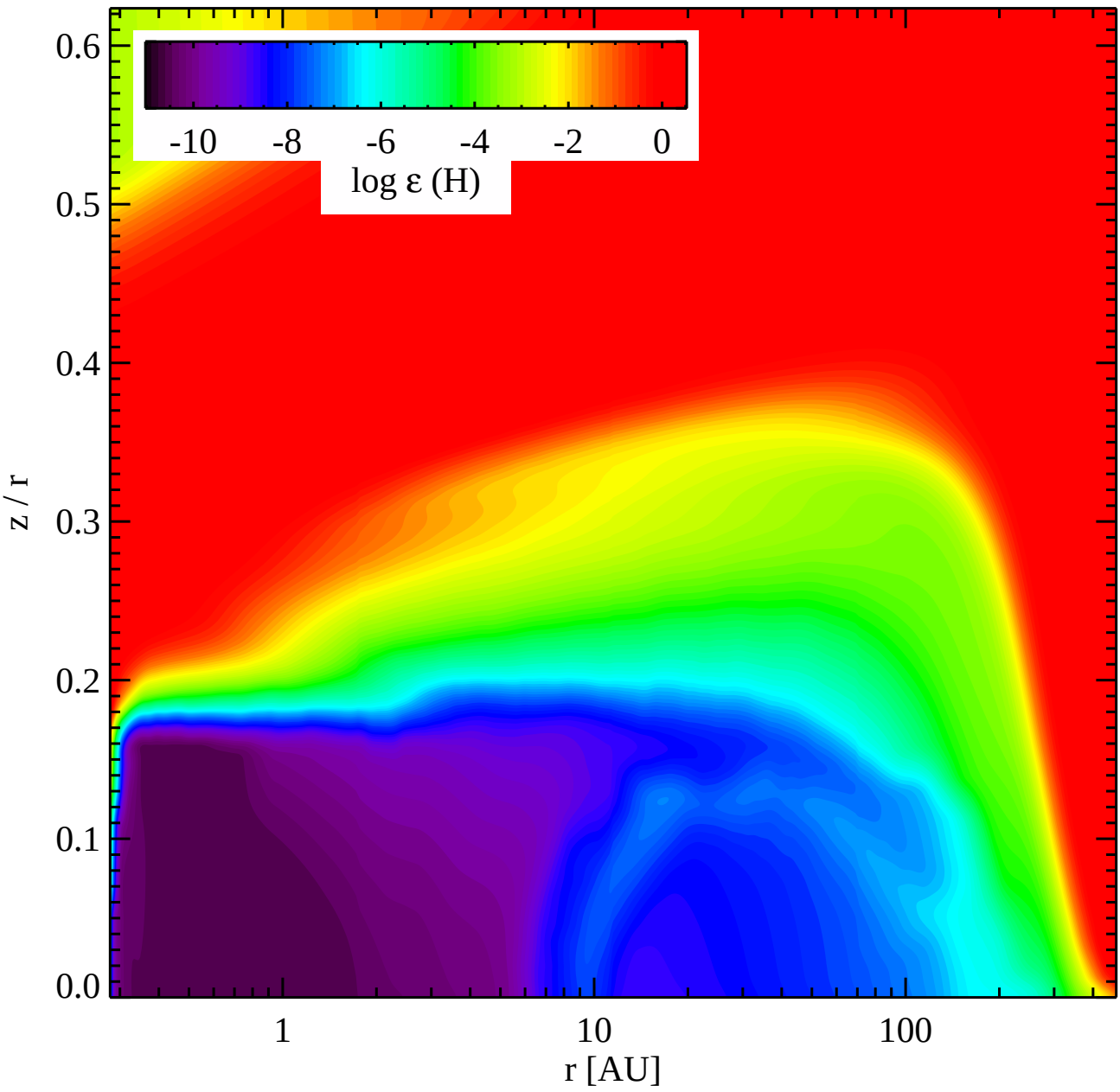

λ = 1.60 μm
inclination = 38°
100
50
0
-50
-100
y [AU]
PSF
1.92" x 1.92"
-100
-50
0
50
100
x [AU]
5
4
3
2
1
0
I_ν [10^-16 erg/s/cm^2/Hz/sr]
log I_* / log I_max = 0.00 / 0.00

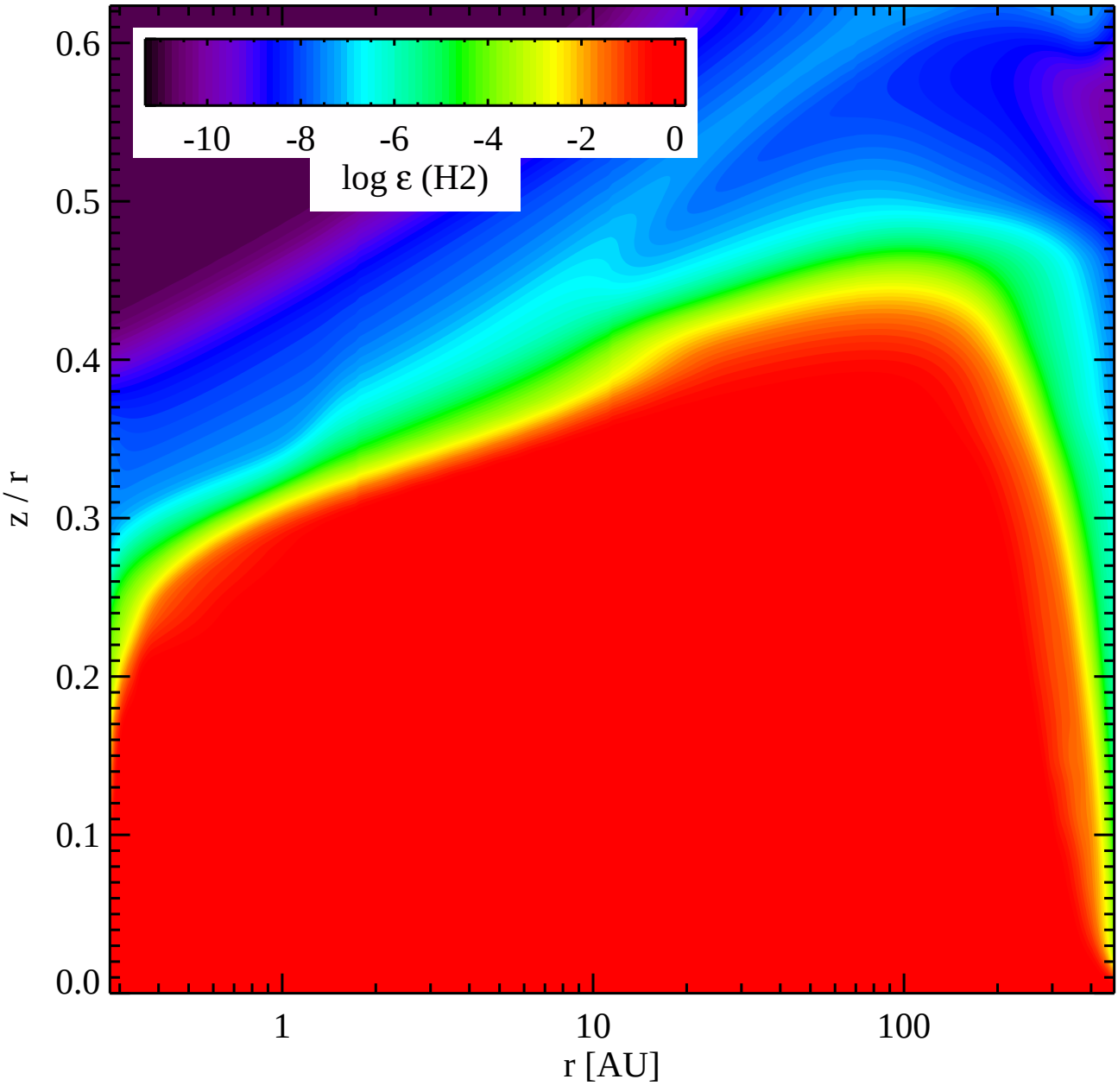

λ = 1.60 μm
model profile
model after convolution
observations
log <I_ν> [erg/s/cm²/Hz/sr]
r [AU]
-15
-16
-17
-18
-19
0
20
40
60
80
100
120

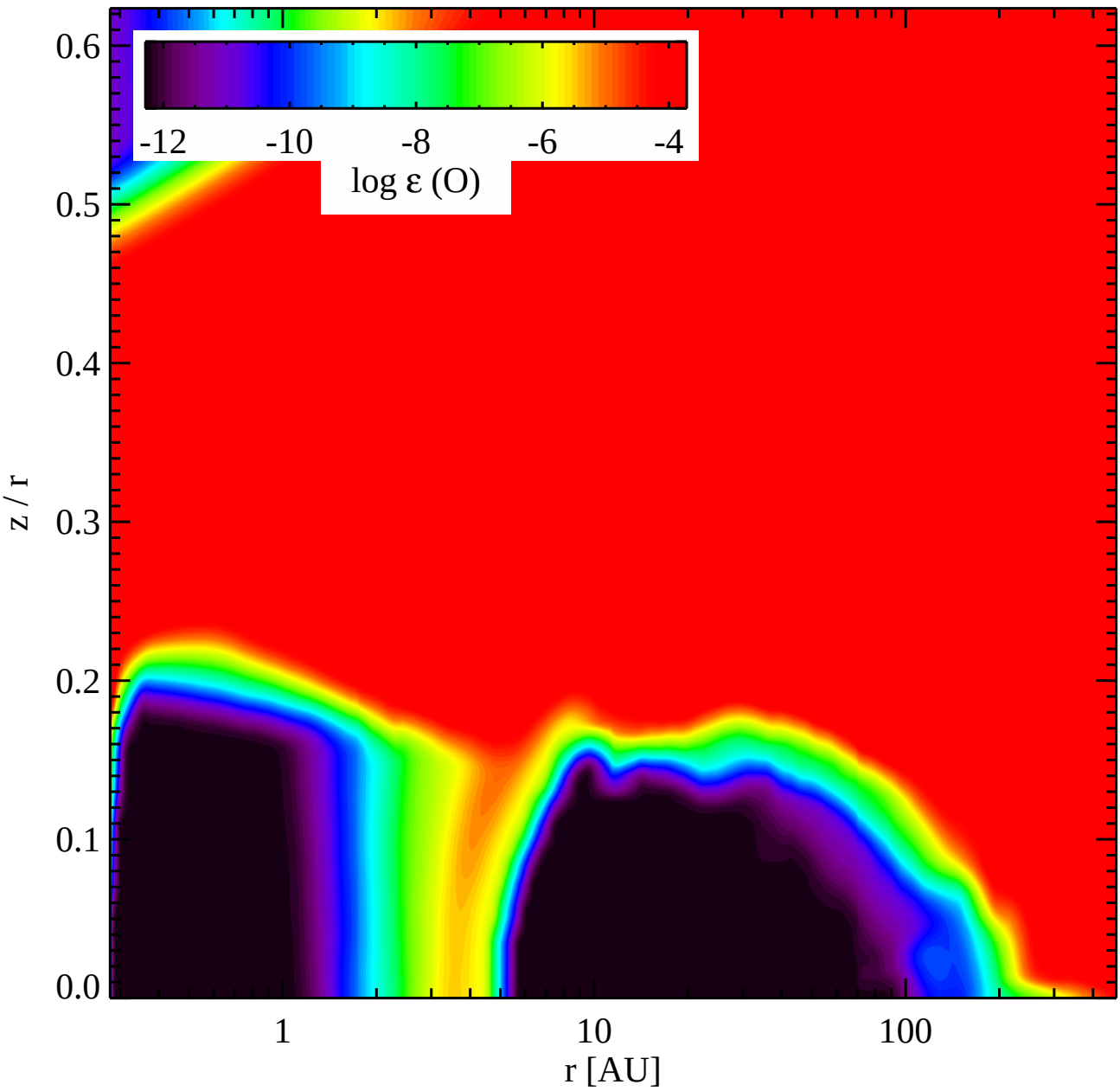

λ = 1.60 μm
model profile
model after convolution
observations
<I_ν> [erg/s/cm²/Hz/sr]
r [AU]
6×10-14
5×10-14
4×10-14
3×10-14
2×10-14
1×10-14
0
0
20
40
60
80
100
120

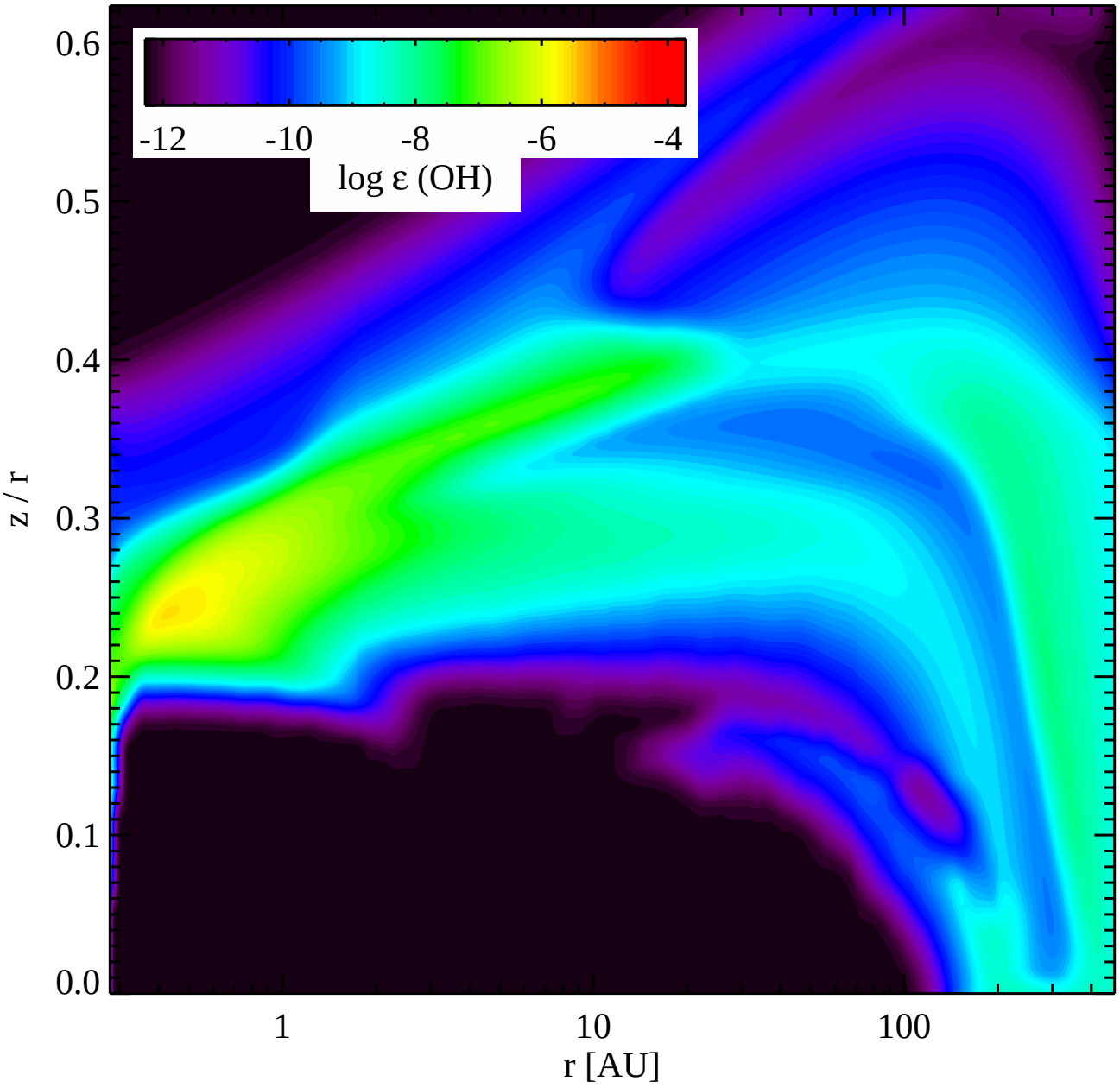

-15
-10
-5
0
log ε (elec)
AV=1
10
AV=1
z / r
r [AU]
0.0
0.1
0.2
0.3
0.4
0.5
0.6
1
10
100

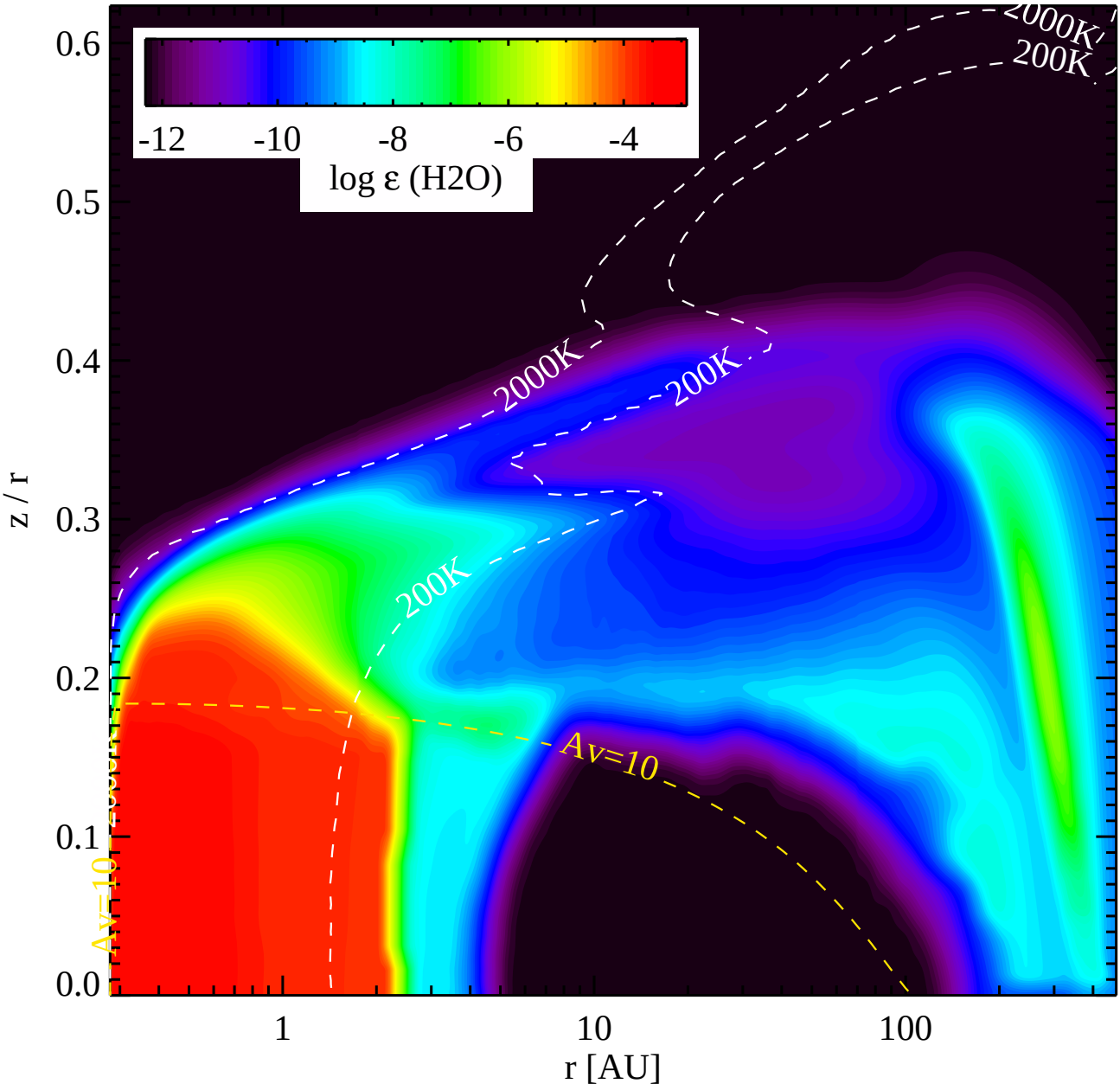

-10
-8
-6
-4
-2
0
log ε (H+)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

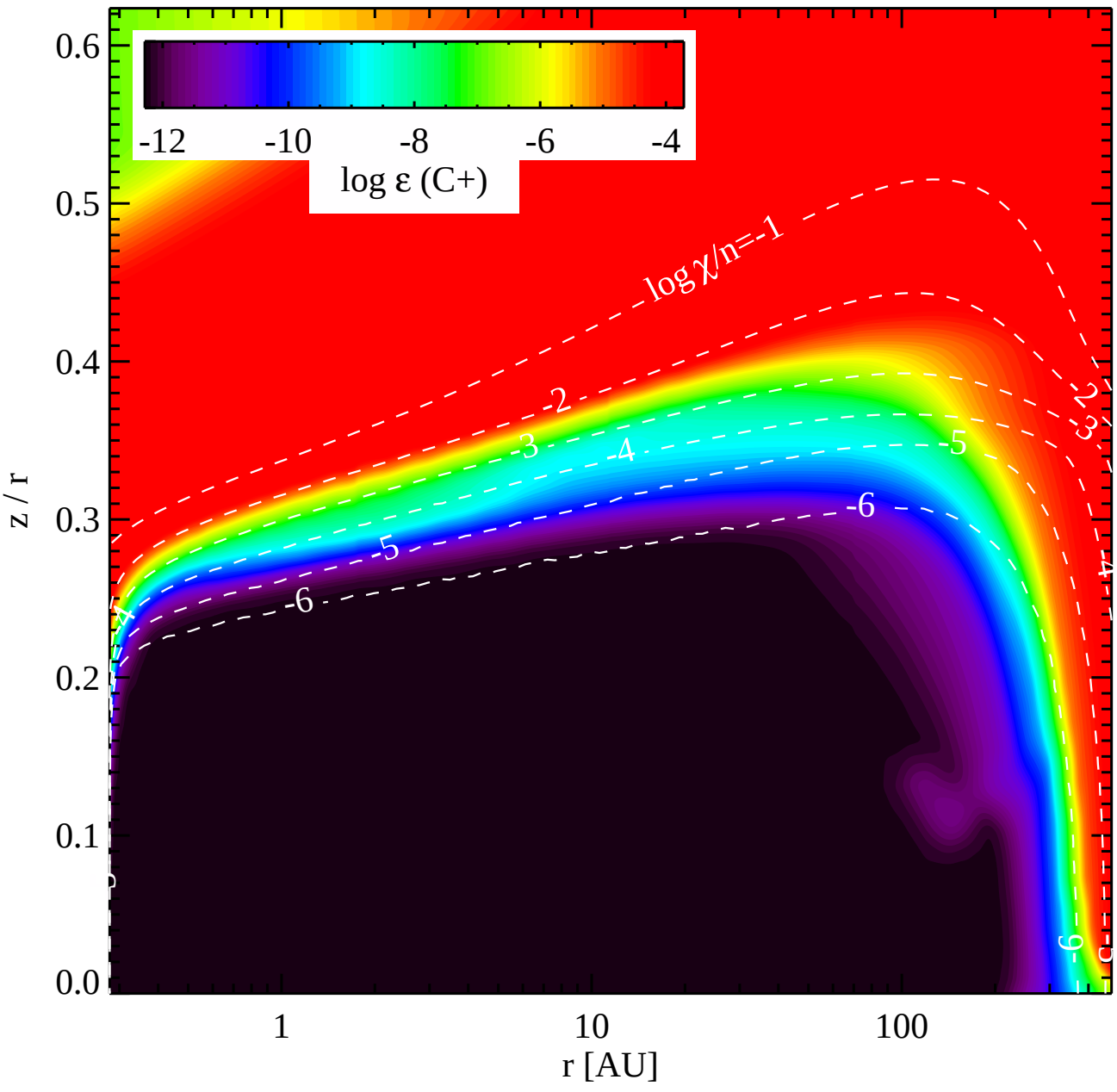

-10
-8
-6
-4
-2
0
log ε (H)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

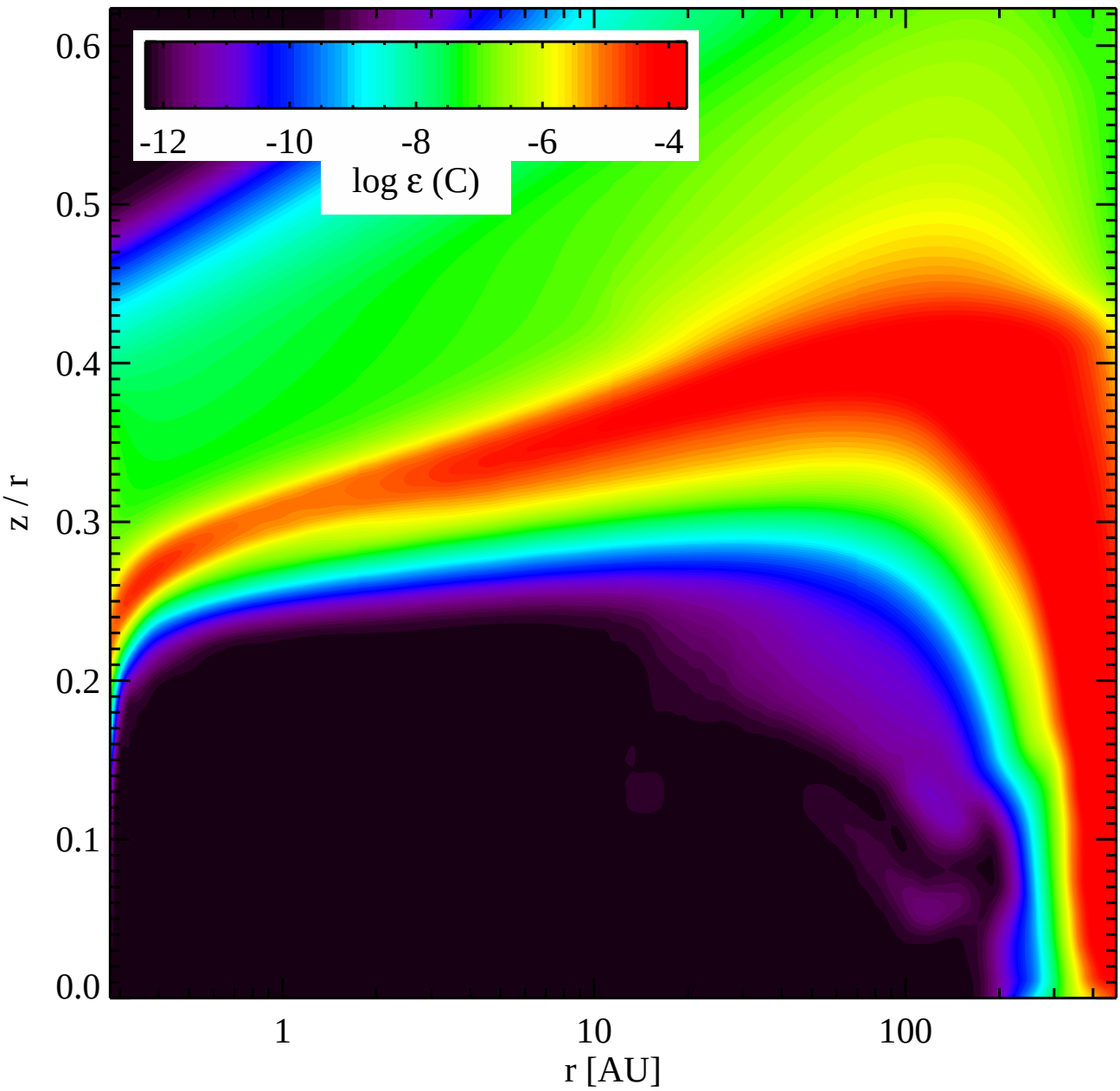

-10
-8
-6
-4
-2
0
log ε (H2)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

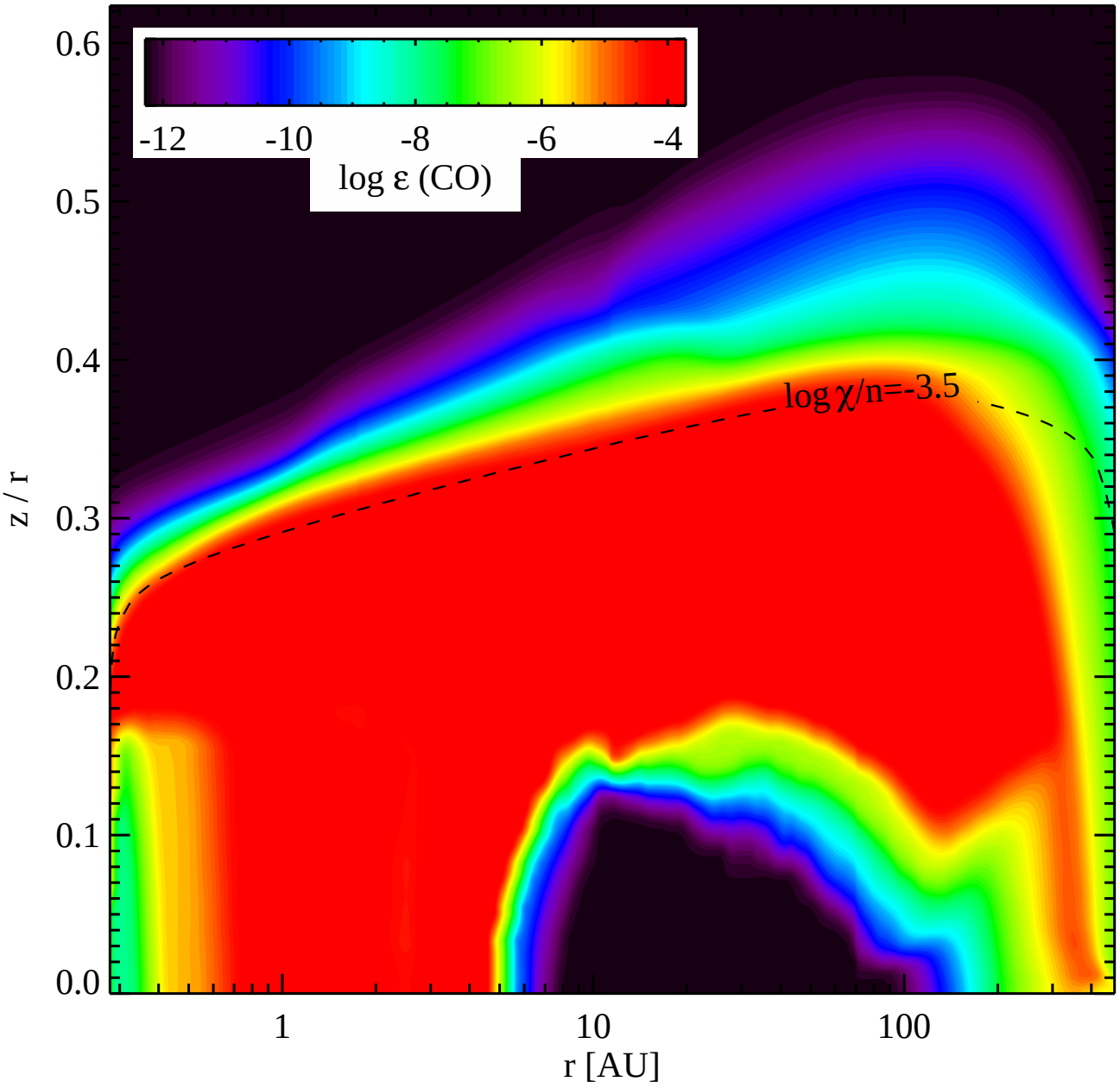

-12
-10
-8
-6
-4
log ε (O)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

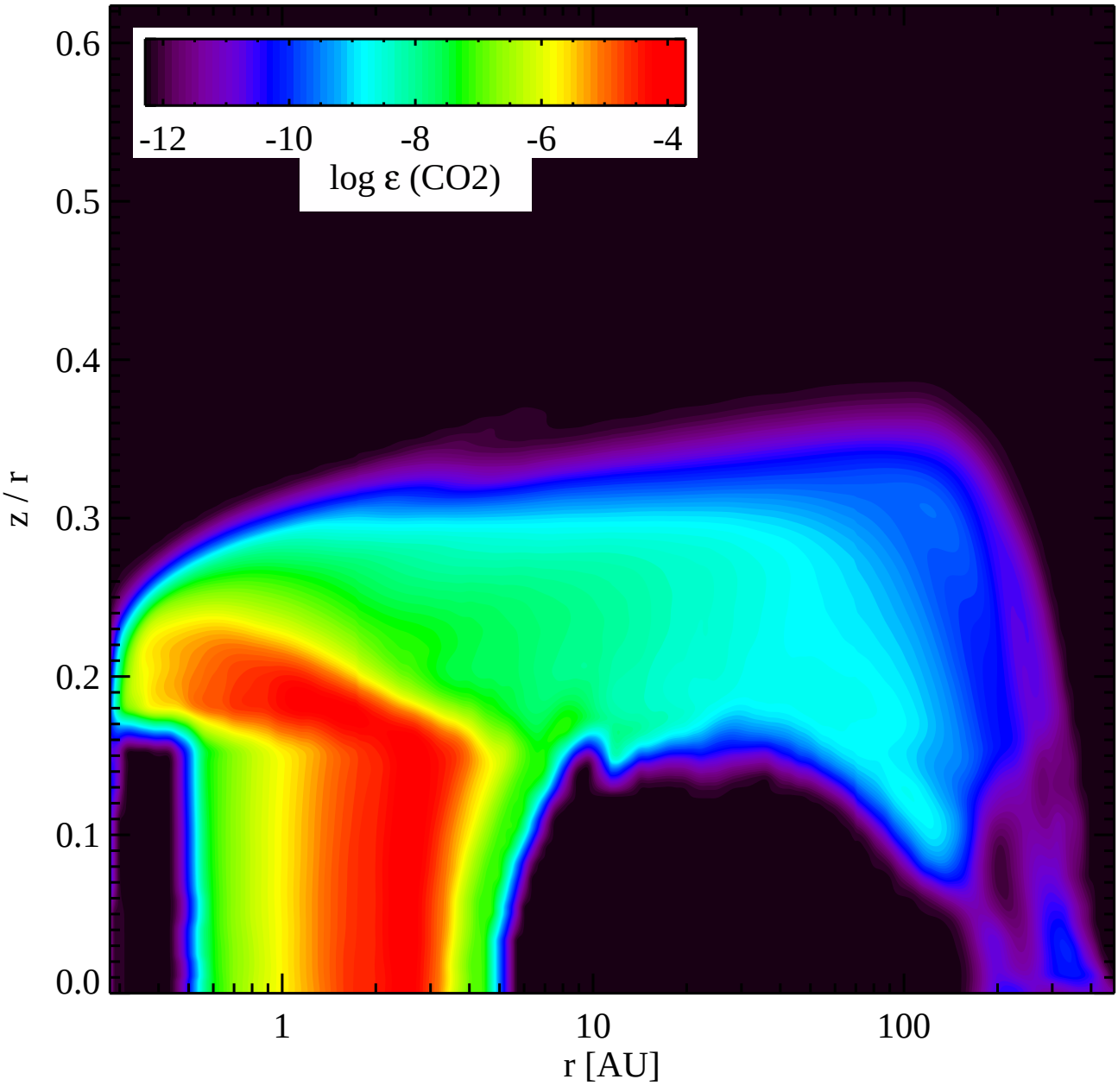

-12
-10
-8
-6
-4
log ε (OH)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

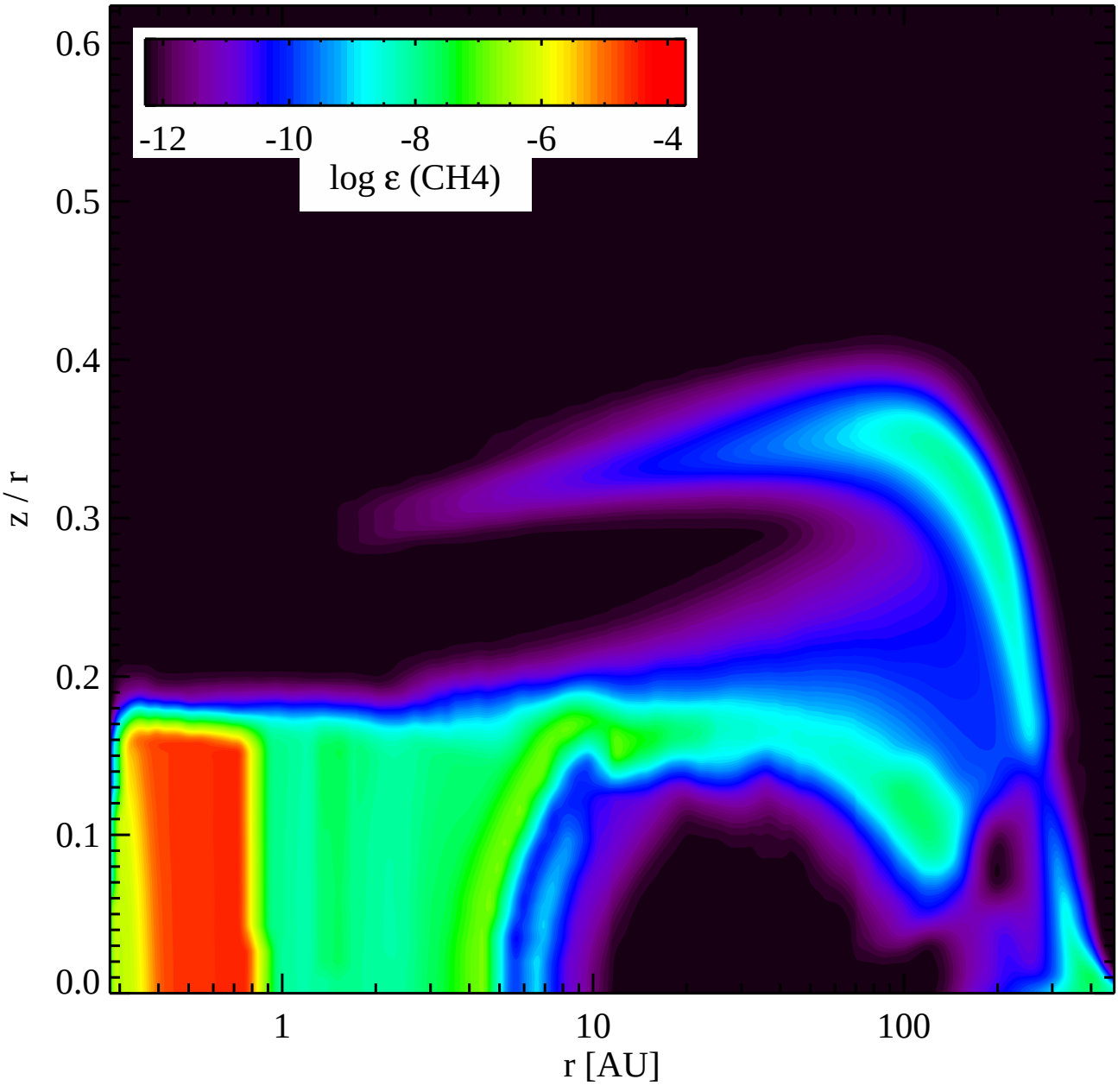

-12
-10
-8
-6
-4
log ε (H2O)
2000K
200K
2000K
200K
200K
Av=10
Av=10
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

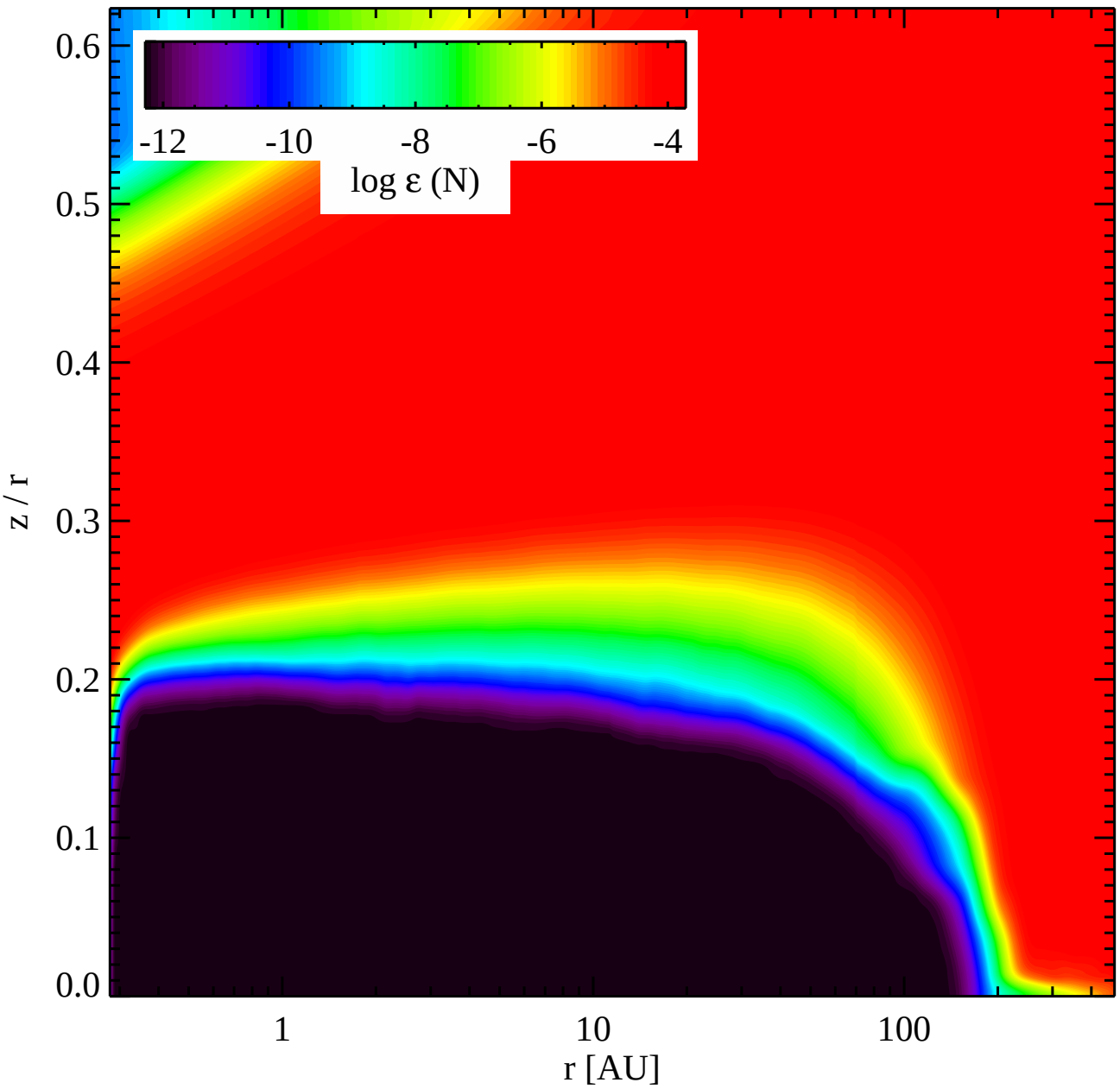

-12
-10
-8
-6
-4
log ε (C+)
log χ/n=-1
-2
-3
-4
-5
-6
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

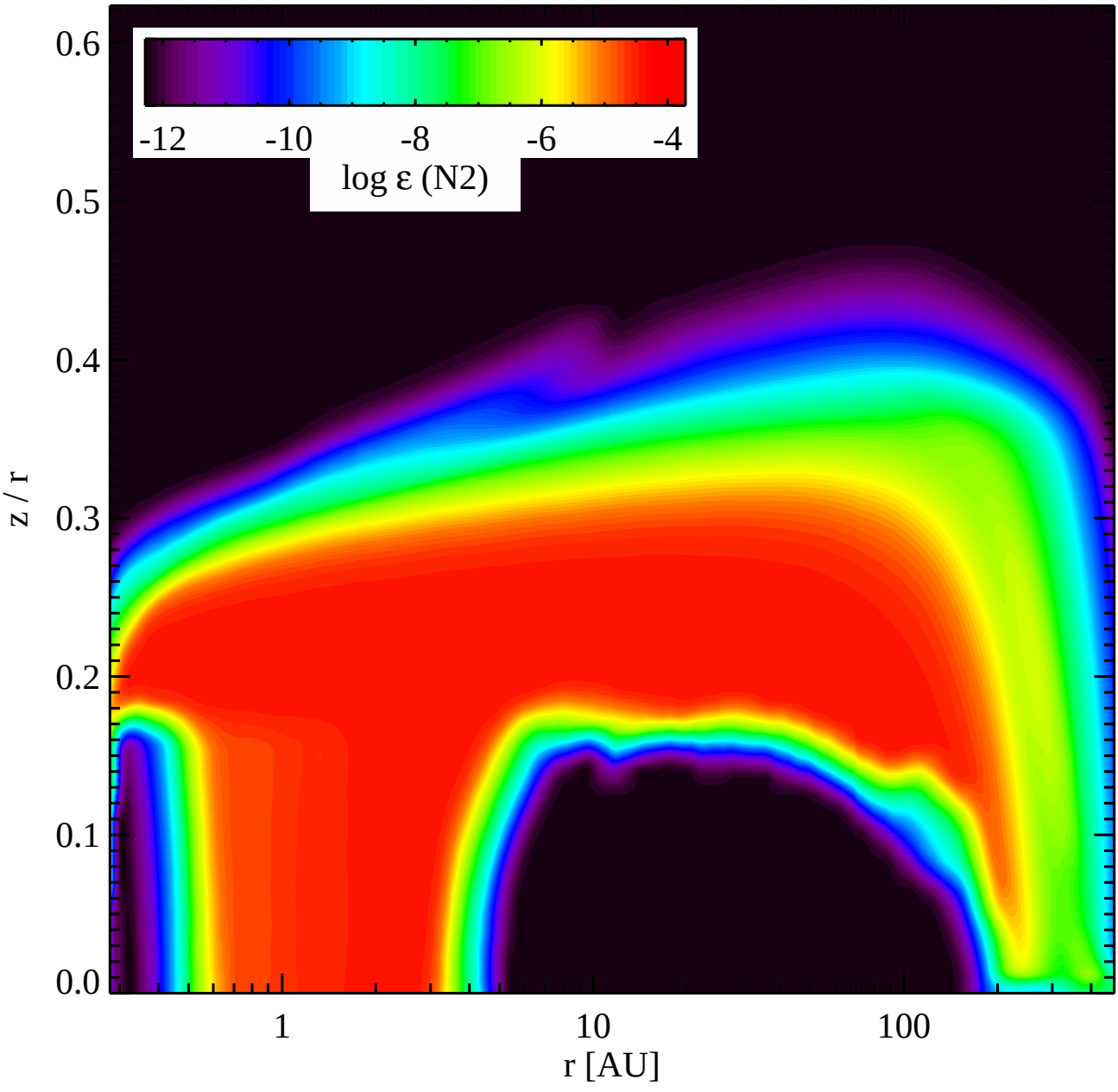

-12
-10
-8
-6
-4
log ε (C)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

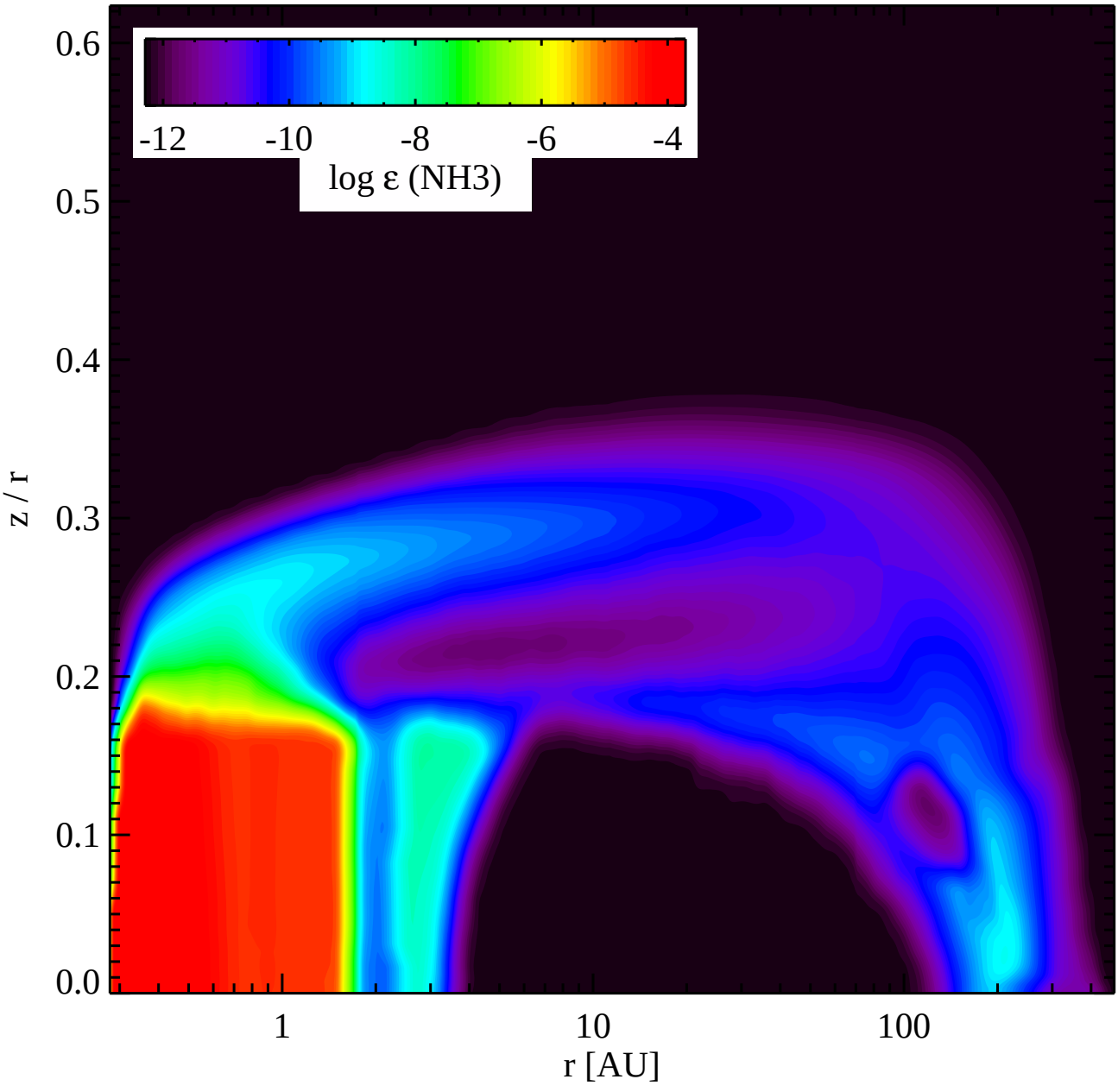

-12
-10
-8
-6
-4
log ε (CO)
log χ/n=-3.5
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

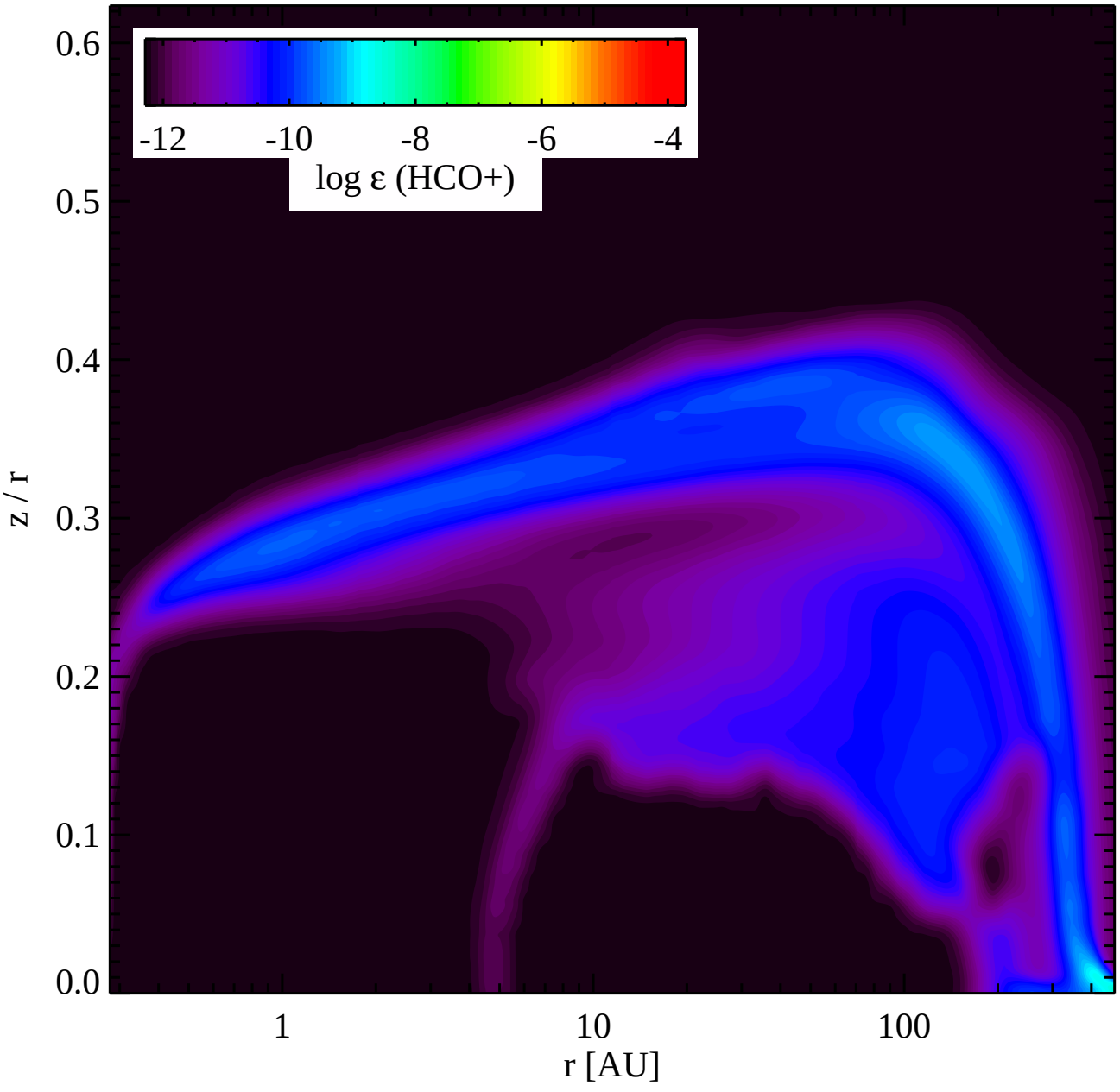

-12
-10
-8
-6
-4
log ε (CO2)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

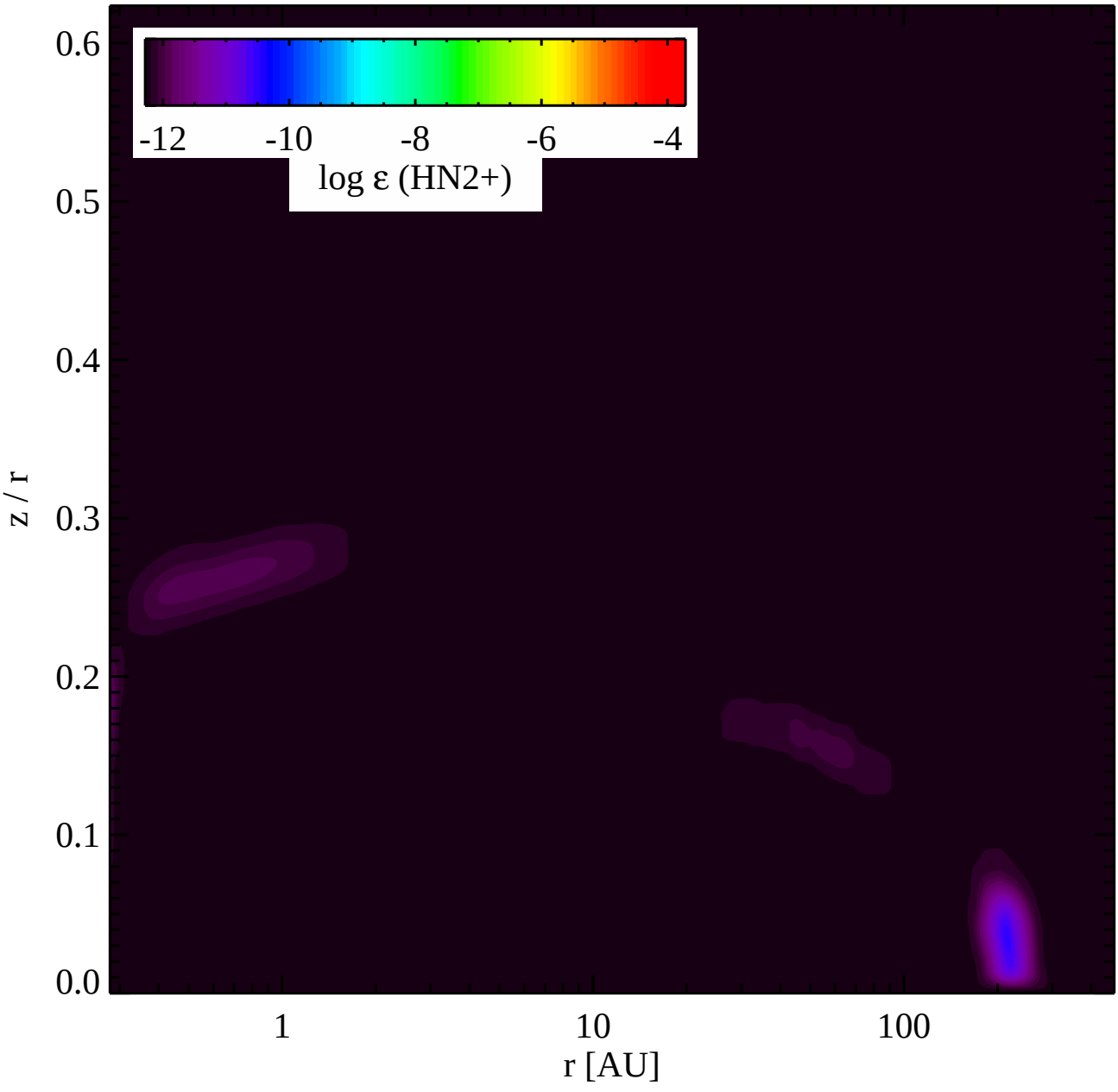

-12
-10
-8
-6
-4
log ε (CH4)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

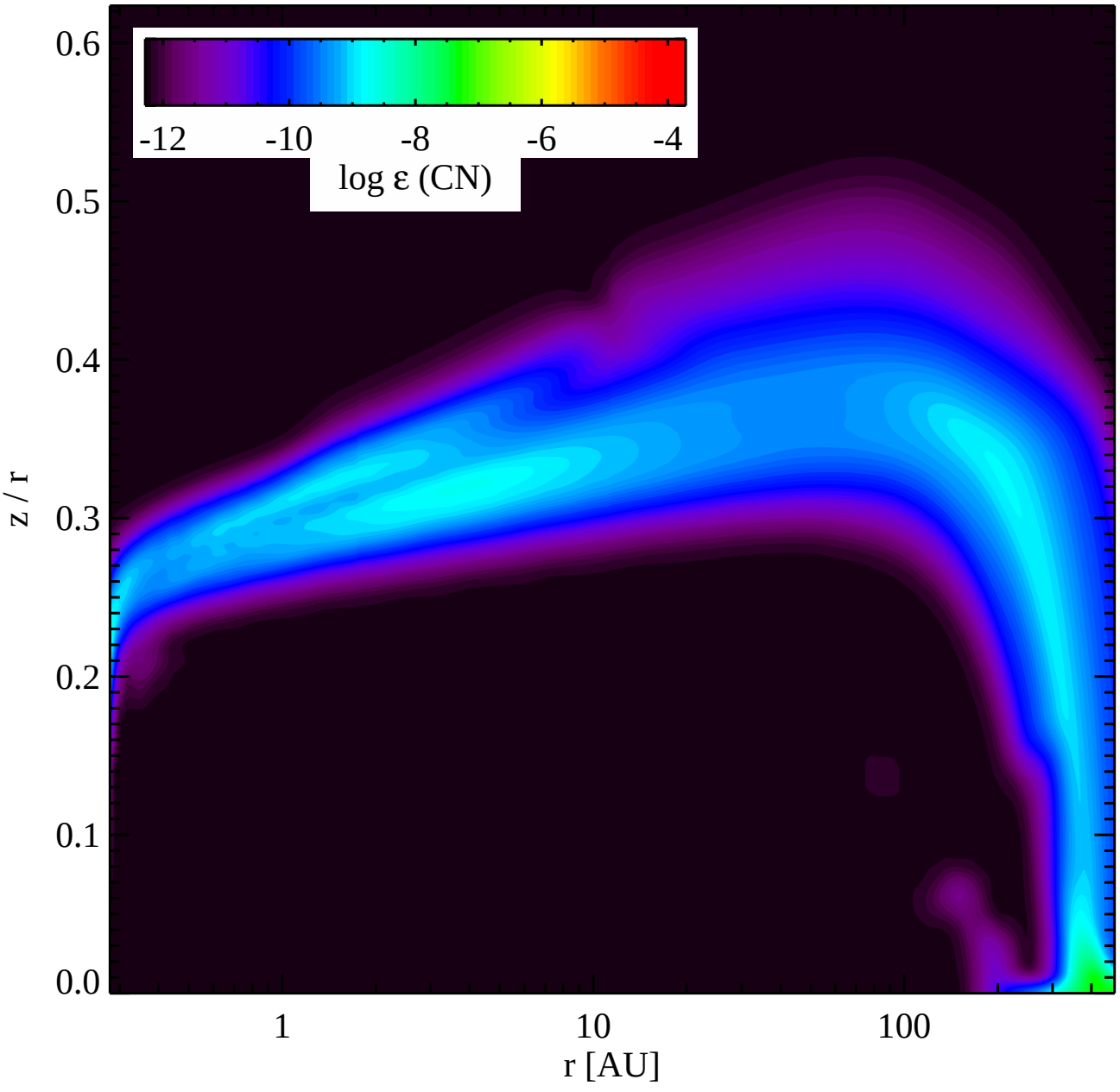

-12
-10
-8
-6
-4
log ε (N)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

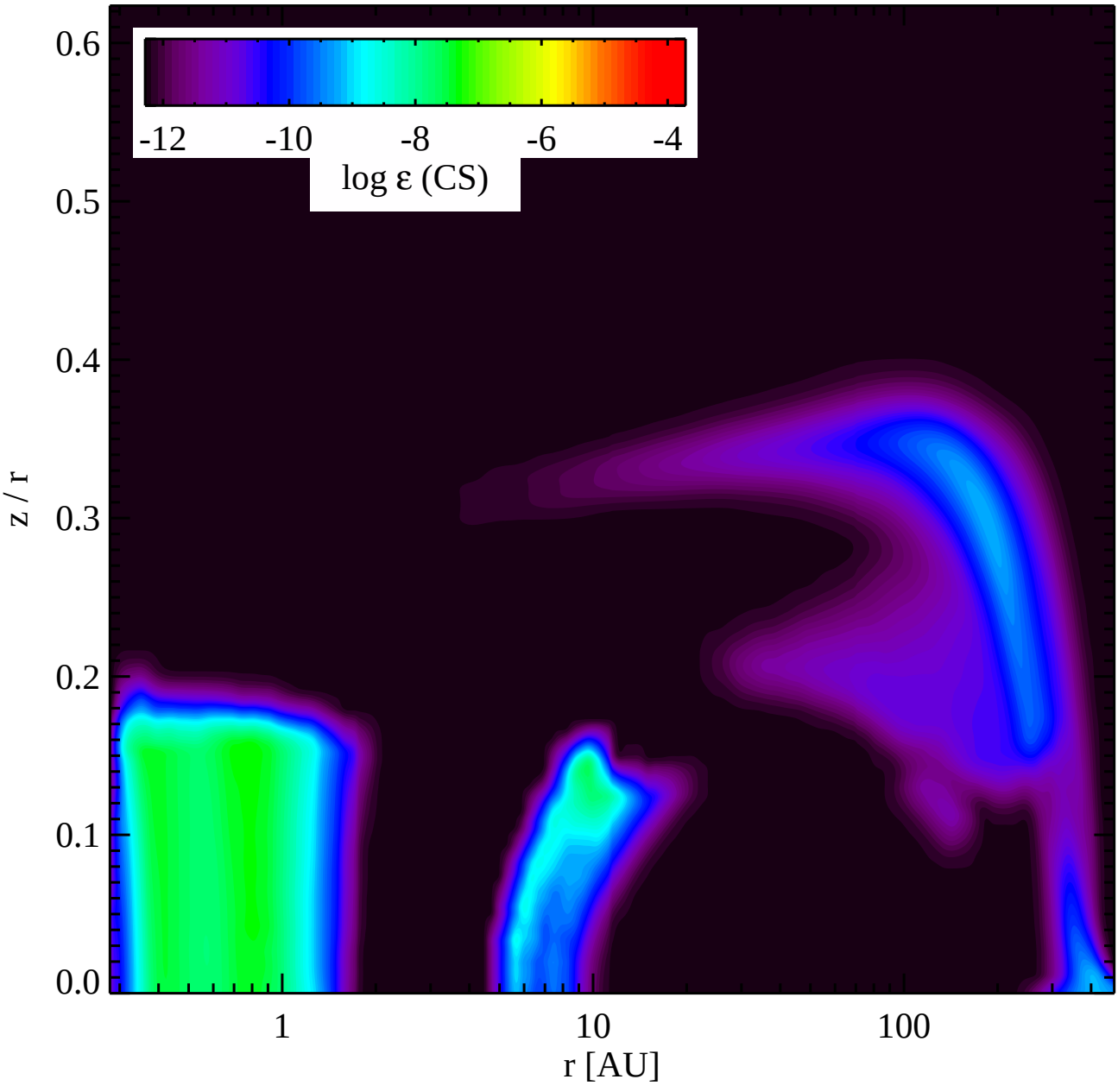

-12
-10
-8
-6
-4
log ε (N2)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

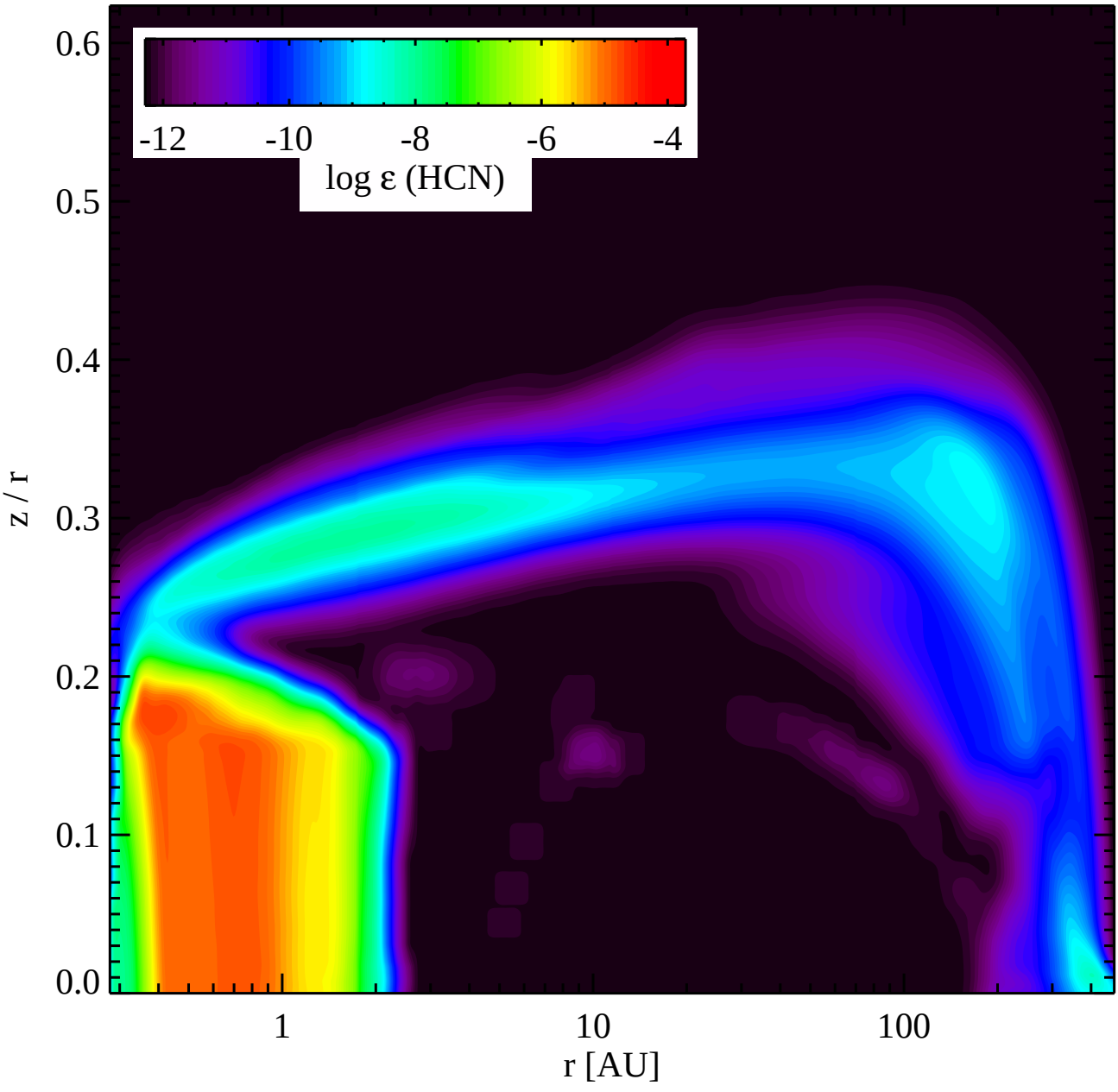

-12
-10
-8
-6
-4
log ε (NH3)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

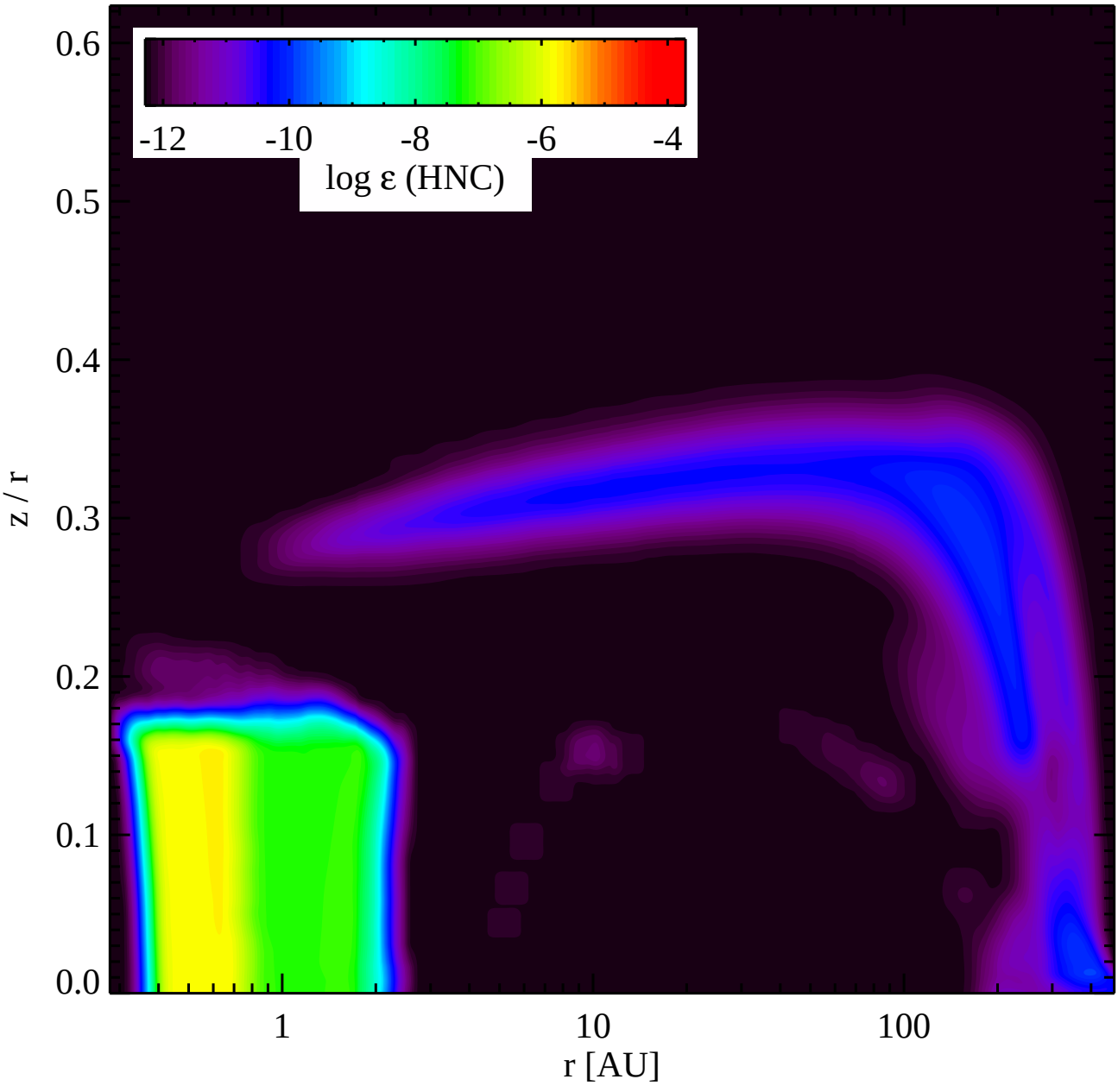

-12
-10
-8
-6
-4
log ε (HCO+)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

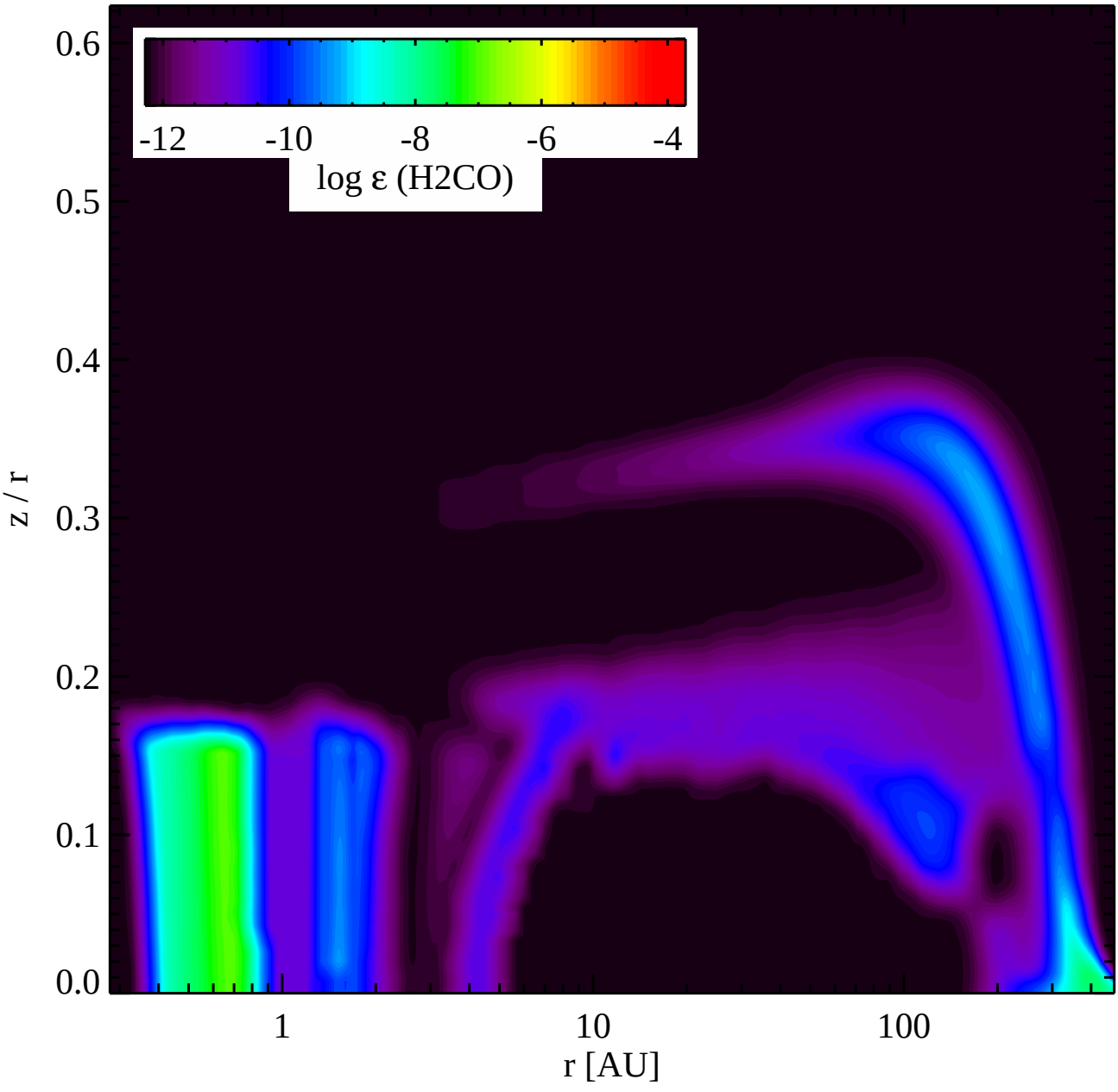

-12
-10
-8
-6
-4
log ε (HN2+)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

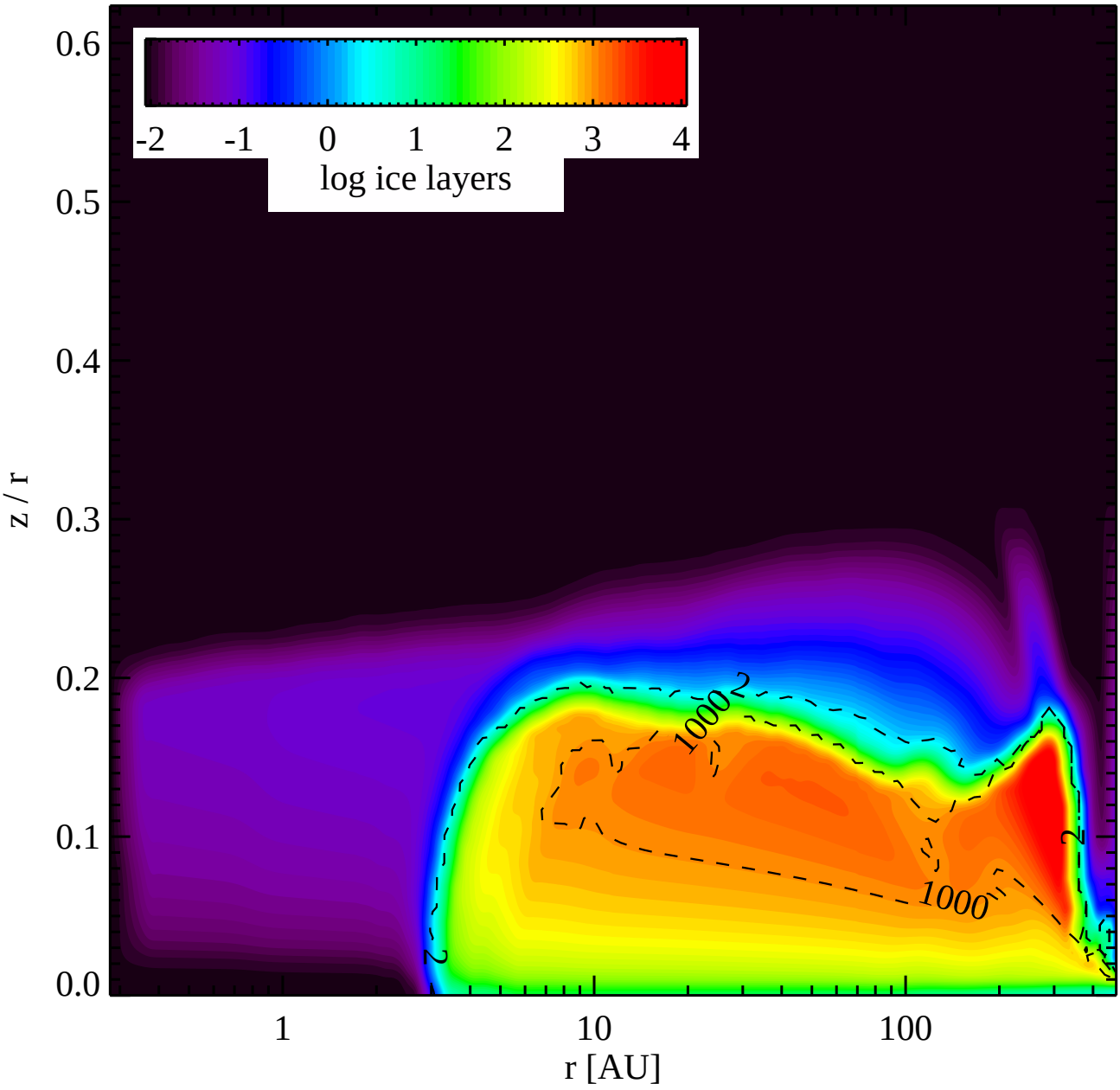

-12
-10
-8
-6
-4
log ε (CN)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

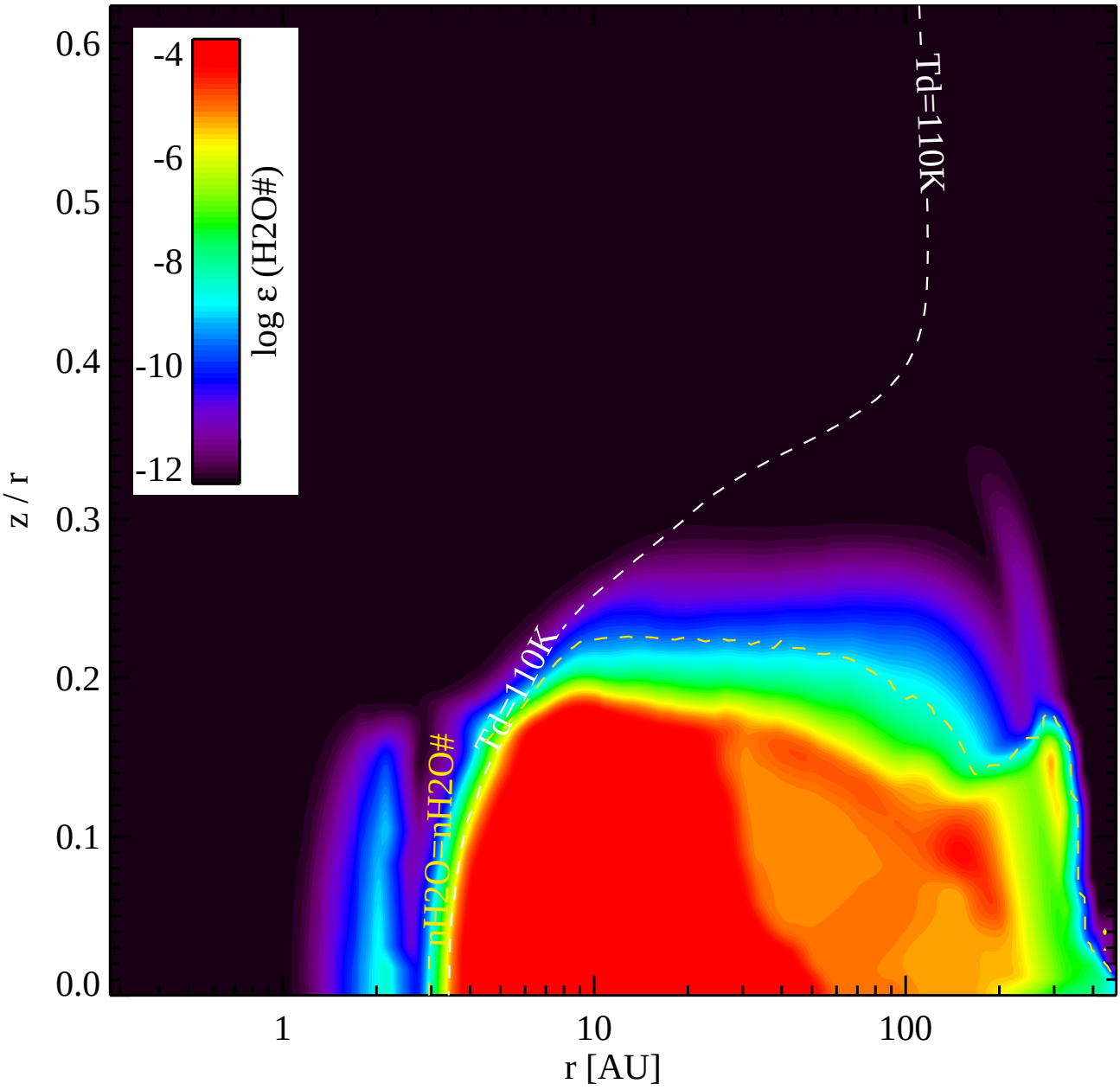

-12
-10
-8
-6
-4
log ε (CS)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

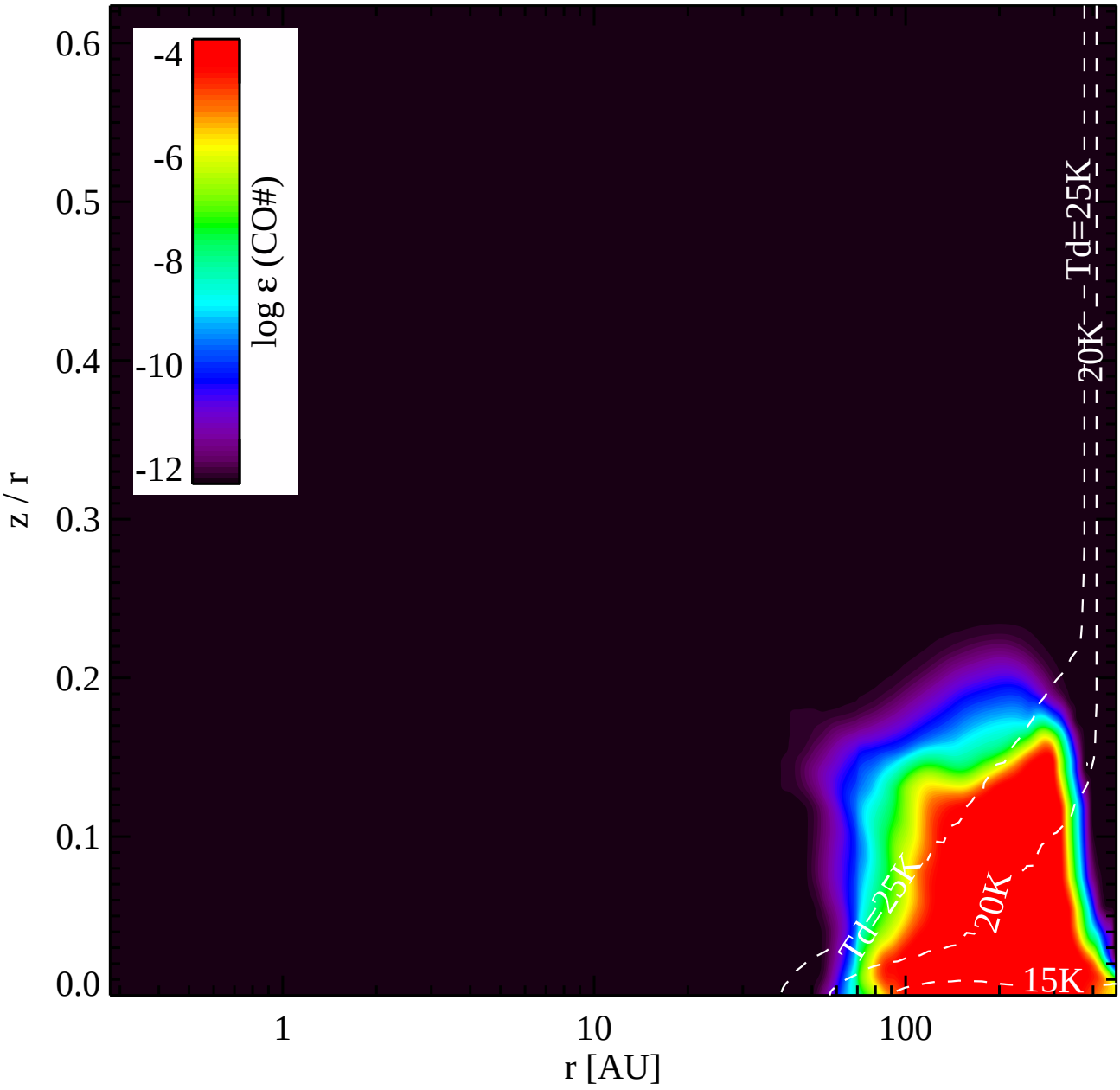

-12
-10
-8
-6
-4
log ε (HCN)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

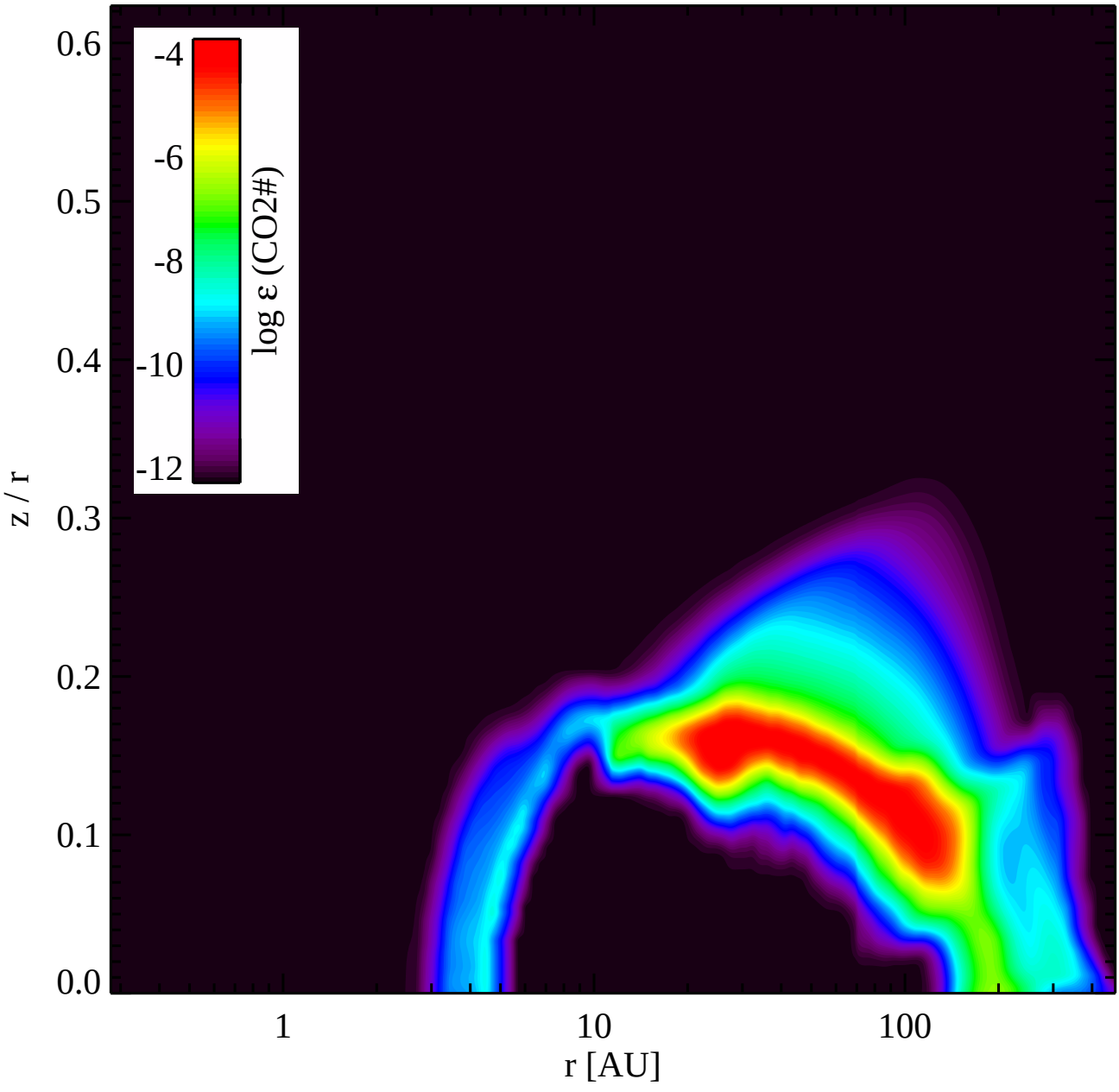

-12
-10
-8
-6
-4
log ε (HNC)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

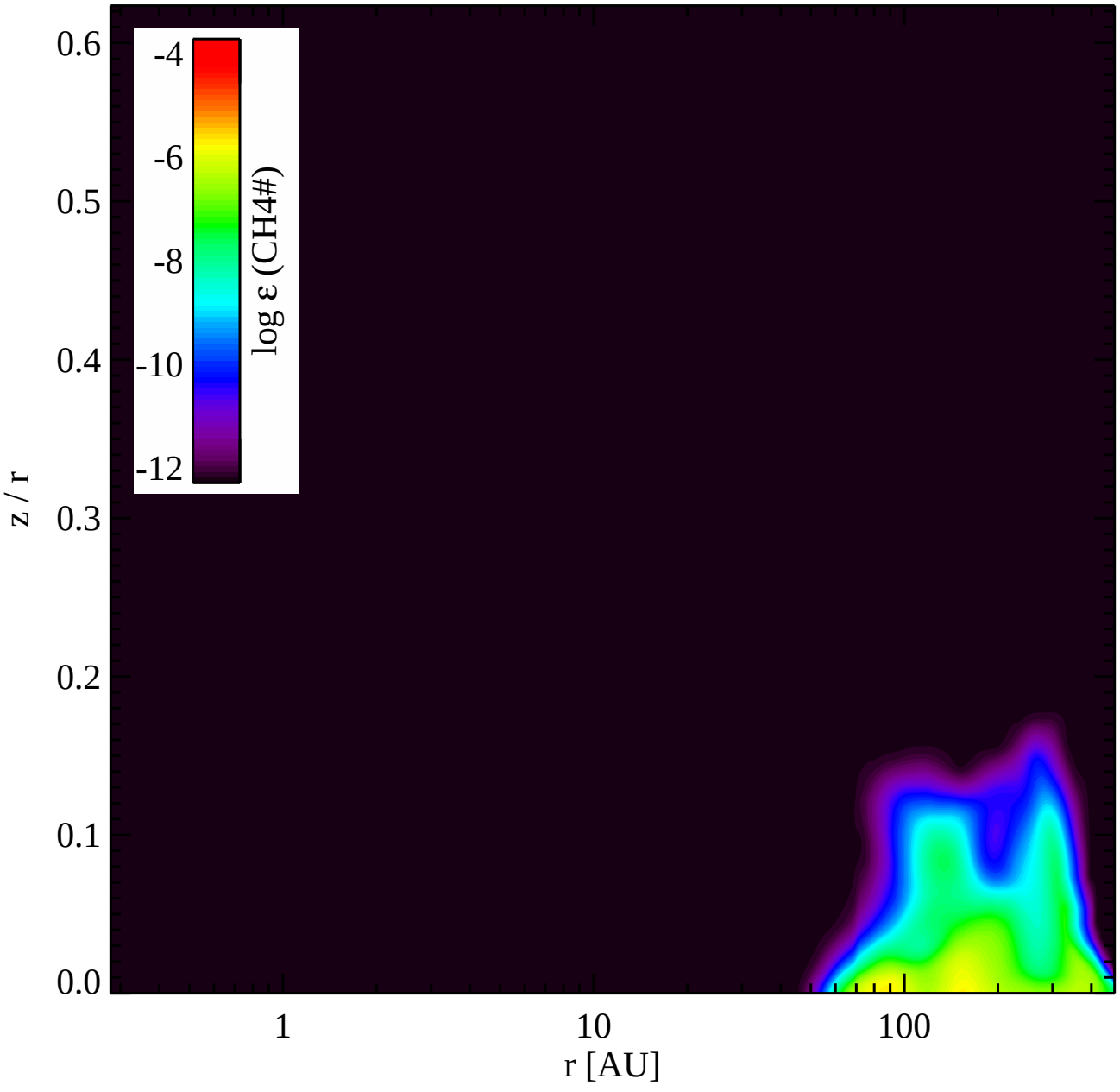

-12
-10
-8
-6
-4
log ε (H2CO)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

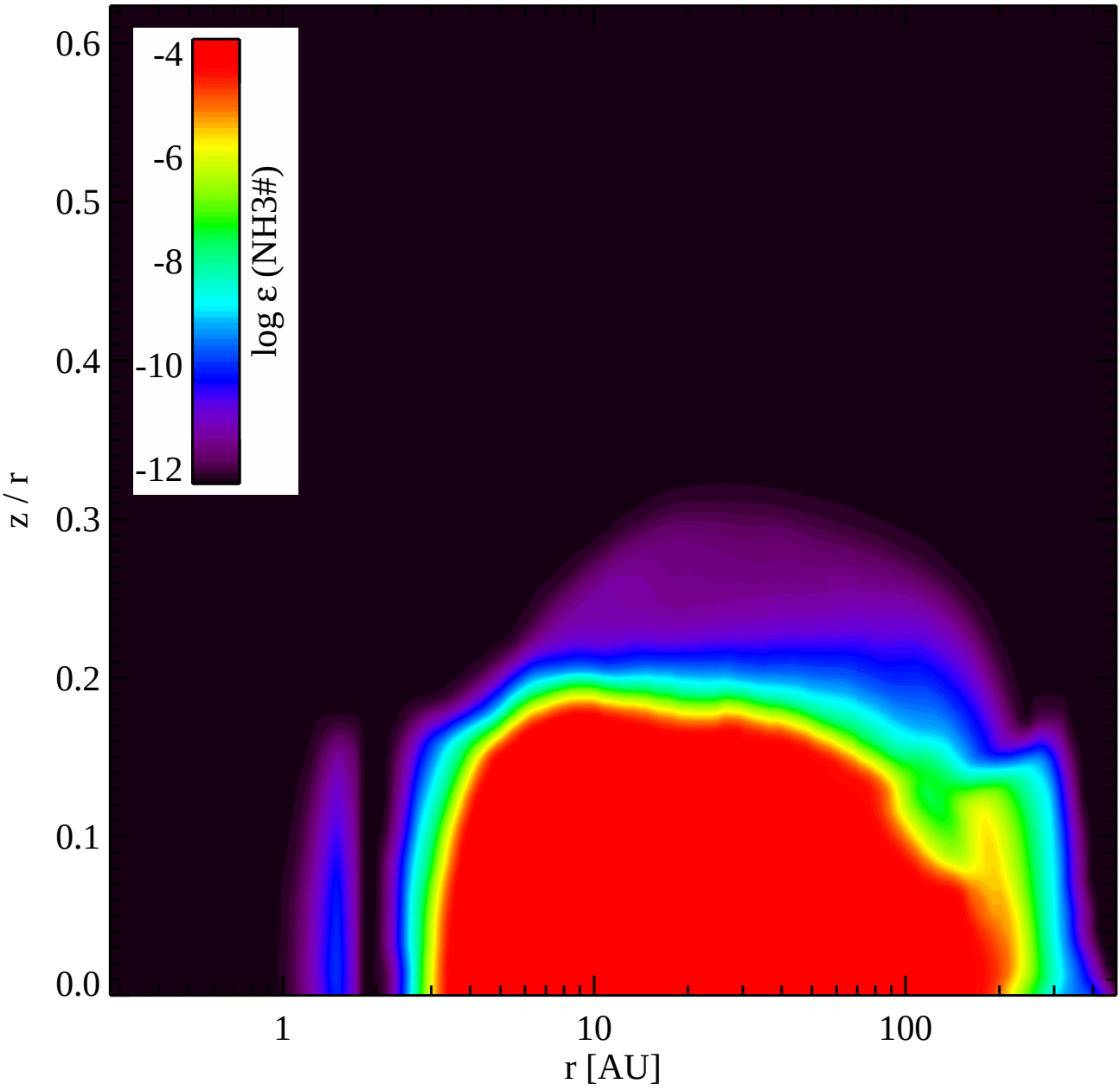

-2
-1
0
1
2
3
4
log ice layers
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]
1000
2
1000
2
2

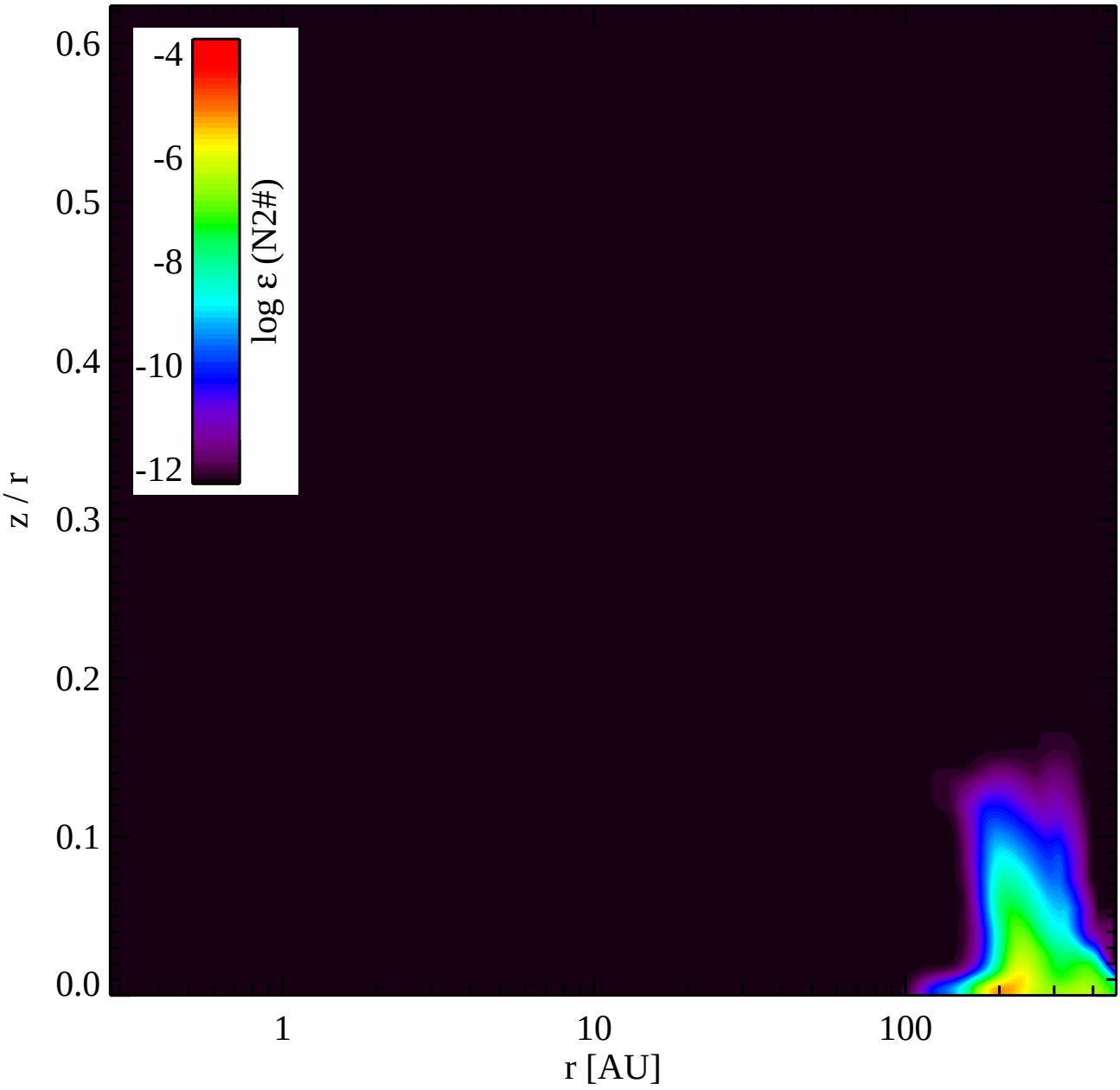

-4
-6
-8
-10
-12
log ε (H2O#)
Td=110K
Td=110K
nH2O=nH2O#
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

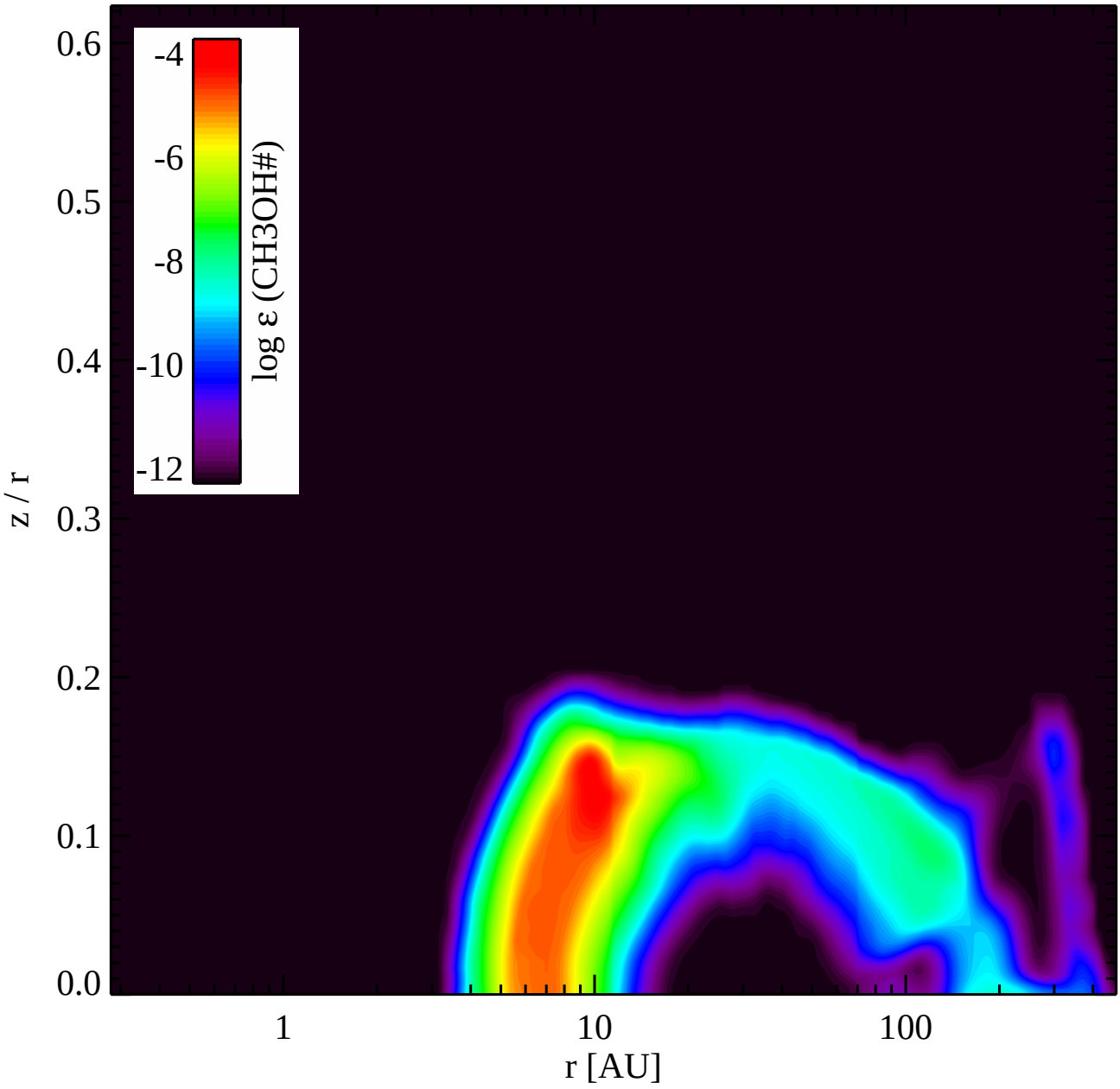

-4
-6
-8
-10
-12
log ε (CO#)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]
Td=25K
20K
15K
20K
Td=25K

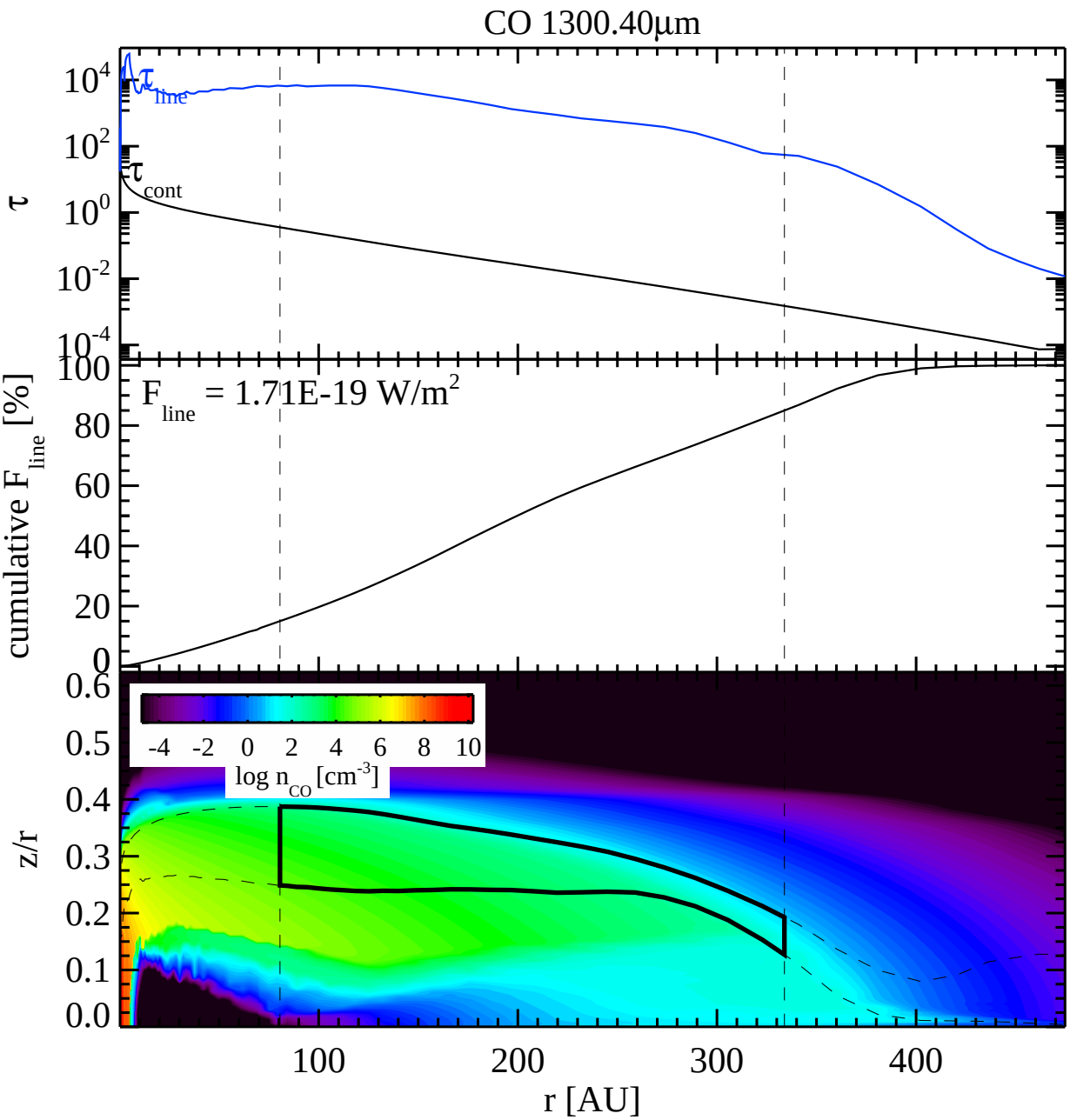

-4
-6
-8
-10
-12
log ε (CO2#)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

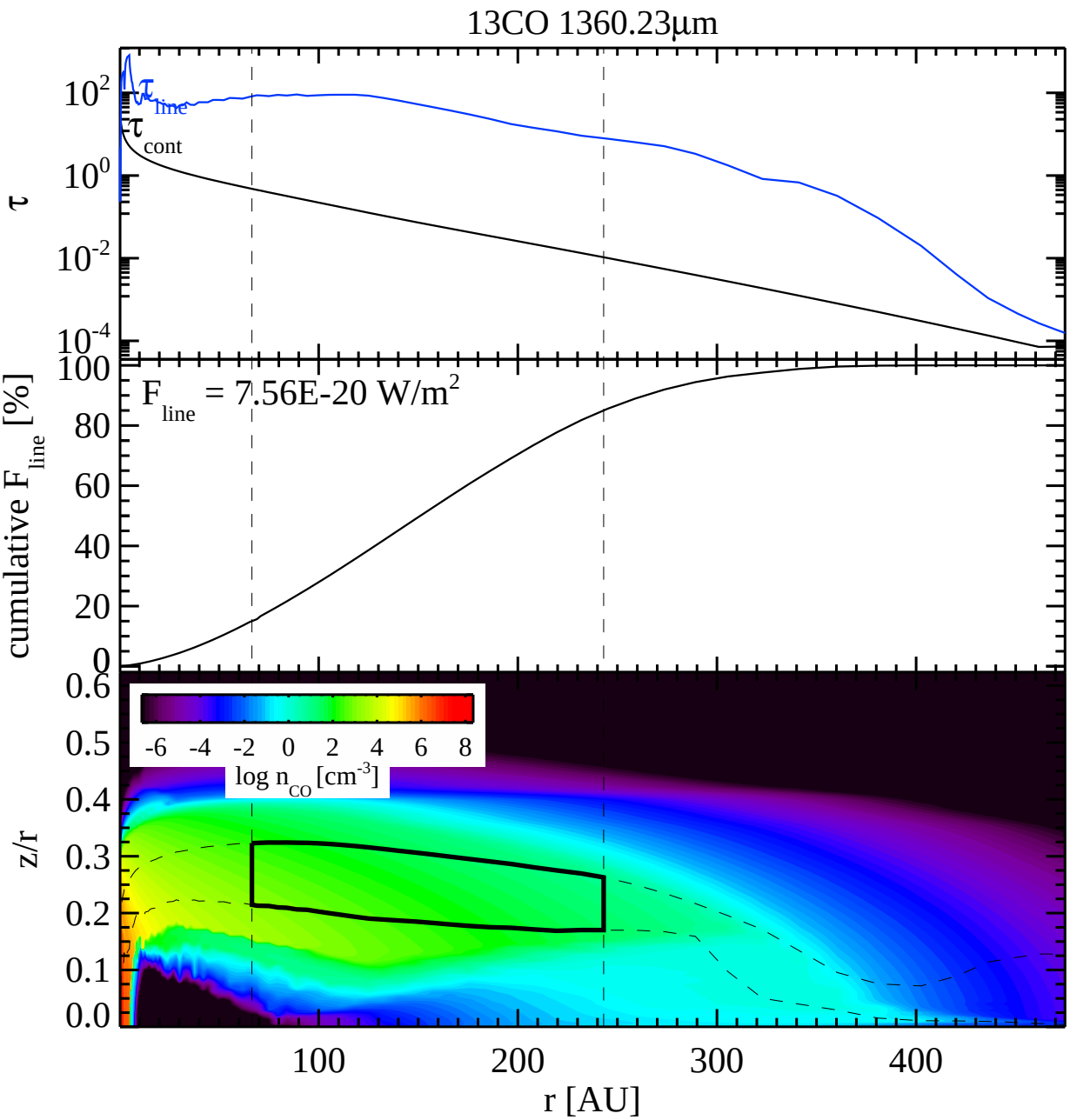

-4
-6
-8
-10
-12
log ε (CH4#)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

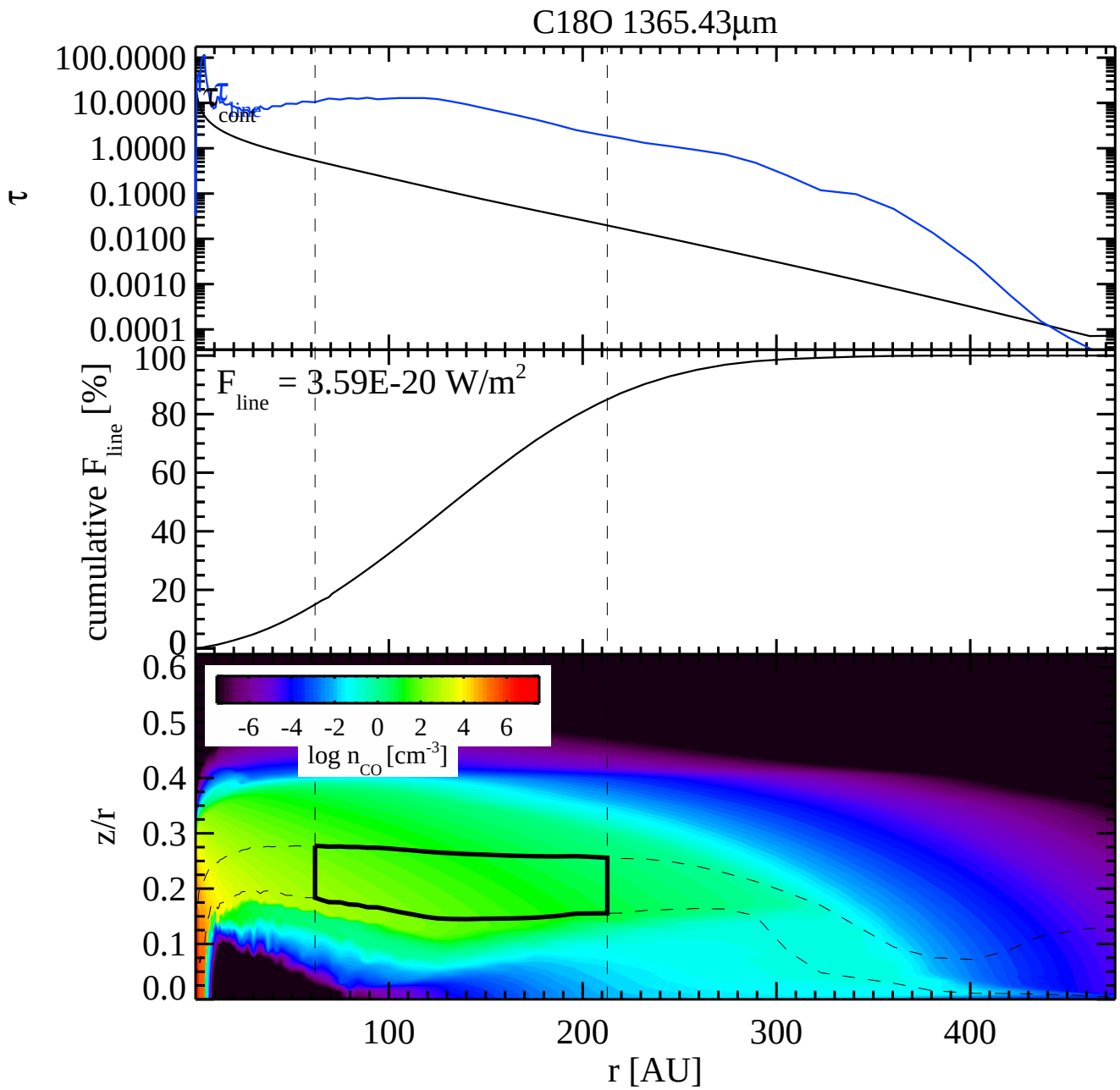

-4
-6
-8
-10
-12
log ε (NH3#)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

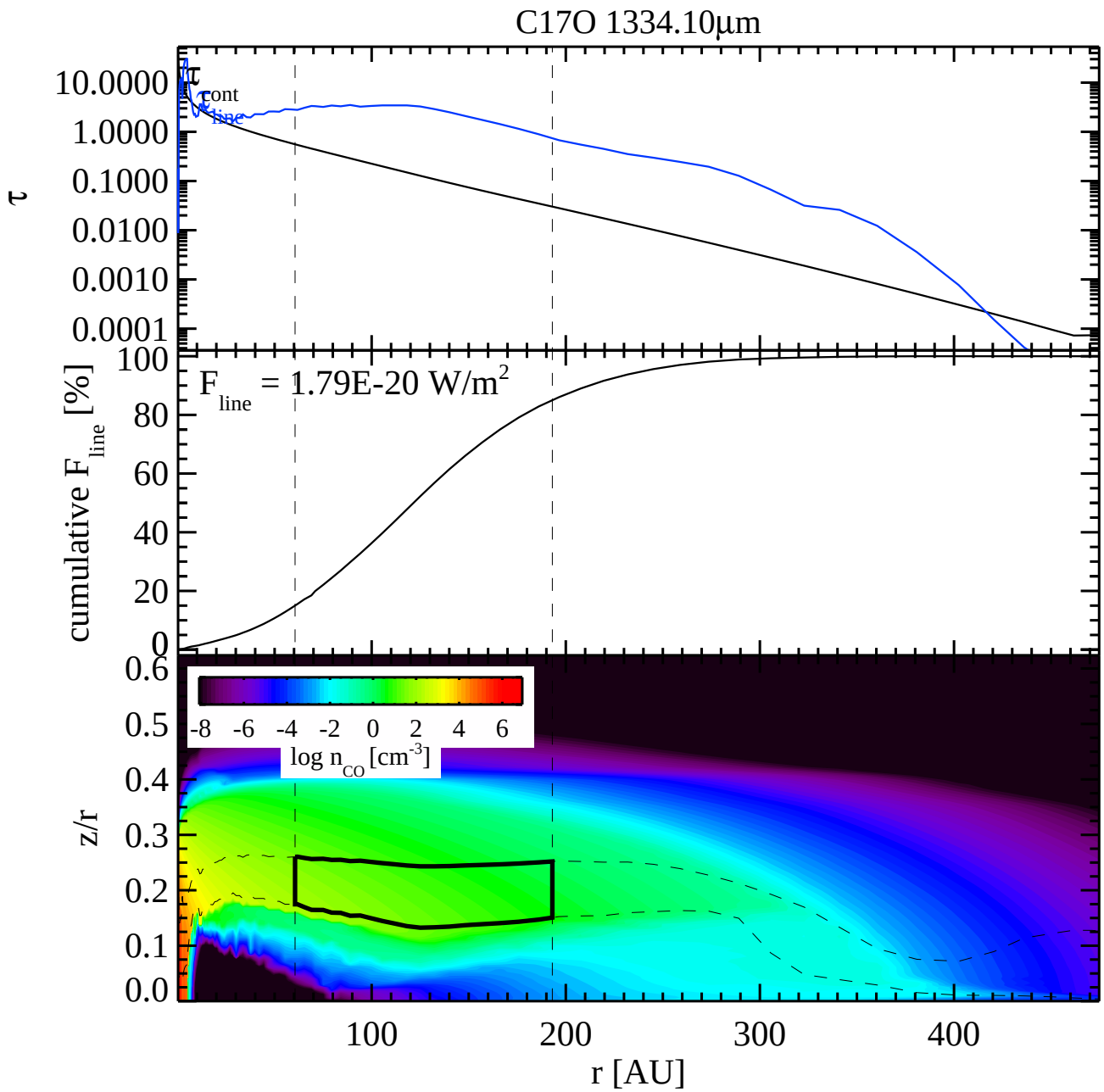

-4
-6
-8
-10
-12
log ε (N2#)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

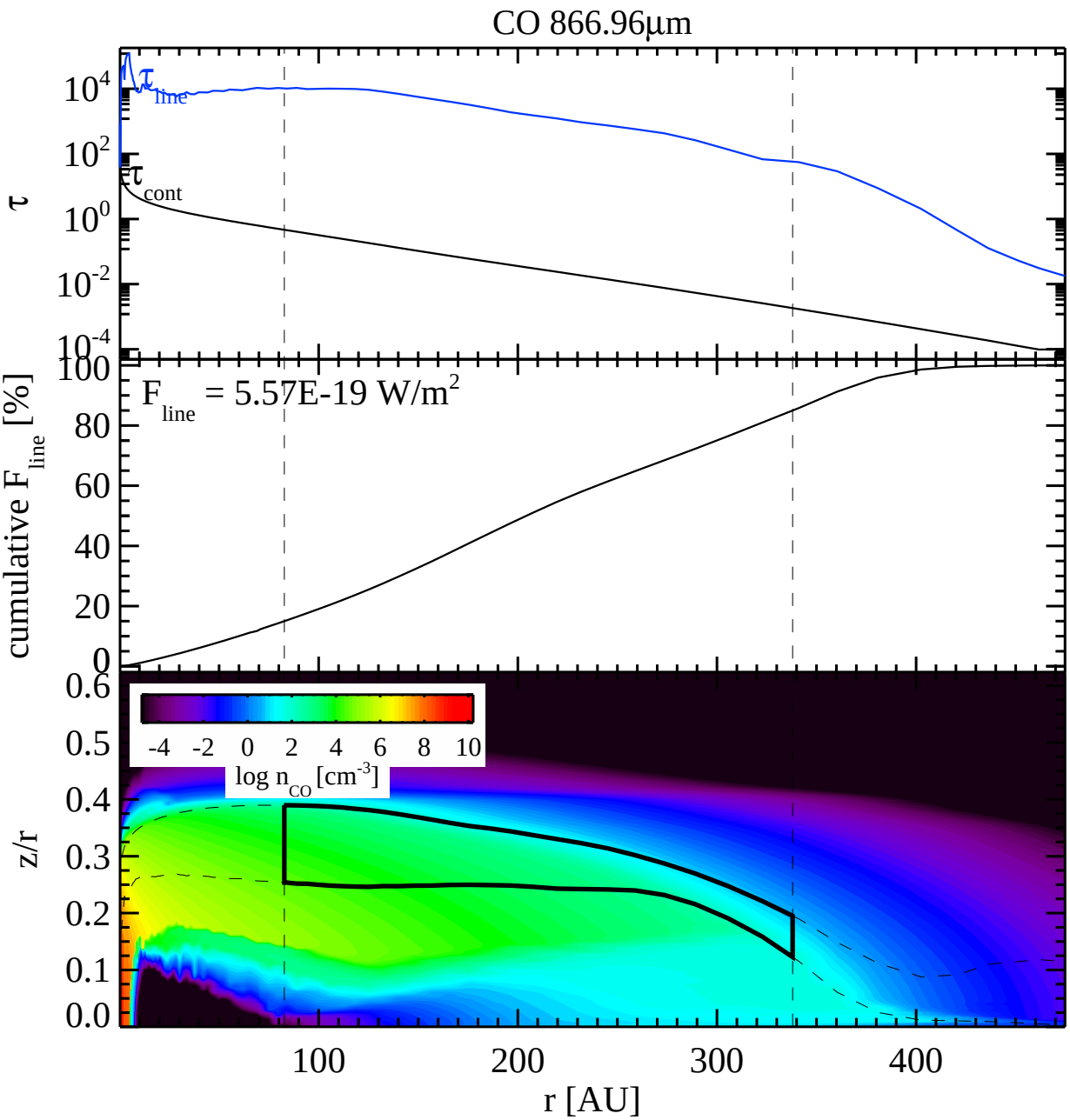

-4
-6
-8
-10
-12
log ε (CH3OH#)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

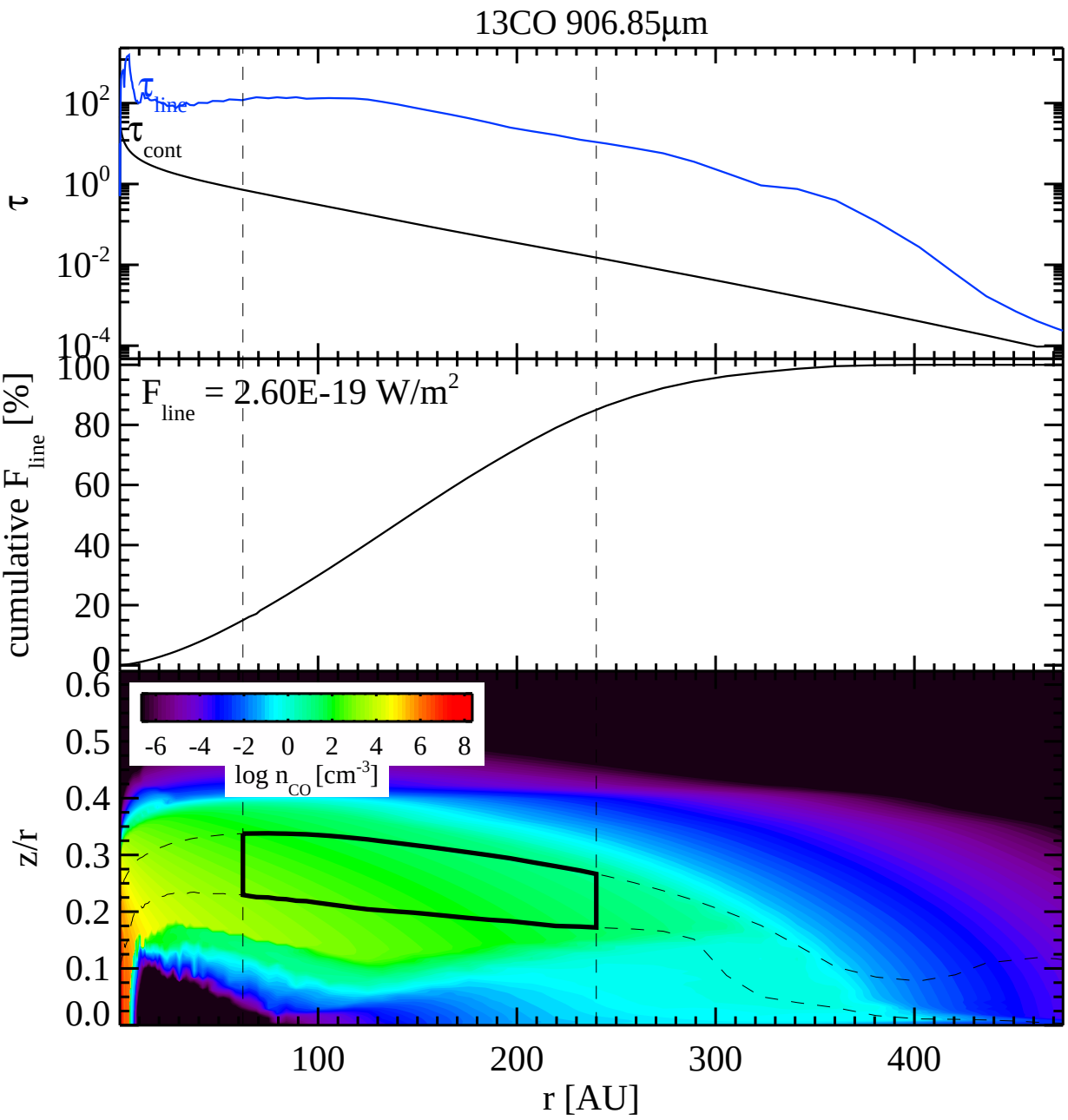

CO 1300.40µm
τ
τ line
τ cont
cumulative F line [%]
F line = 1.71E-19 W/m2
log n CO [cm-3]
z/r
r [AU]

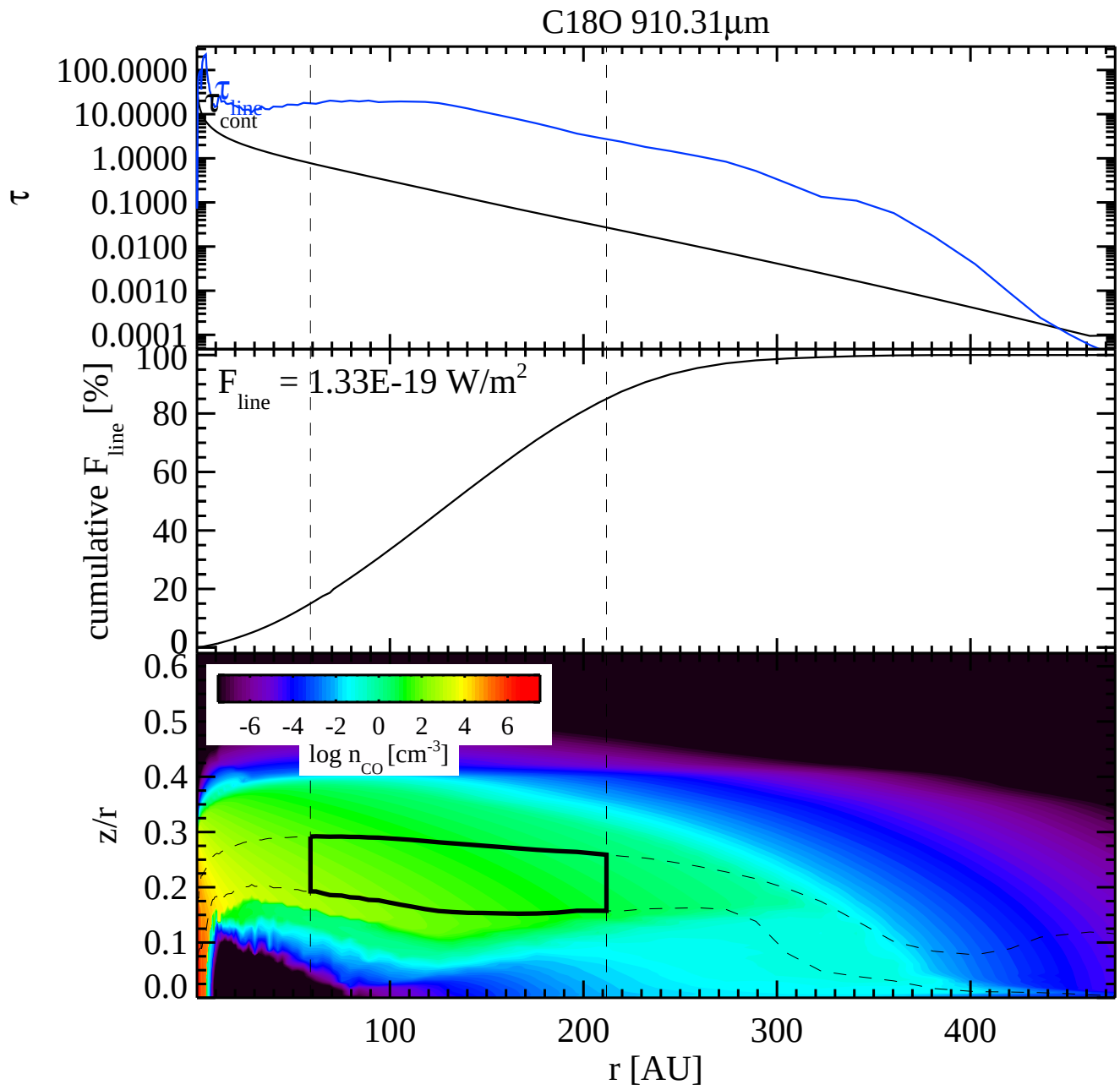

13CO 1360.23µm
τ
τ line
τ cont
cumulative F line [%]
F line = 7.56E-20 W/m2
log n CO [cm-3]
z/r
r [AU]

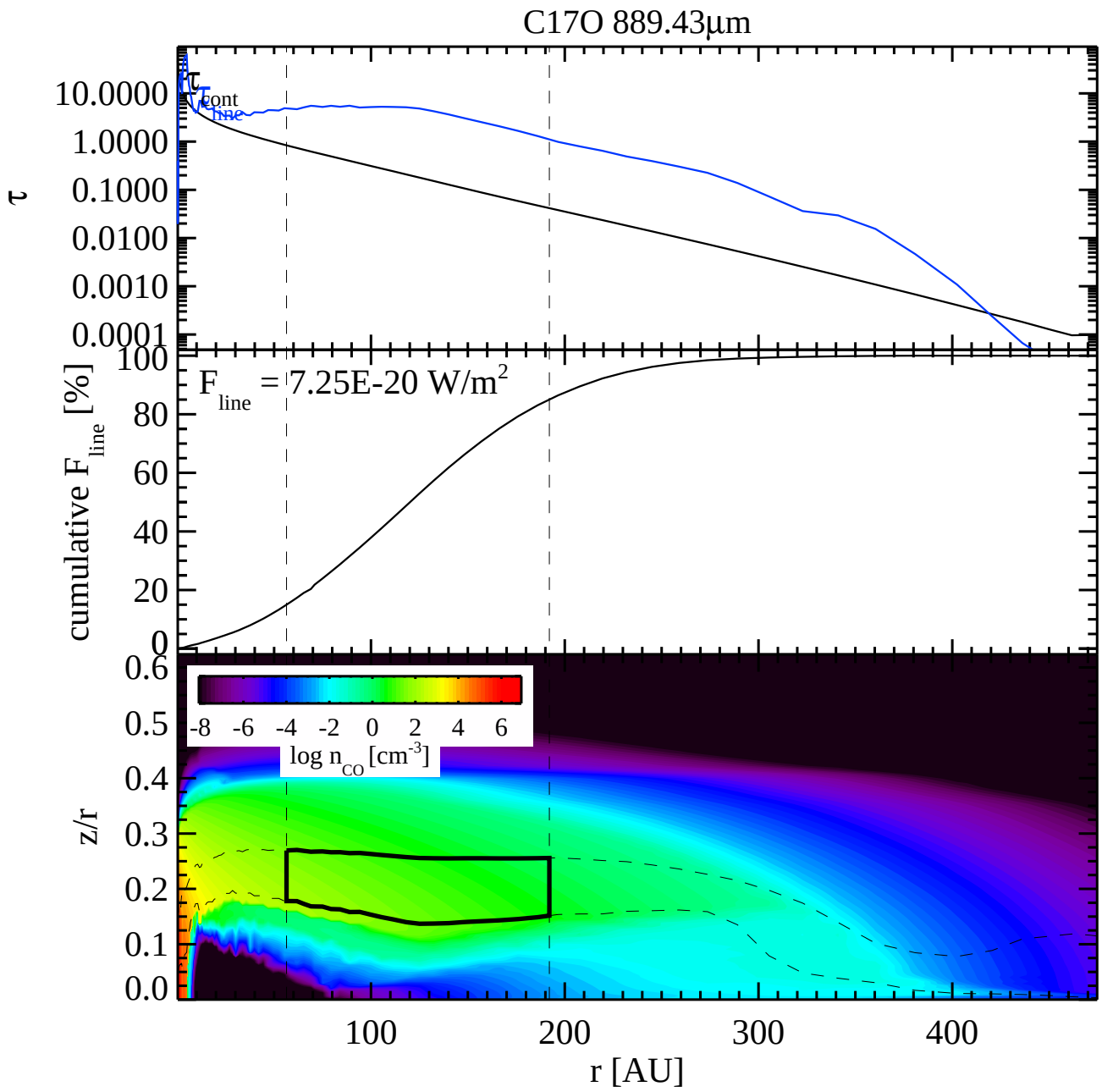

C18O 1365.43µm
τ
100.0000
10.0000
1.0000
0.1000
0.0100
0.0010
0.0001
τ line
τ cont
cumulative F line [%]
100
80
60
40
20
0
F line = 3.59E-20 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-6 -4 -2 0 2 4 6
log n CO [cm-3]
100
200
300
400
r [AU]

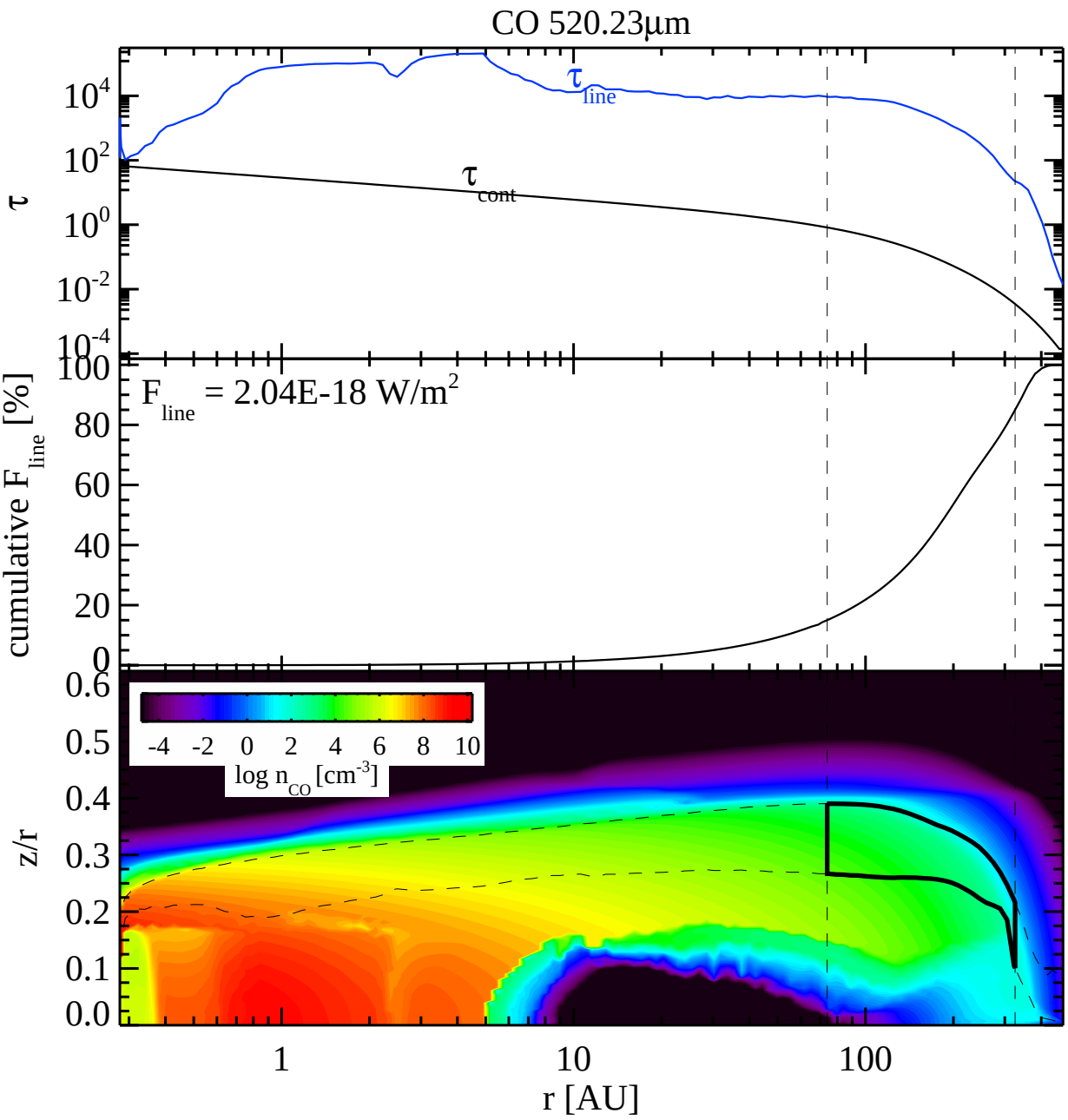

C17O 1334.10µm
τ
10.0000
1.0000
0.1000
0.0100
0.0010
0.0001
τcont
τline
cumulative Fline [%]
100
80
60
40
20
0
Fline = 1.79E-20 W/m2
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z/r
-8 -6 -4 -2 0 2 4 6
log nCO [cm-3]
100
200
300
400
r [AU]

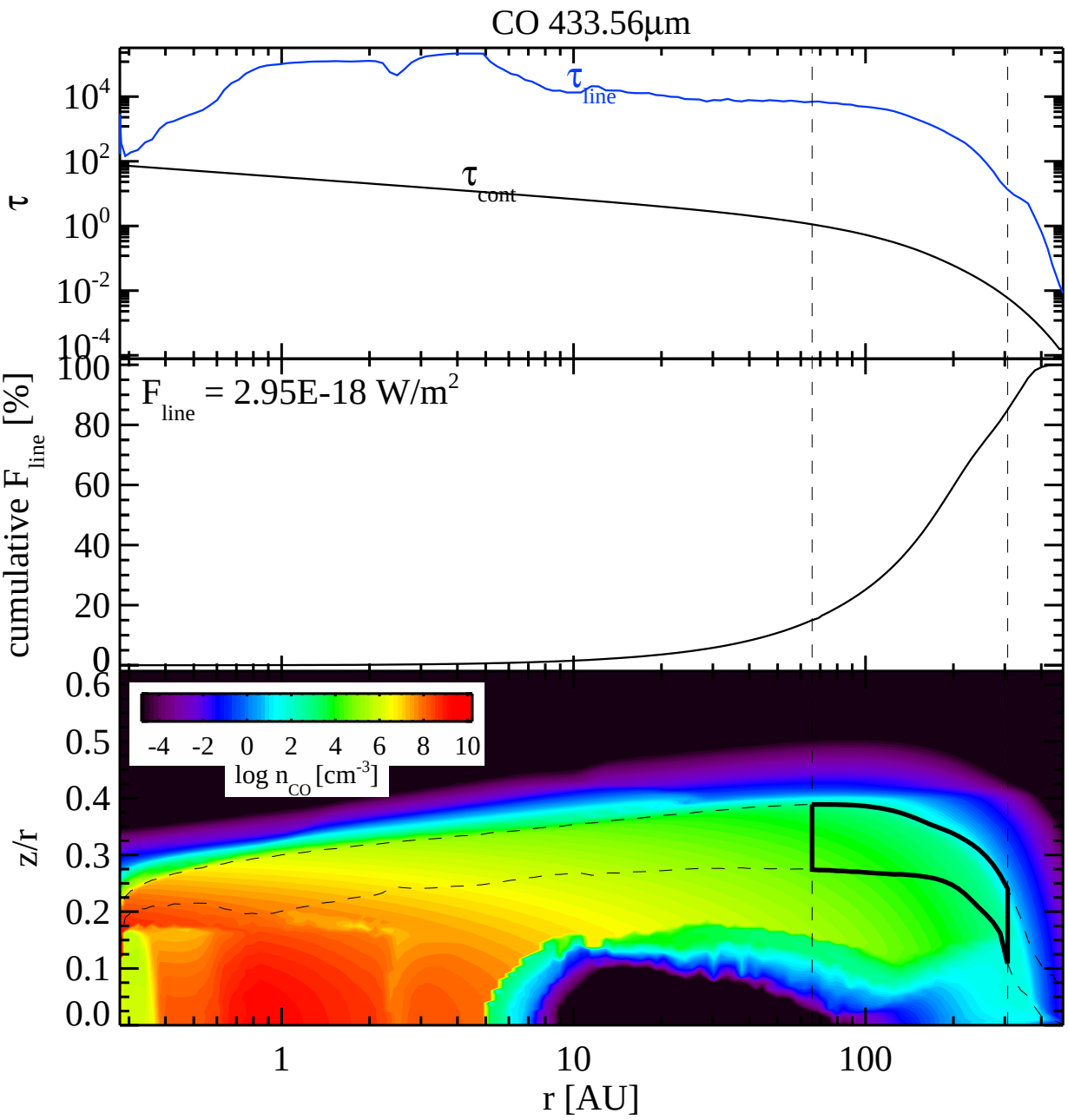

CO 866.96µm
τ
τ line
τ cont
cumulative F line [%]
F line = 5.57E-19 W/m2
log n CO [cm-3]
z/r
r [AU]

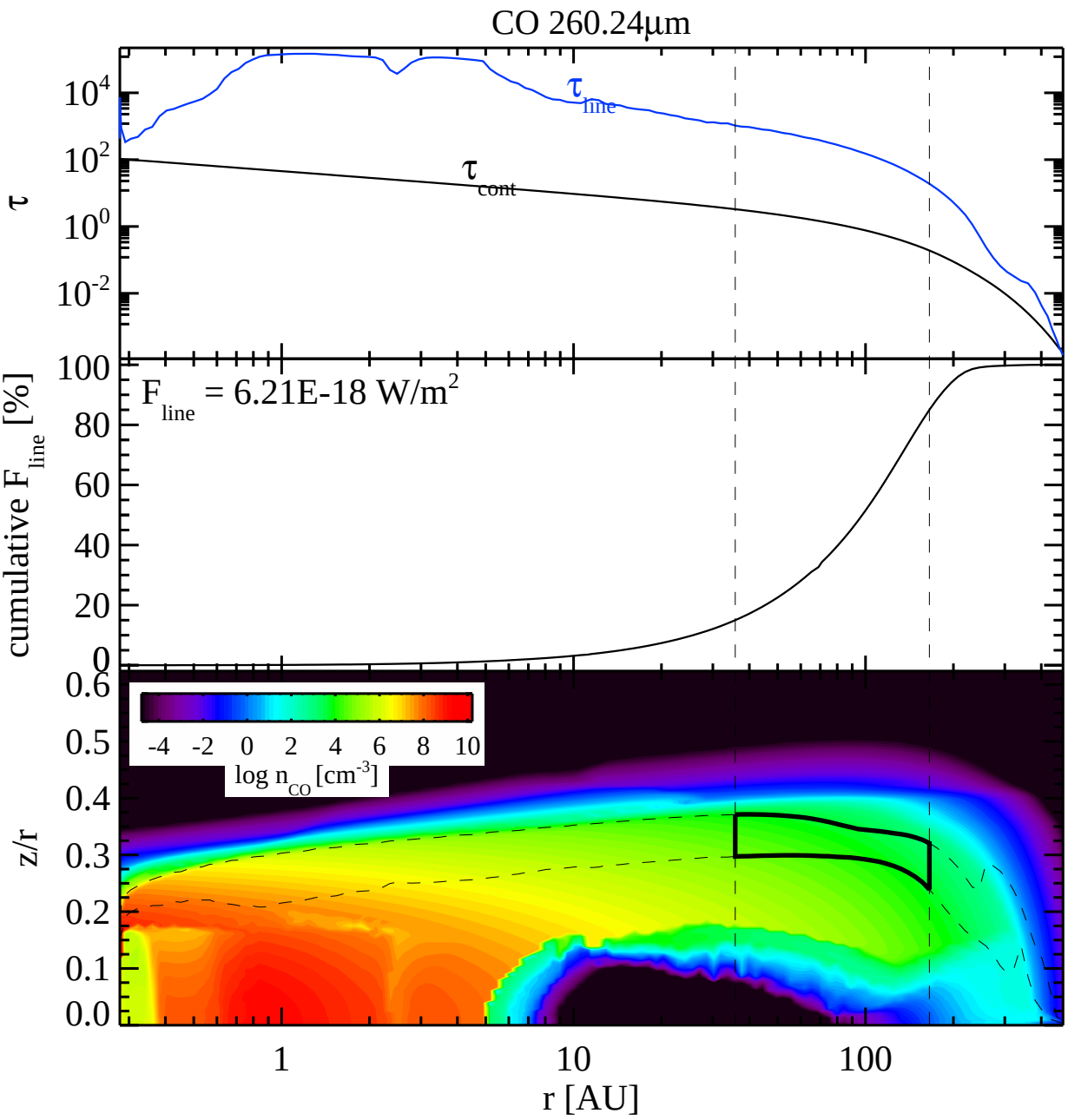

13CO 906.85µm
τ
τ line
τ cont
cumulative F line [%]
F line = 2.60E-19 W/m2
log n CO [cm-3]
z/r
r [AU]

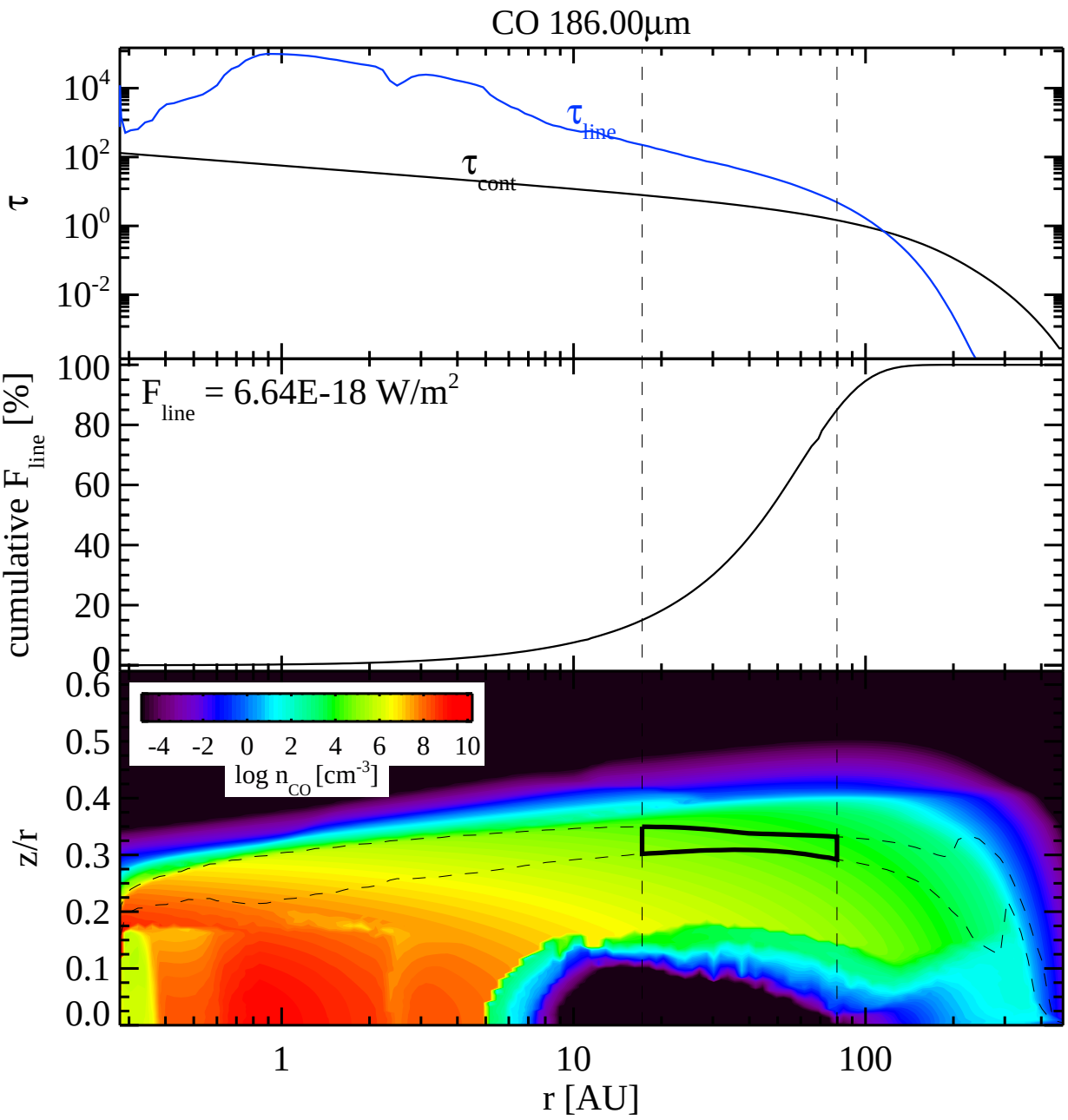

C18O 910.31µm
τ
100.0000
10.0000
1.0000
0.1000
0.0100
0.0010
0.0001
τ line
τ cont
cumulative F line [%]
100
80
60
40
20
0
F line = 1.33E-19 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-6 -4 -2 0 2 4 6
log n CO [cm-3]
100
200
300
400
r [AU]

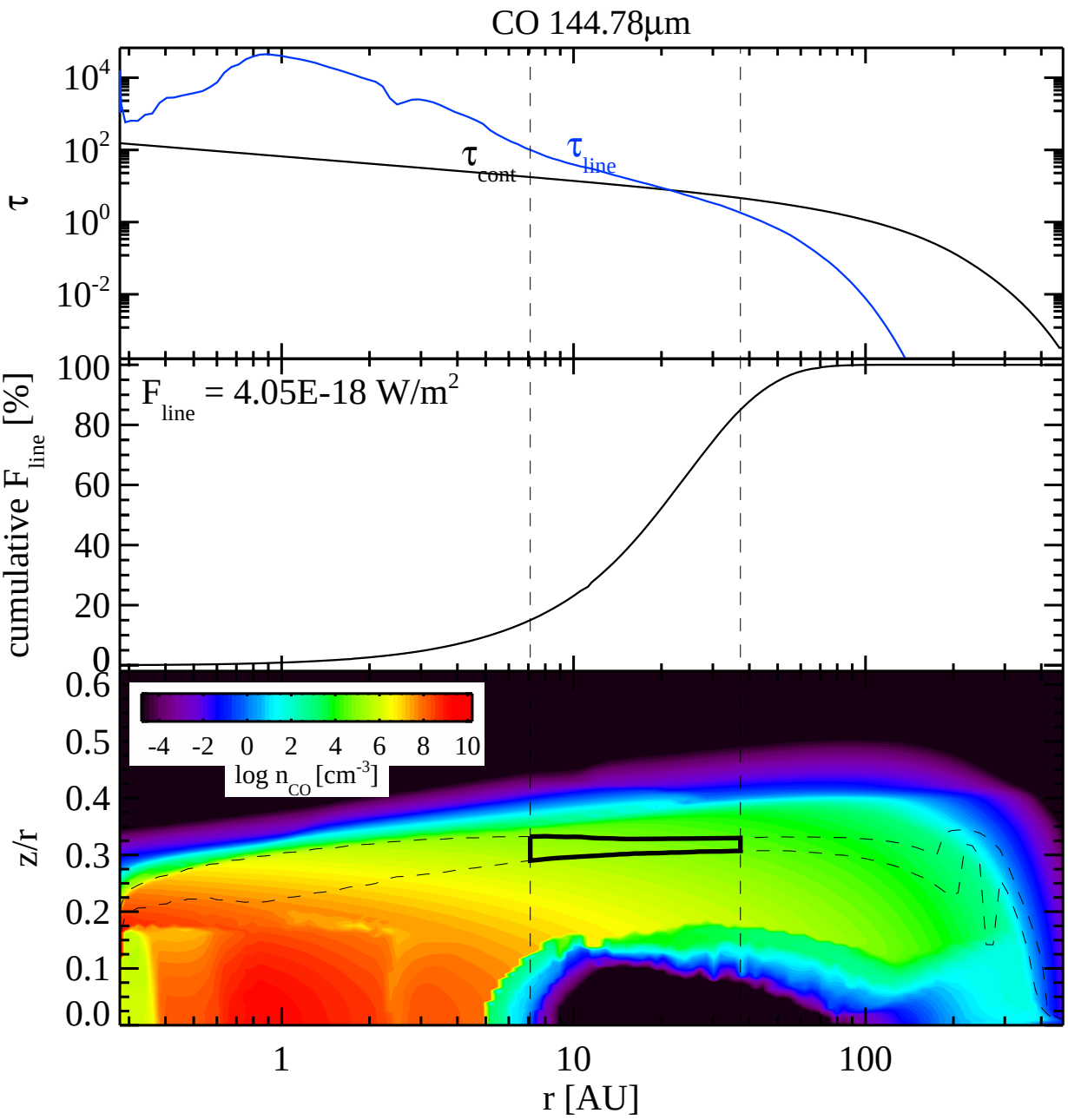

C17O 889.43µm
τ
τ cont
τ line
10.0000
1.0000
0.1000
0.0100
0.0010
0.0001
cumulative F line [%]
F line = 7.25E-20 W/m2
100
80
60
40
20
0
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-8 -6 -4 -2 0 2 4 6
log n CO [cm-3]
100
200
300
400
r [AU]

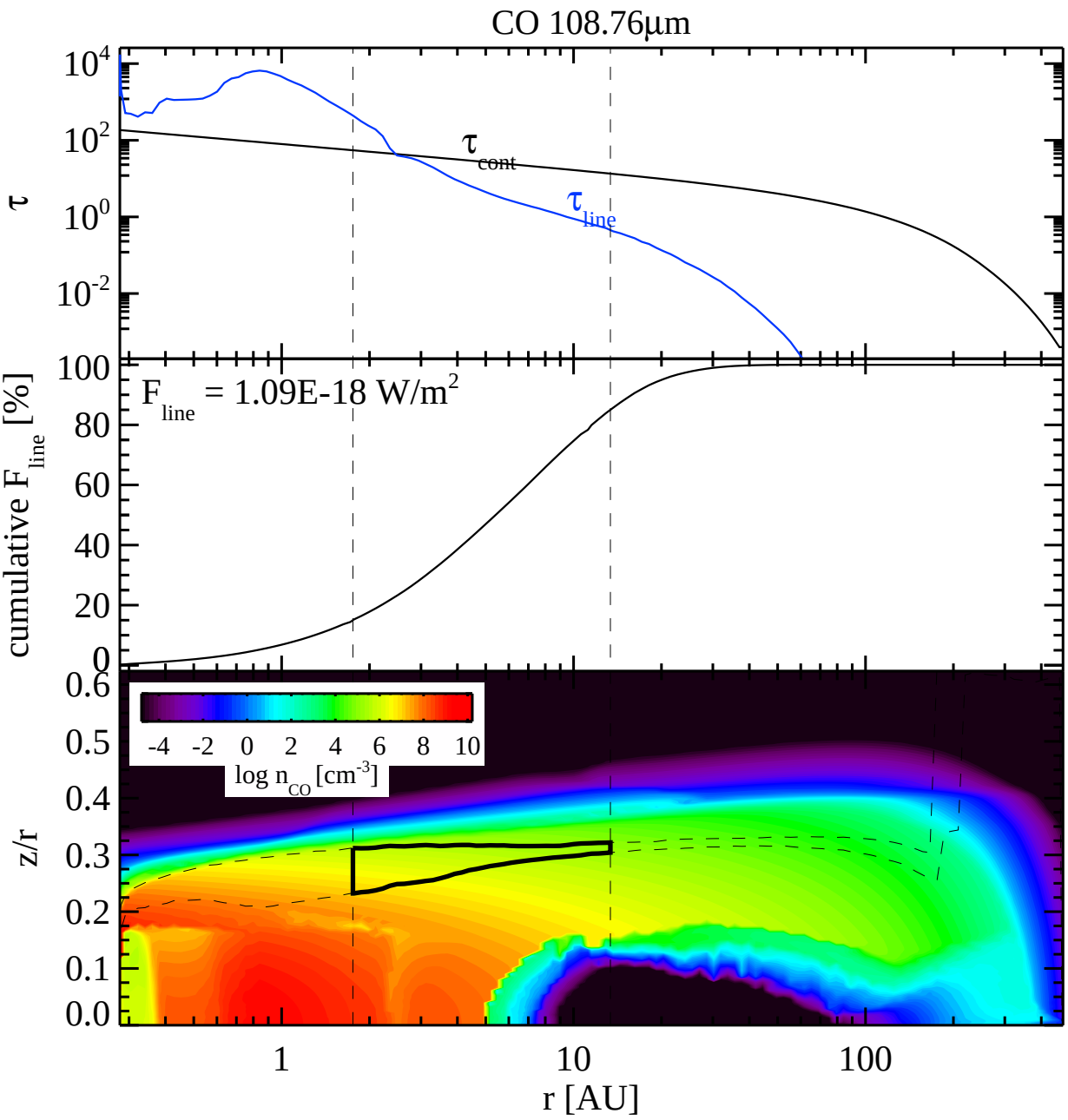

CO 520.23µm
τ
τ line
τ cont
cumulative F line [%]
F line = 2.04E-18 W/m2
log n CO [cm-3]
z/r
r [AU]

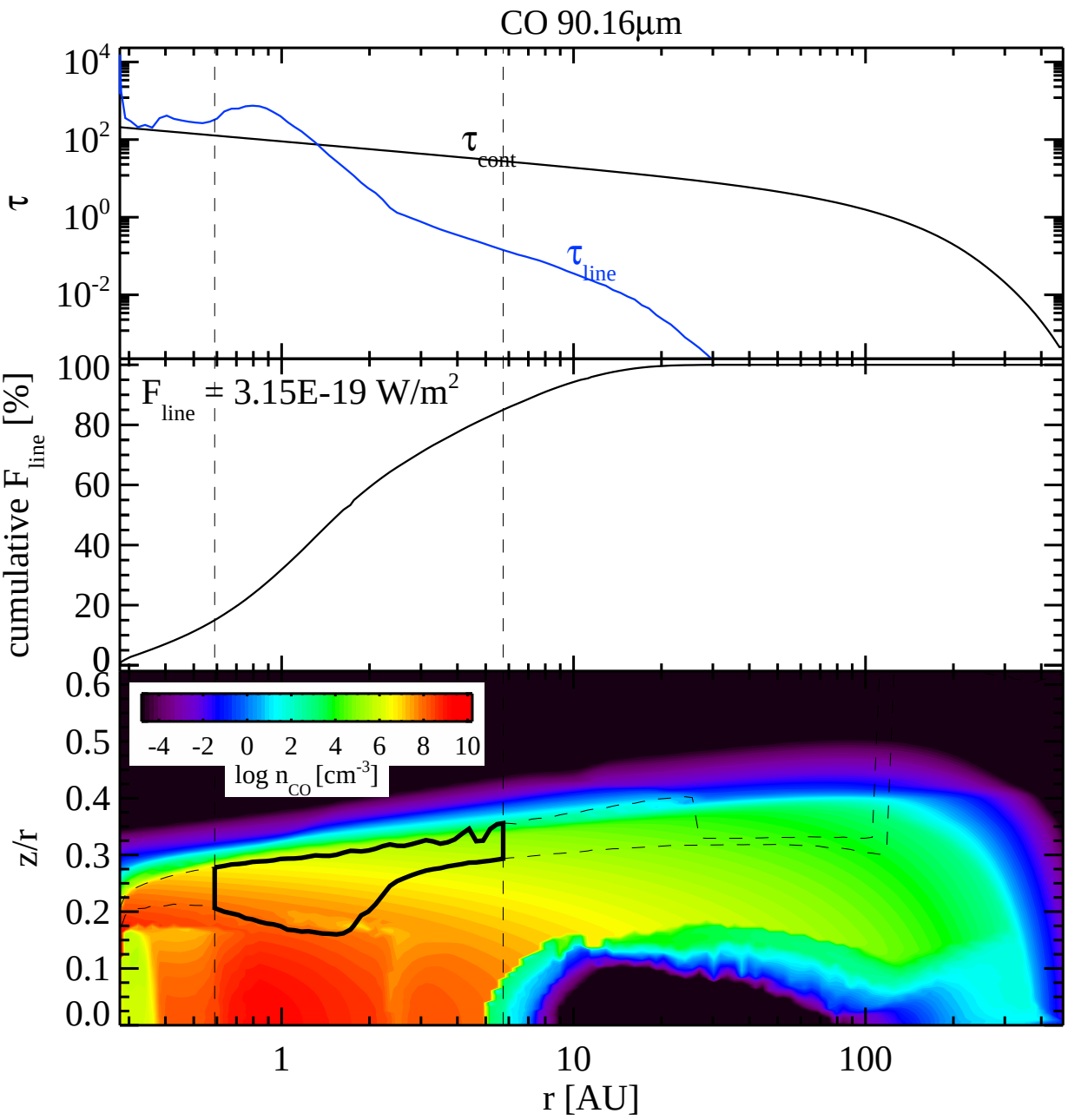

CO 433.56µm
τ
τ line
τ cont
cumulative F line [%]
F line = 2.95E-18 W/m2
z/r
log n CO [cm-3]
-4 -2 0 2 4 6 8 10
r [AU]
1
10
100

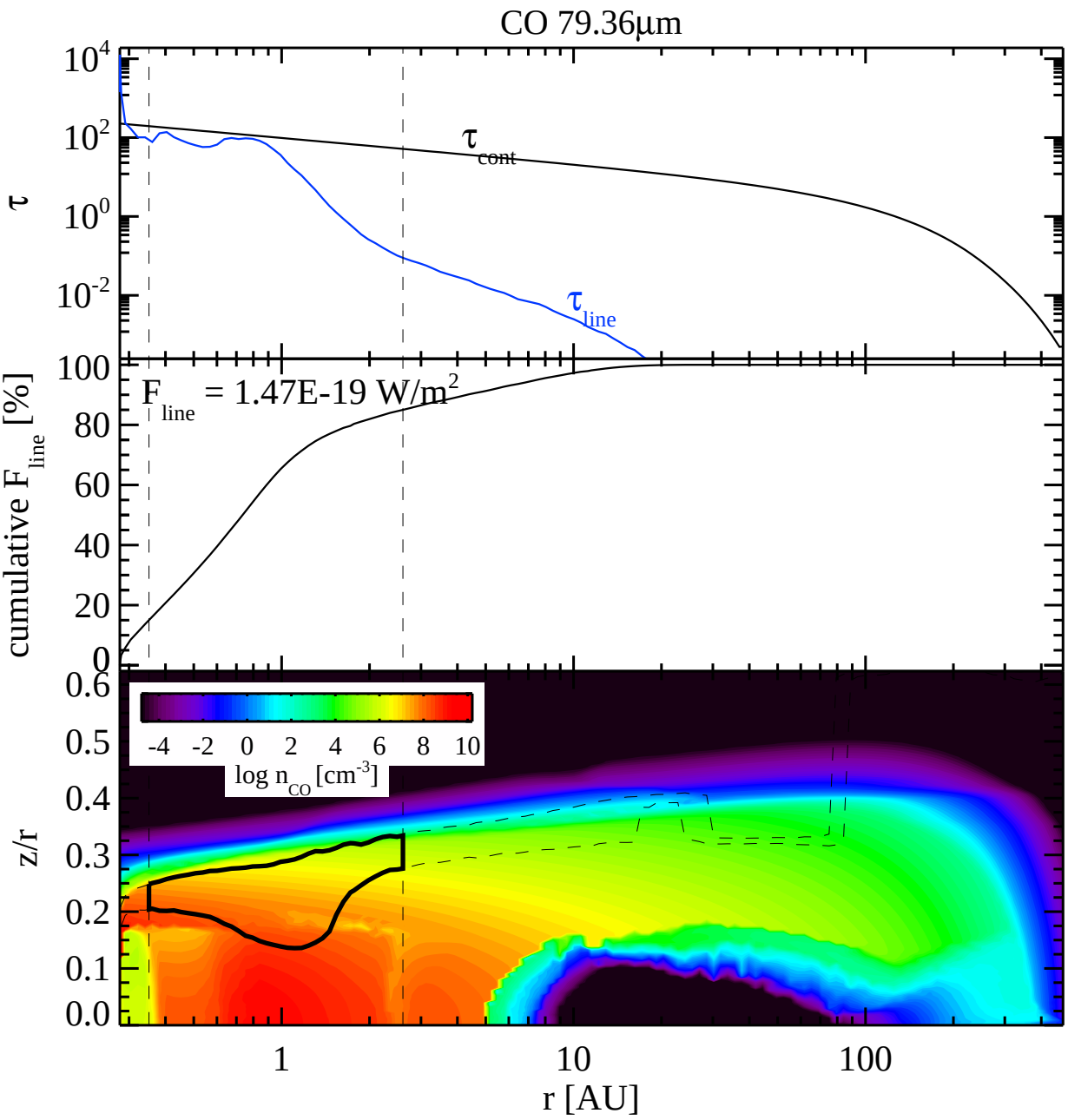

CO 260.24μm
τ
10^4
10^2
10^0
10^{-2}
τ_{line}
τ_{cont}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 6.21E-18 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{CO} [cm^{-3}]
1
10
100
r [AU]

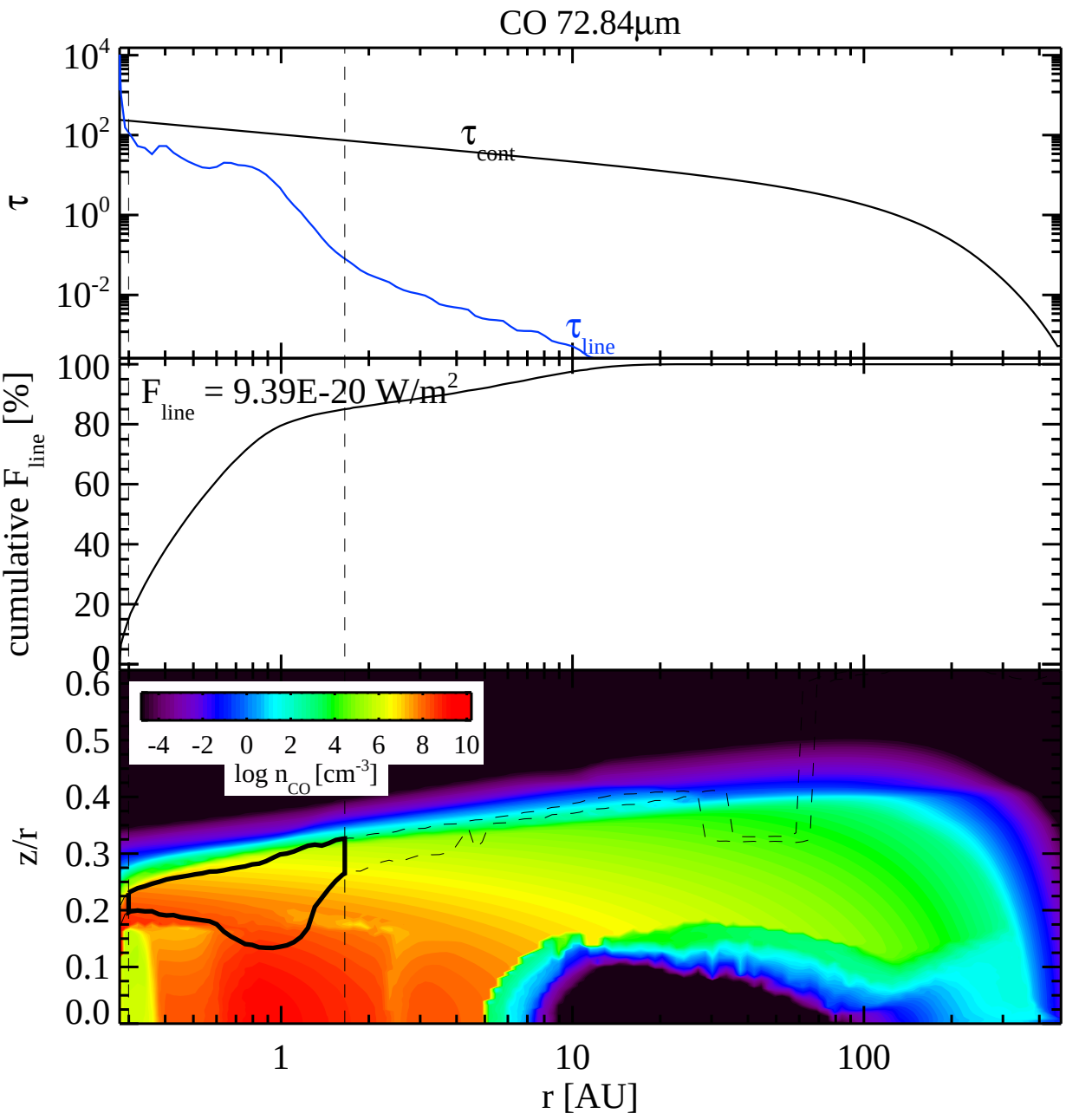

CO 186.00μm
τ
10^4
10^2
10^0
10^{-2}
τ_{line}
τ_{cont}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 6.64E-18 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{CO} [cm^{-3}]
1
10
100
r [AU]

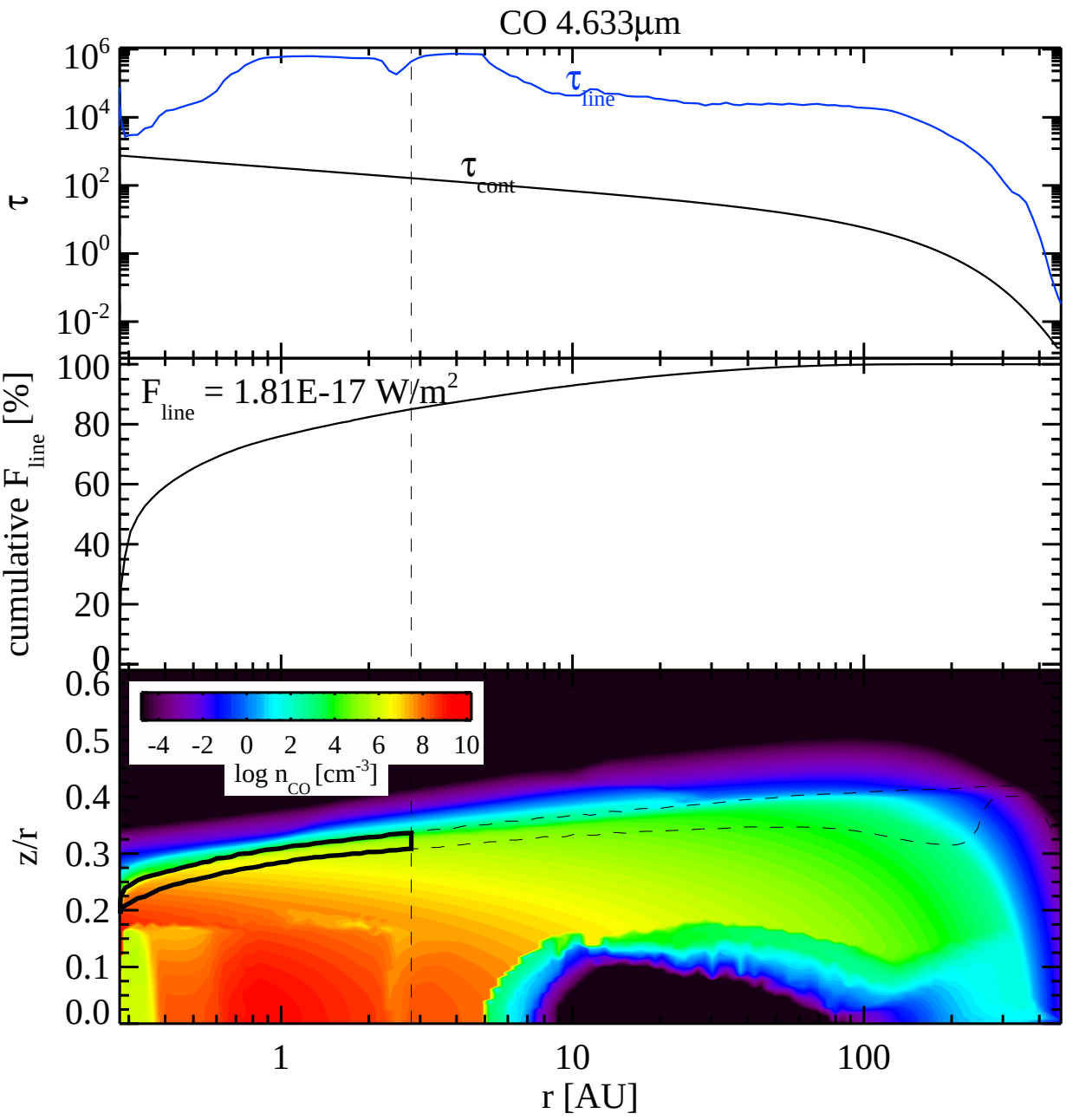

CO 144.78μm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 4.05E-18 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{CO} [cm^{-3}]
1
10
100
r [AU]

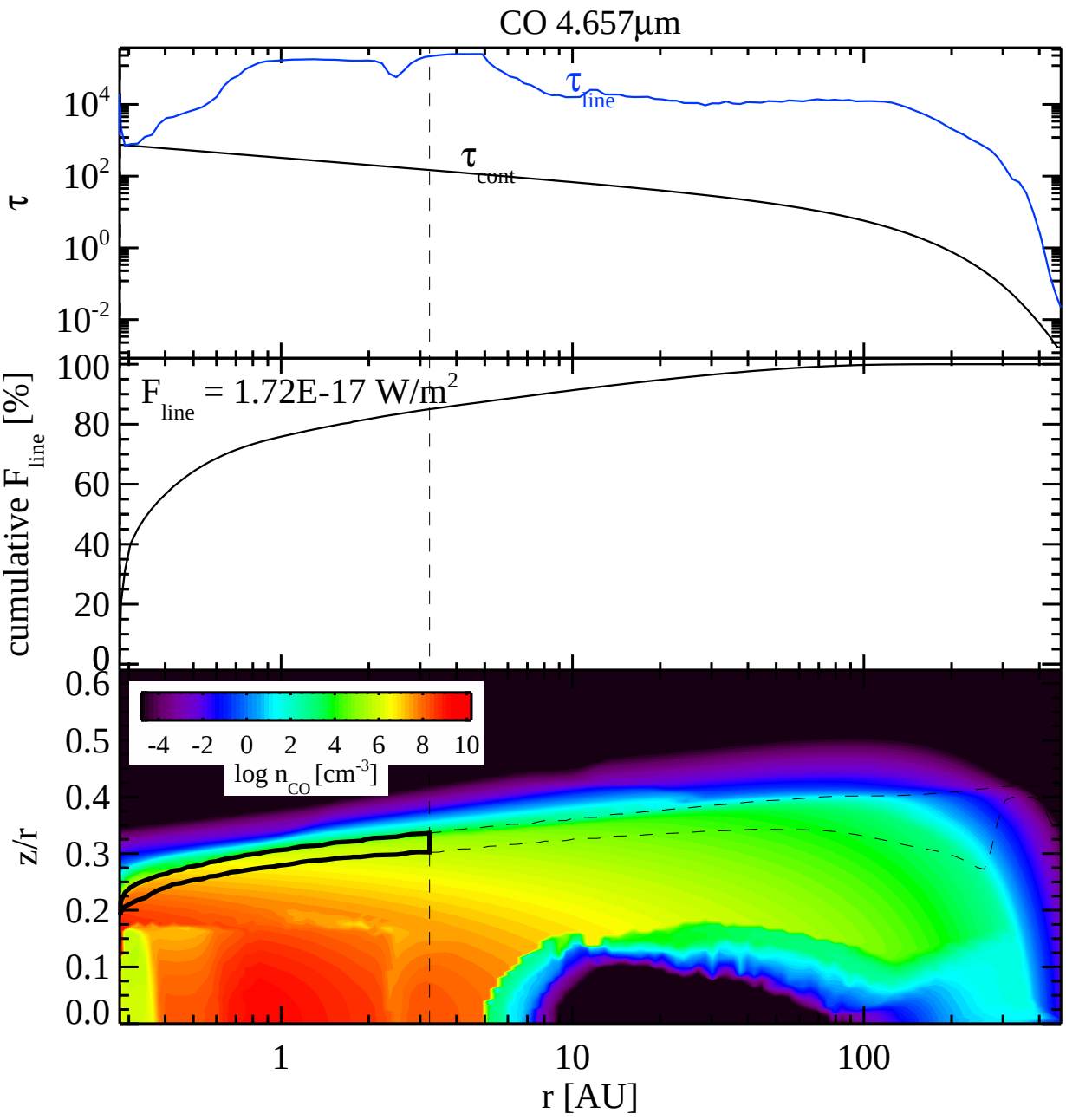

CO 108.76µm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 1.09E-18 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{CO} [cm^{-3}]
1
10
100
r [AU]

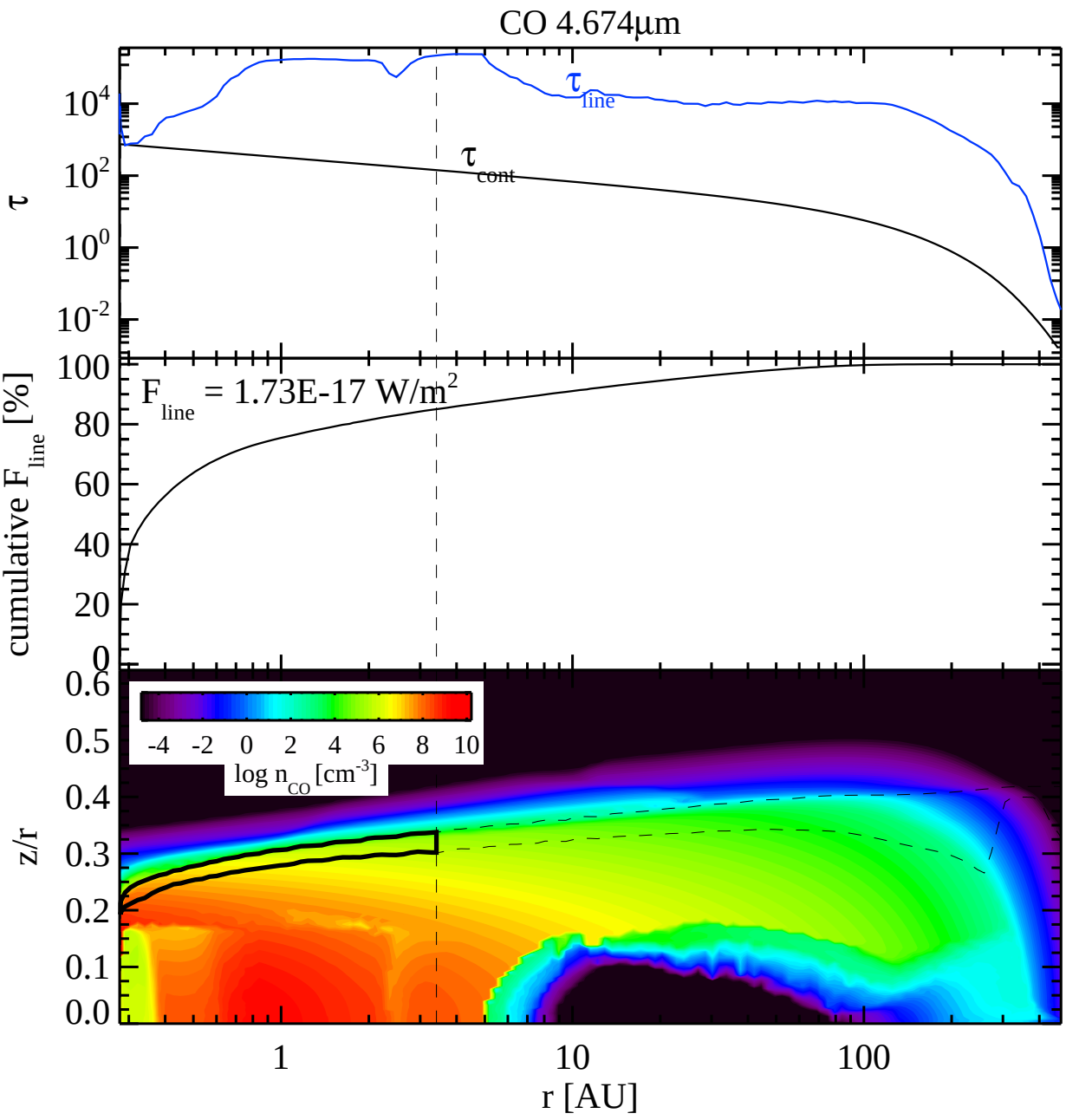

CO 90.16µm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 3.15E-19 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{CO} [cm^{-3}]
1
10
100
r [AU]

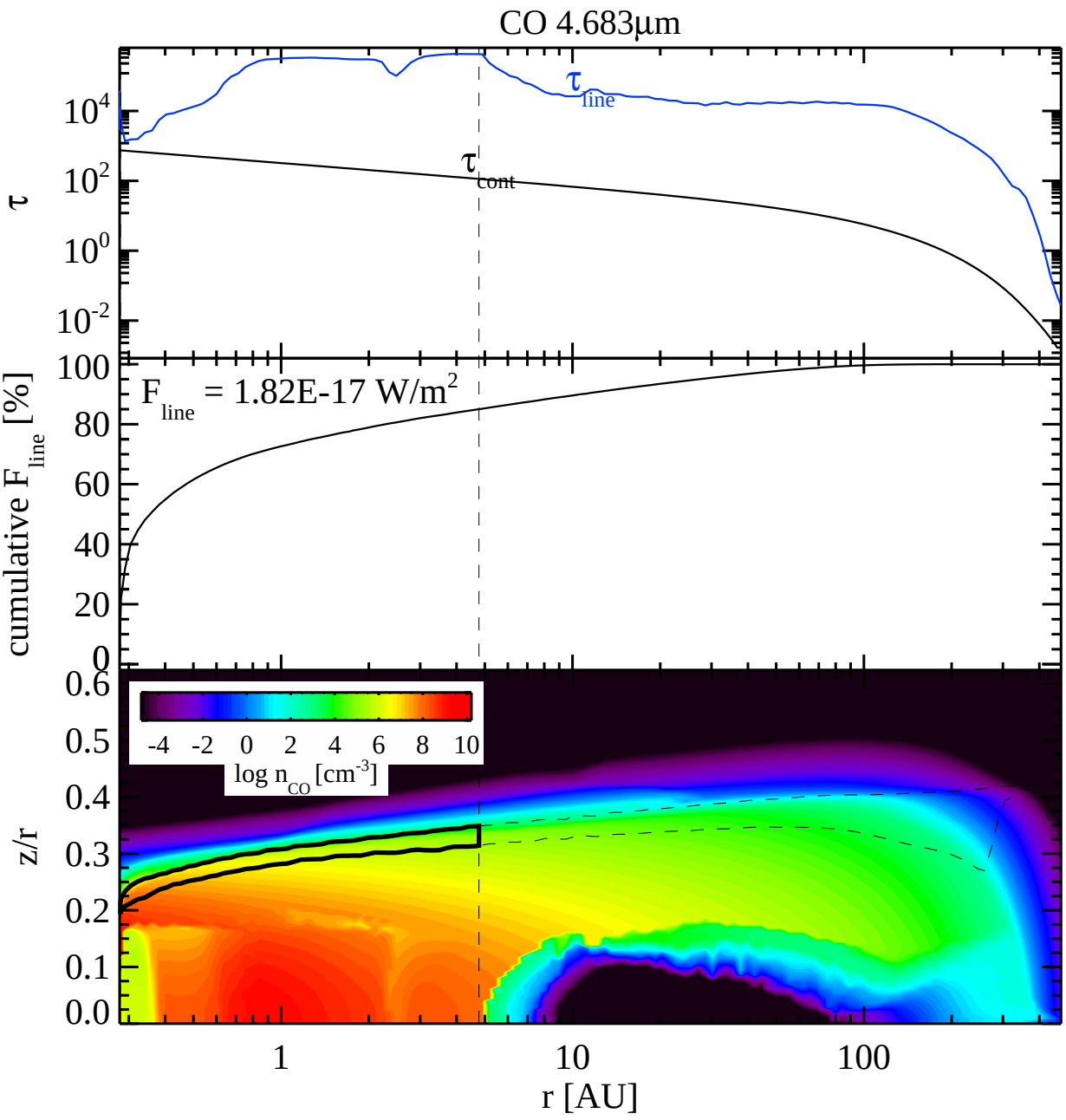

CO 79.36µm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 1.47E-19 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{CO} [cm^{-3}]
1
10
100
r [AU]

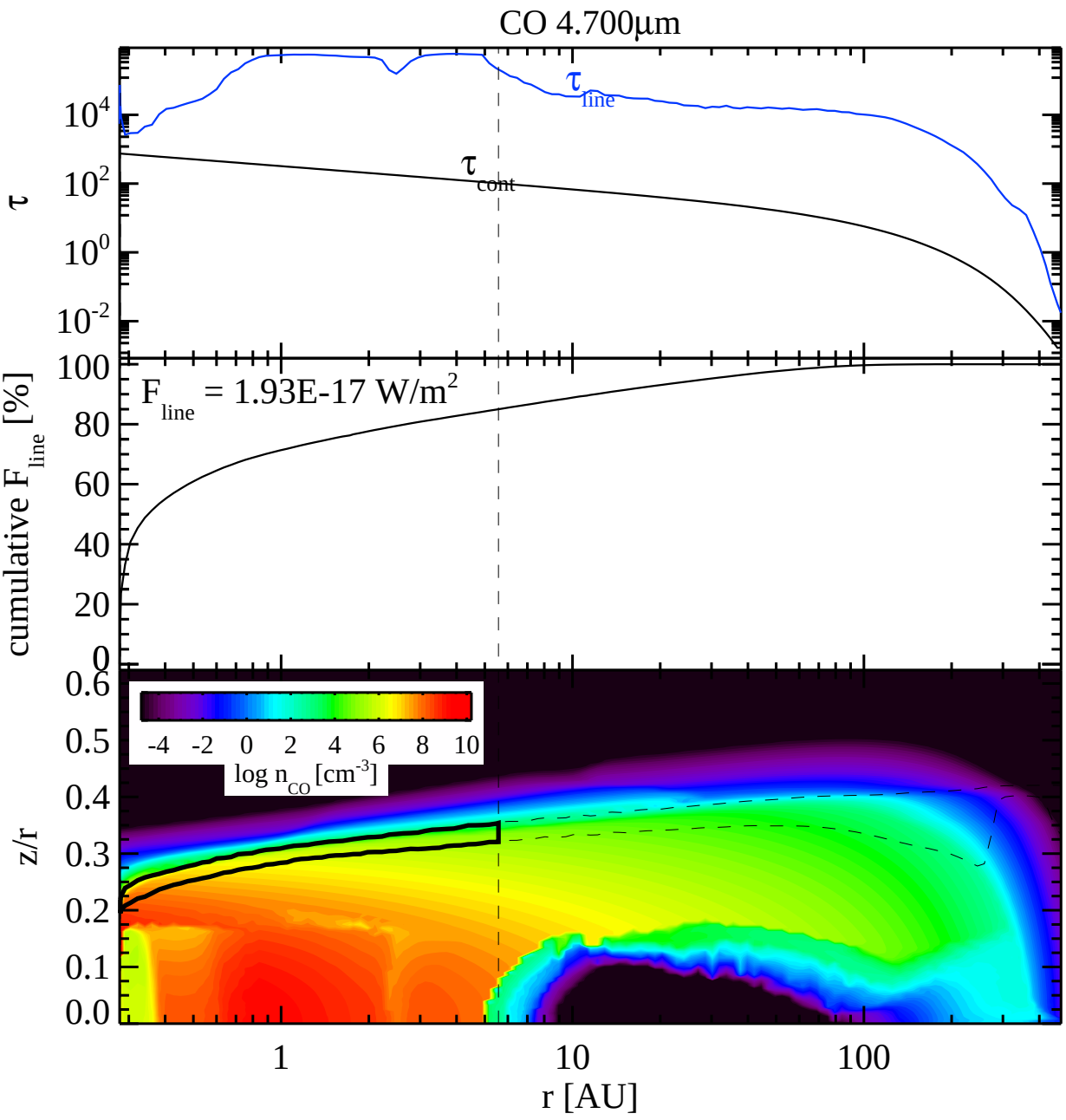

CO 72.84µm
τ
τ cont
τ line
cumulative F line [%]
F line = 9.39E-20 W/m2
log n CO [cm-3]
-4 -2 0 2 4 6 8 10
z/r
r [AU]
1
10
100

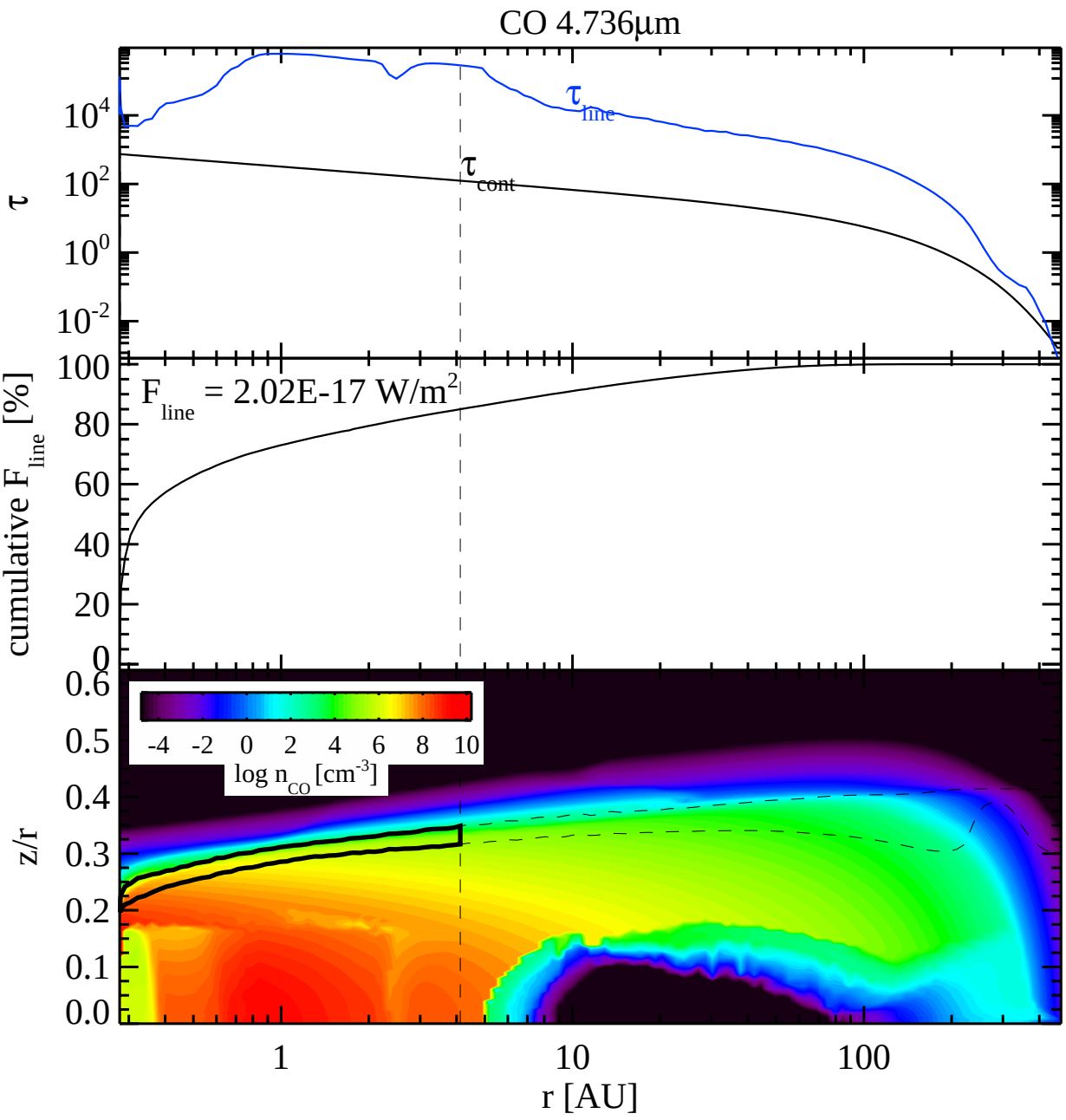

CO 4.633µm
τ
τ line
τ cont
cumulative F line [%]
F line = 1.81E-17 W/m2
z/r
log n CO [cm-3]
-4 -2 0 2 4 6 8 10
r [AU]

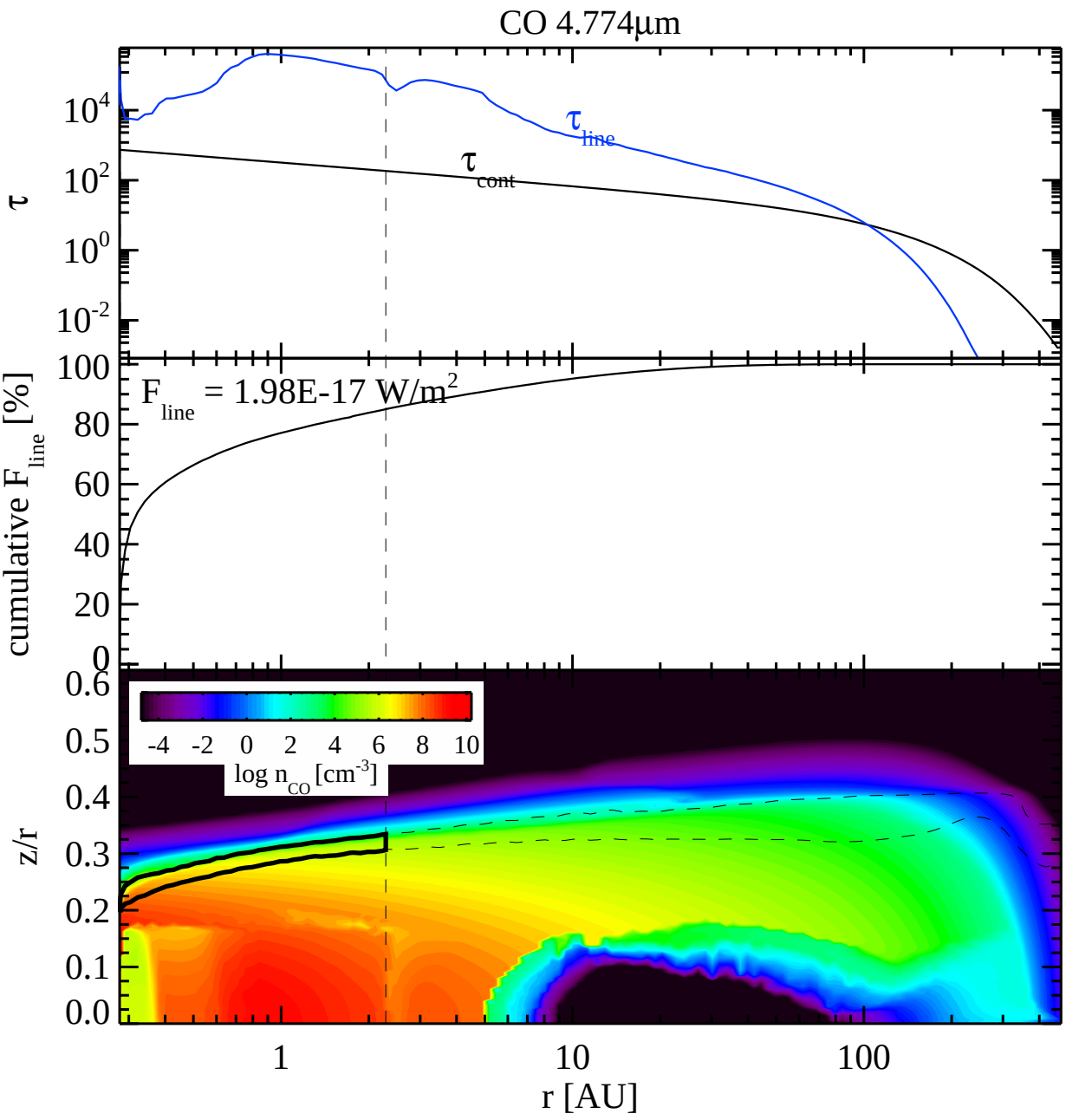

CO 4.657µm
τ
10^4
10^2
10^0
10^{-2}
τ_{line}
τ_{cont}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 1.72E-17 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{CO} [cm^{-3}]
1
10
100
r [AU]

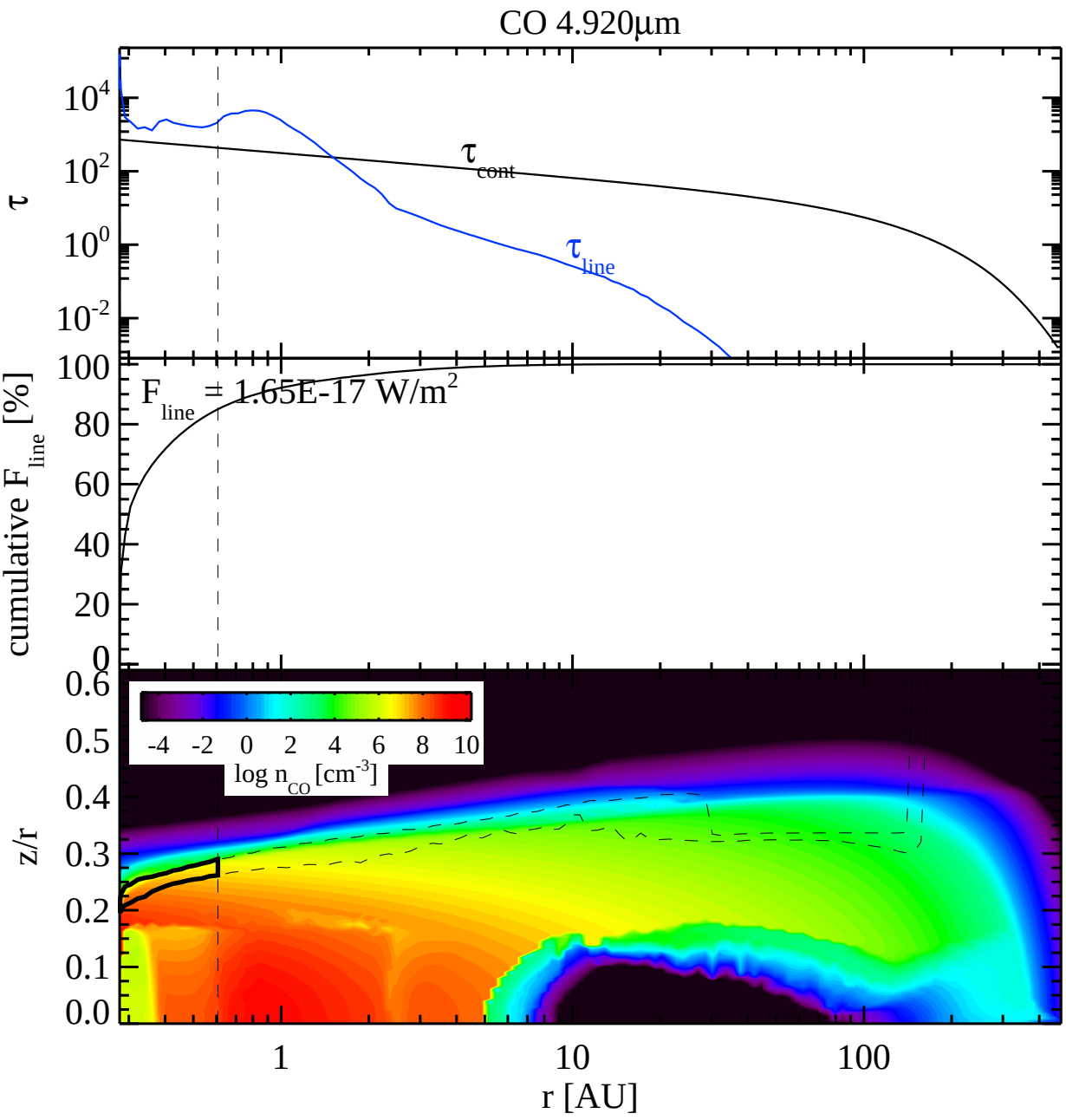

CO 4.674µm
τ
10^4
10^2
10^0
10^{-2}
τ_{line}
τ_{cont}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 1.73E-17 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{CO} [cm^{-3}]
1
10
100
r [AU]

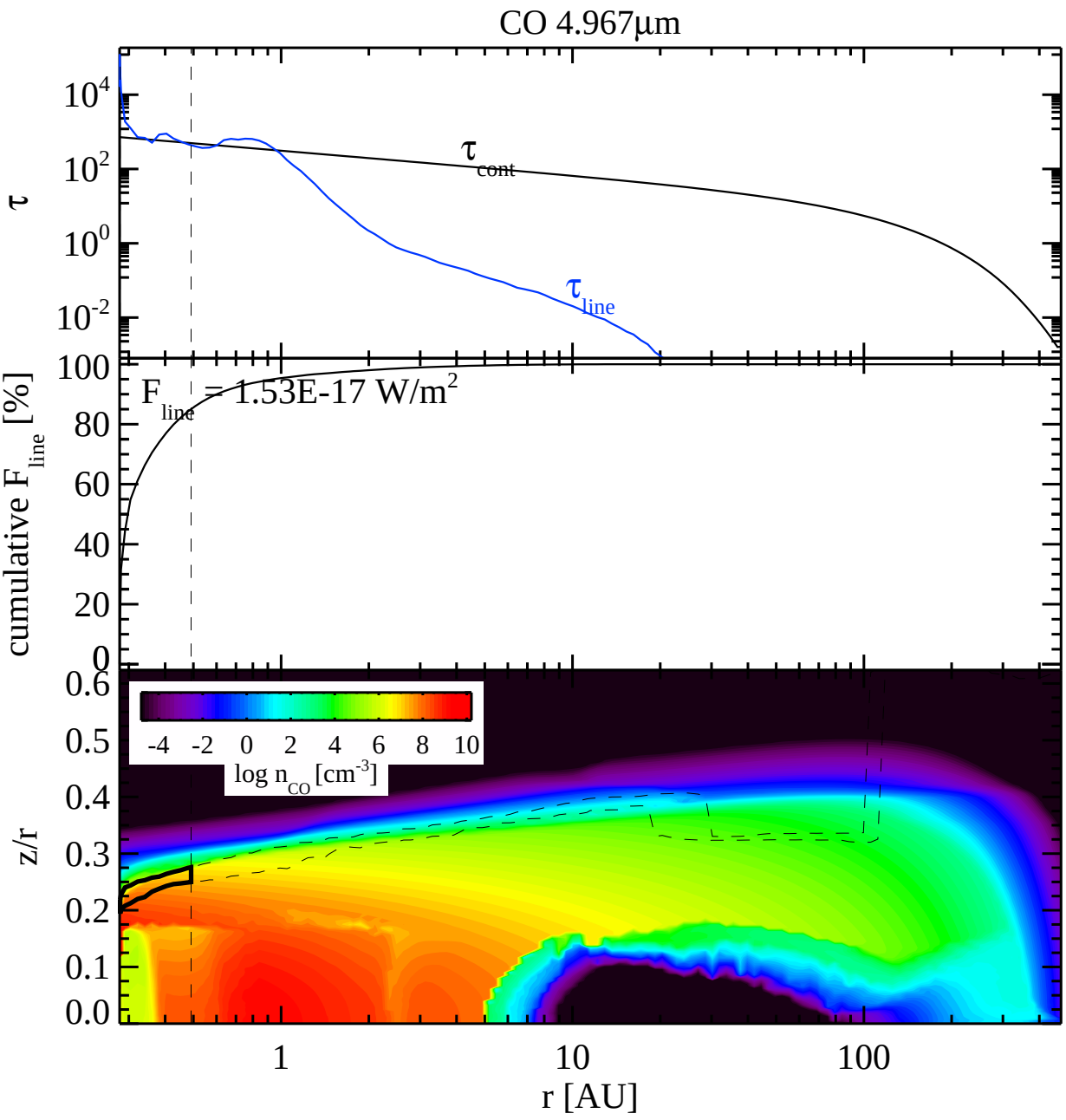

CO 4.683µm
τ
10^4
10^2
10^0
10^{-2}
τ_{line}
τ_{cont}
cumulative F_{line} [%]
F_{line} = 1.82E-17 W/m^2
100
80
60
40
20
0
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{CO} [cm^{-3}]
1
10
100
r [AU]

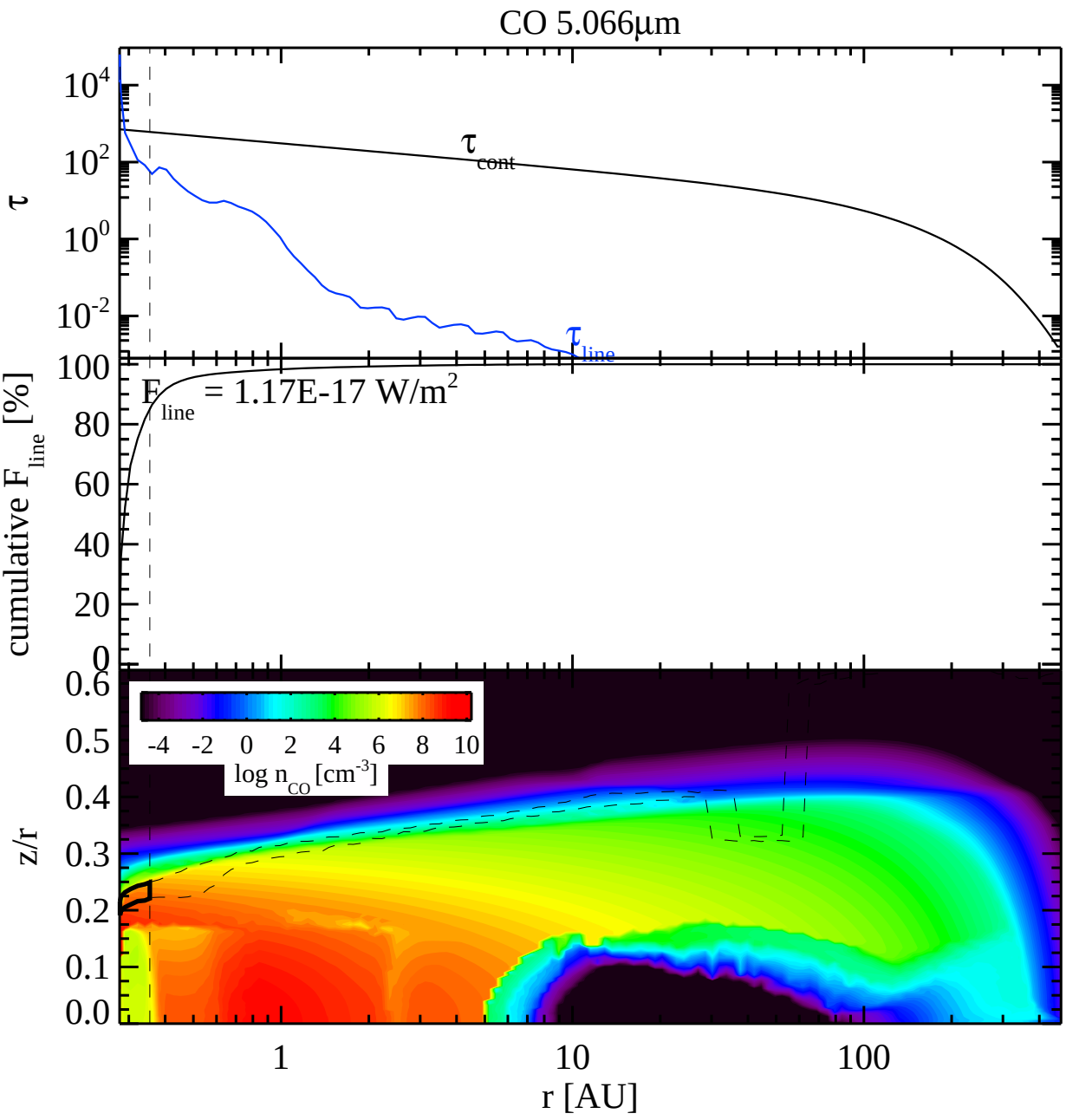

CO 4.700µm
τ
τ line
τ cont
cumulative F line [%]
F line = 1.93E-17 W/m2
z/r
log n CO [cm-3]
-4 -2 0 2 4 6 8 10
r [AU]

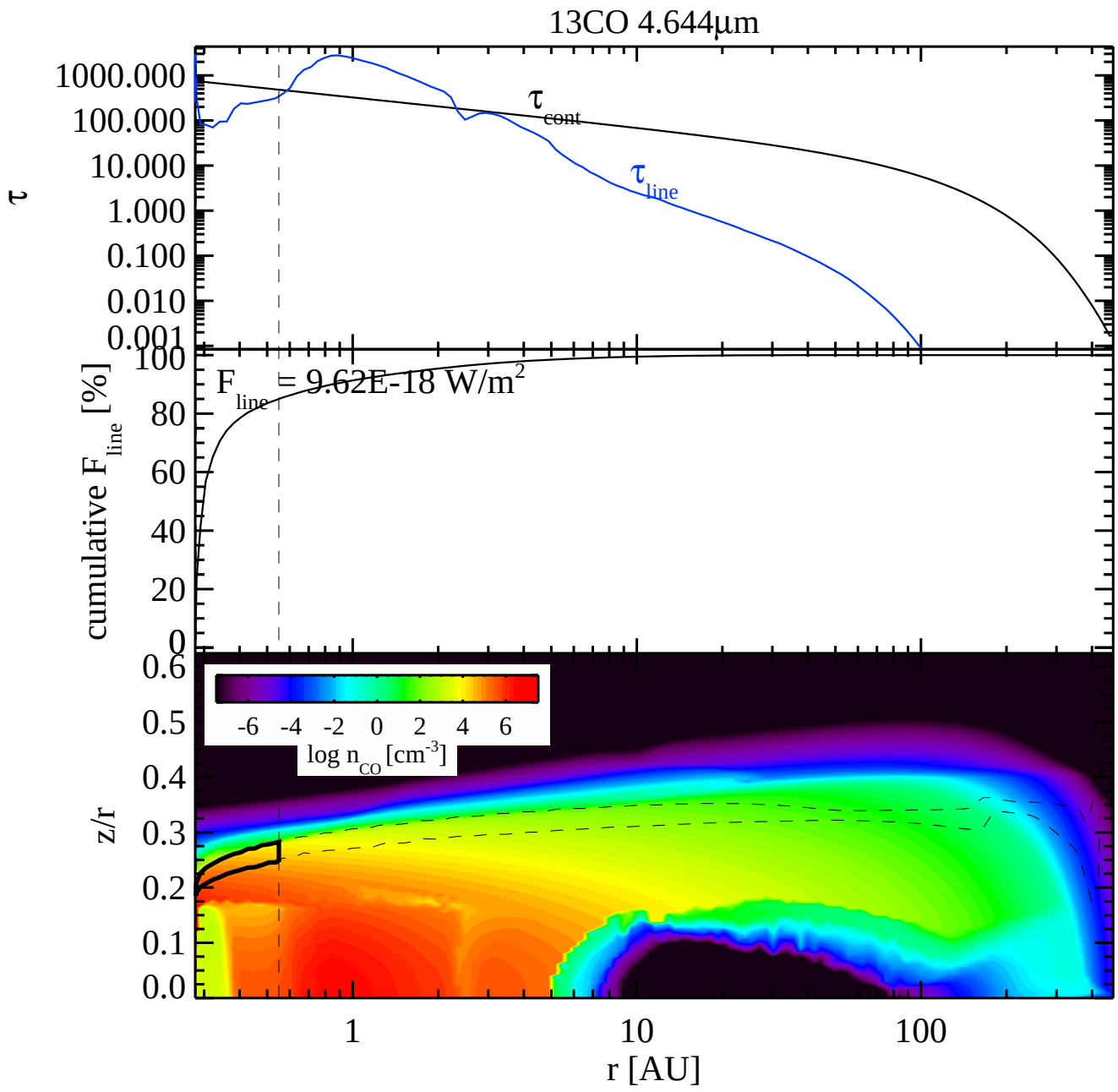

CO 4.736µm
τ
10^4
10^2
10^0
10^{-2}
τ_{line}
τ_{cont}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 2.02E-17 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{CO} [cm^{-3}]
1
10
100
r [AU]

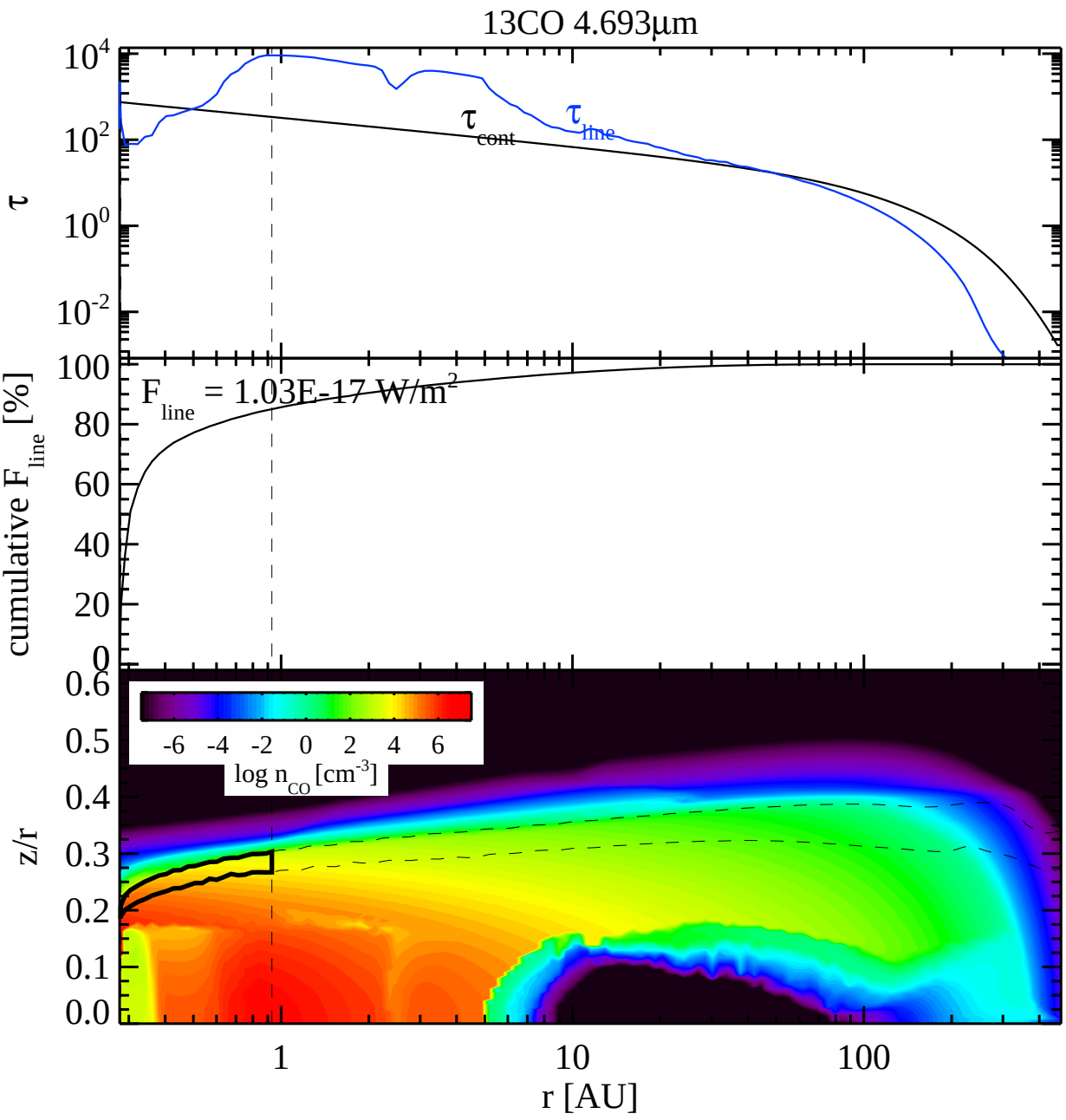

CO 4.774µm
τ
10^4
10^2
10^0
10^{-2}
τ_{line}
τ_{cont}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 1.98E-17 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{CO} [cm^{-3}]
1
10
100
r [AU]

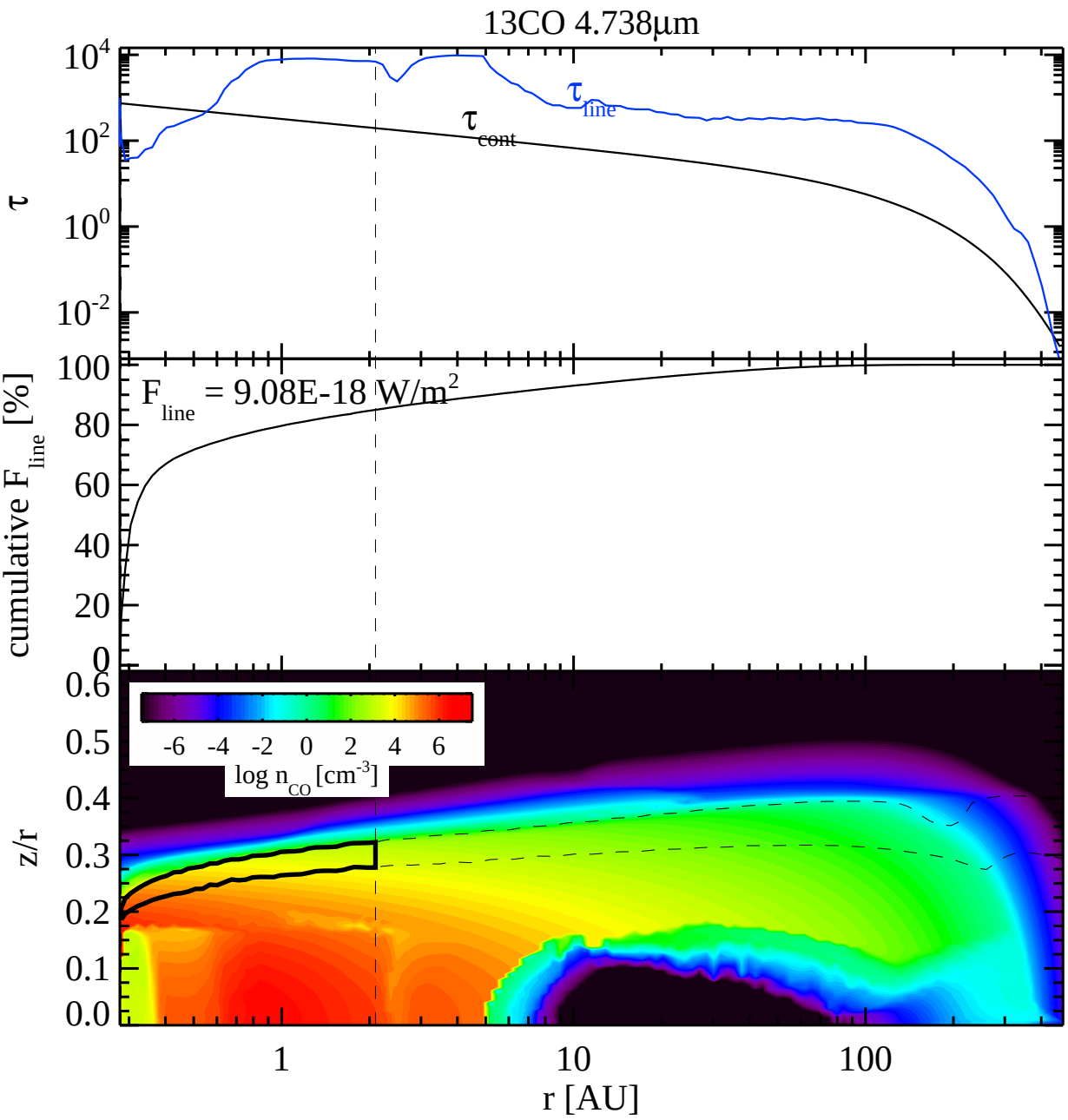

CO 4.920µm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 1.65E-17 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{CO} [cm^{-3}]
1
10
100
r [AU]

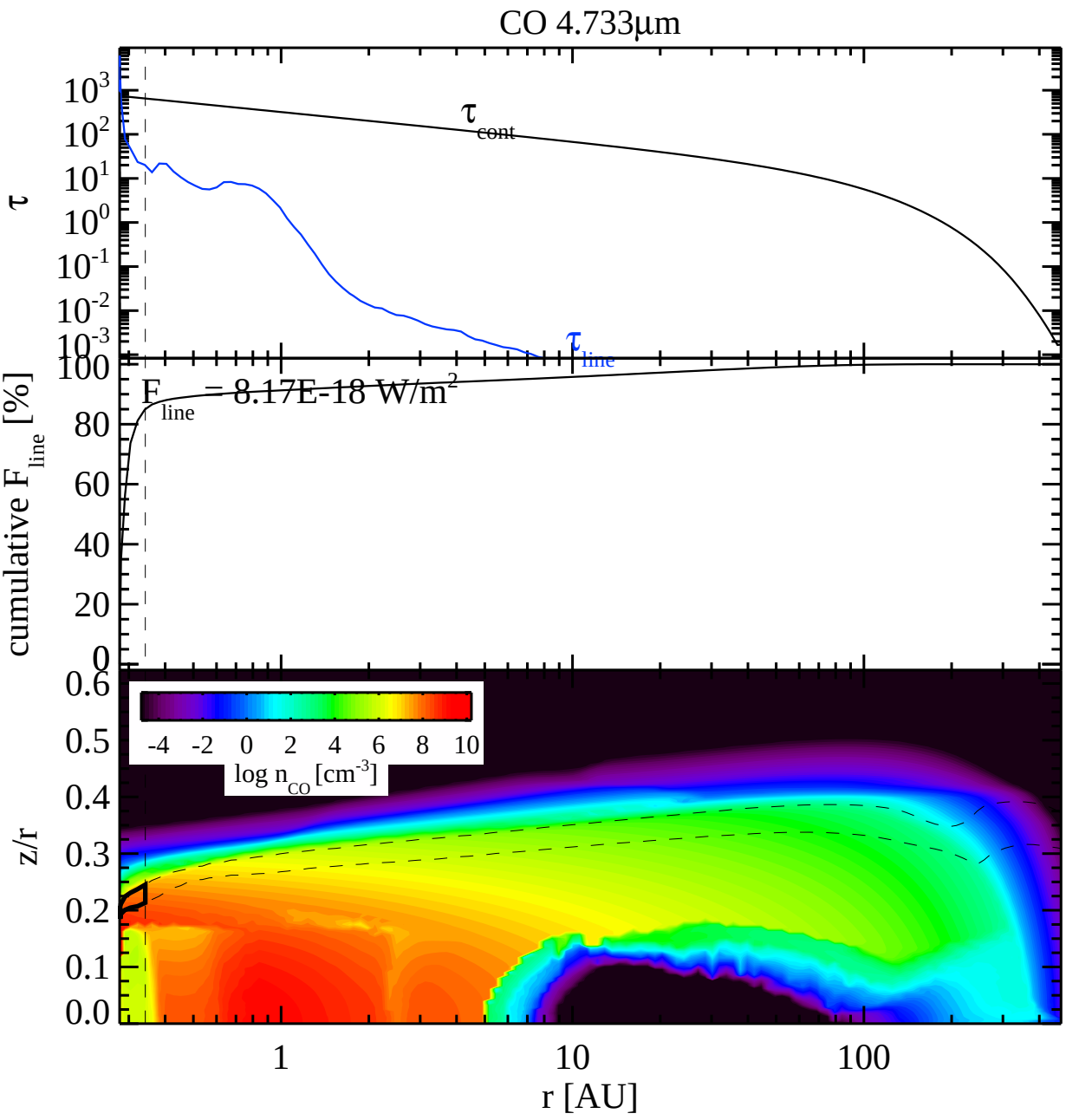

CO 4.967µm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 1.53E-17 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{CO} [cm^{-3}]
1
10
100
r [AU]

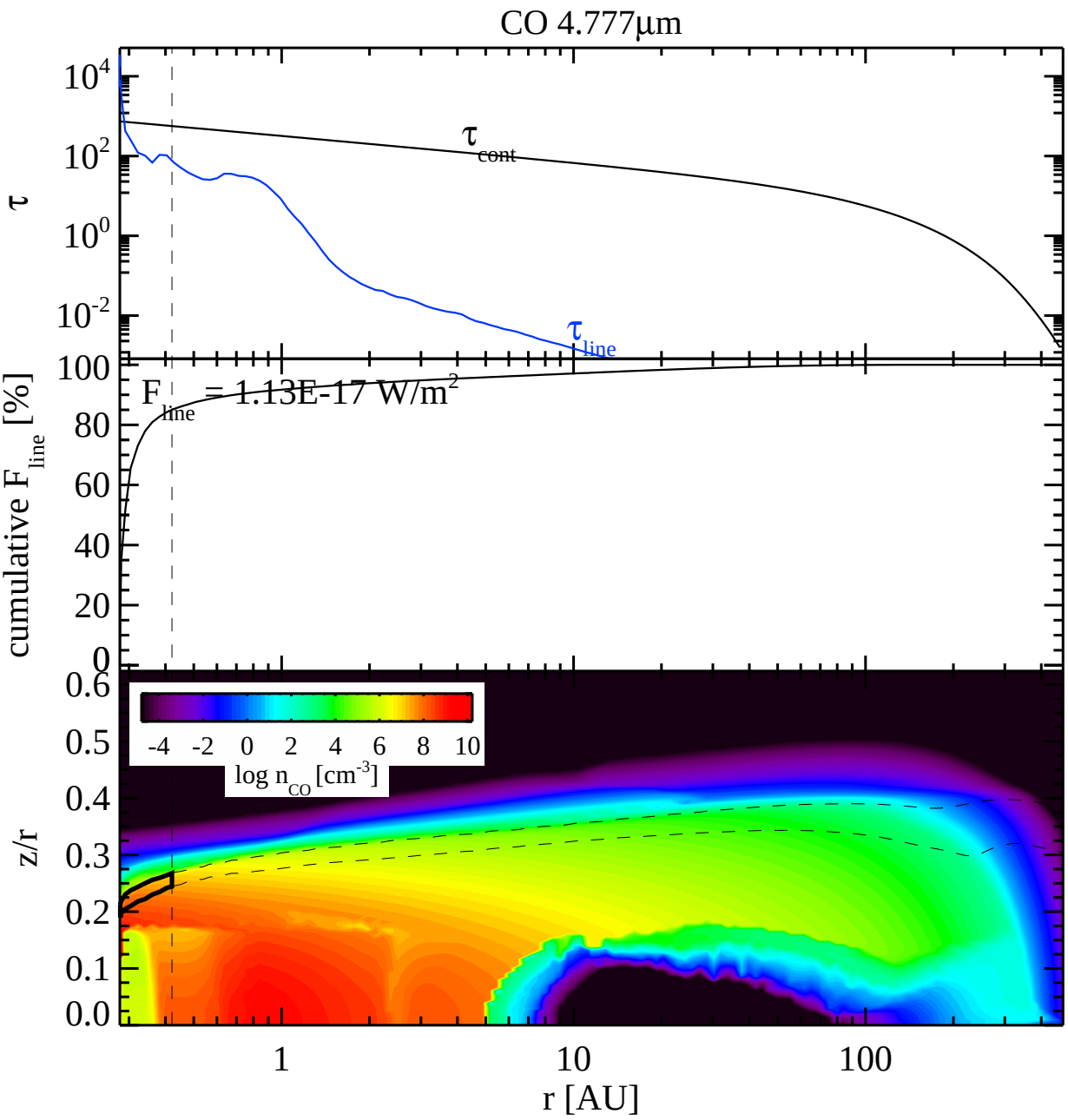

CO 5.066µm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 1.17E-17 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{CO} [cm^{-3}]
1
10
100
r [AU]

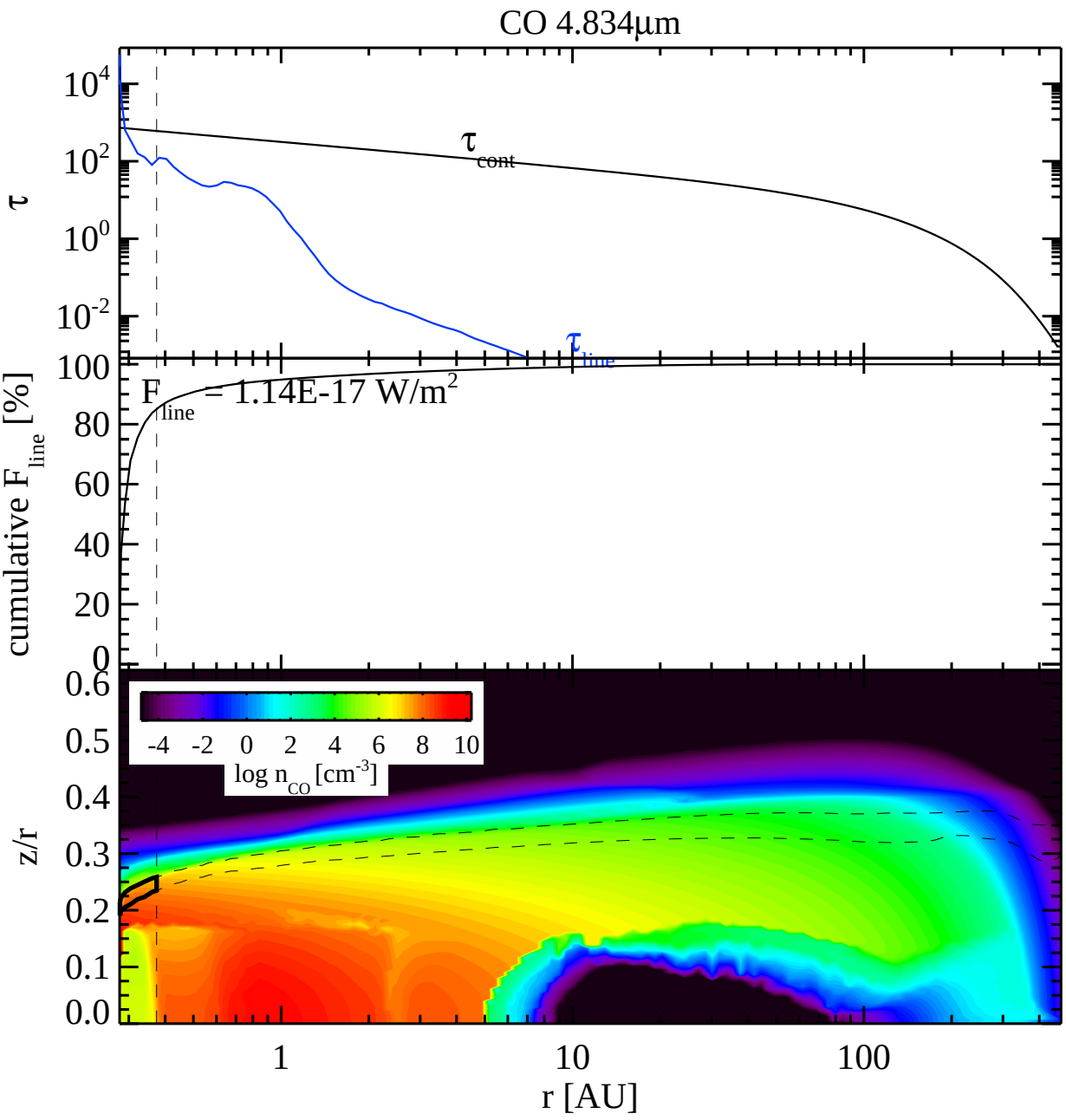

13CO 4.644µm
τ
1000.000
100.000
10.000
1.000
0.100
0.010
0.001
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 9.62E-18 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-6 -4 -2 0 2 4 6
log n CO [cm-3]
1
10
100
r [AU]

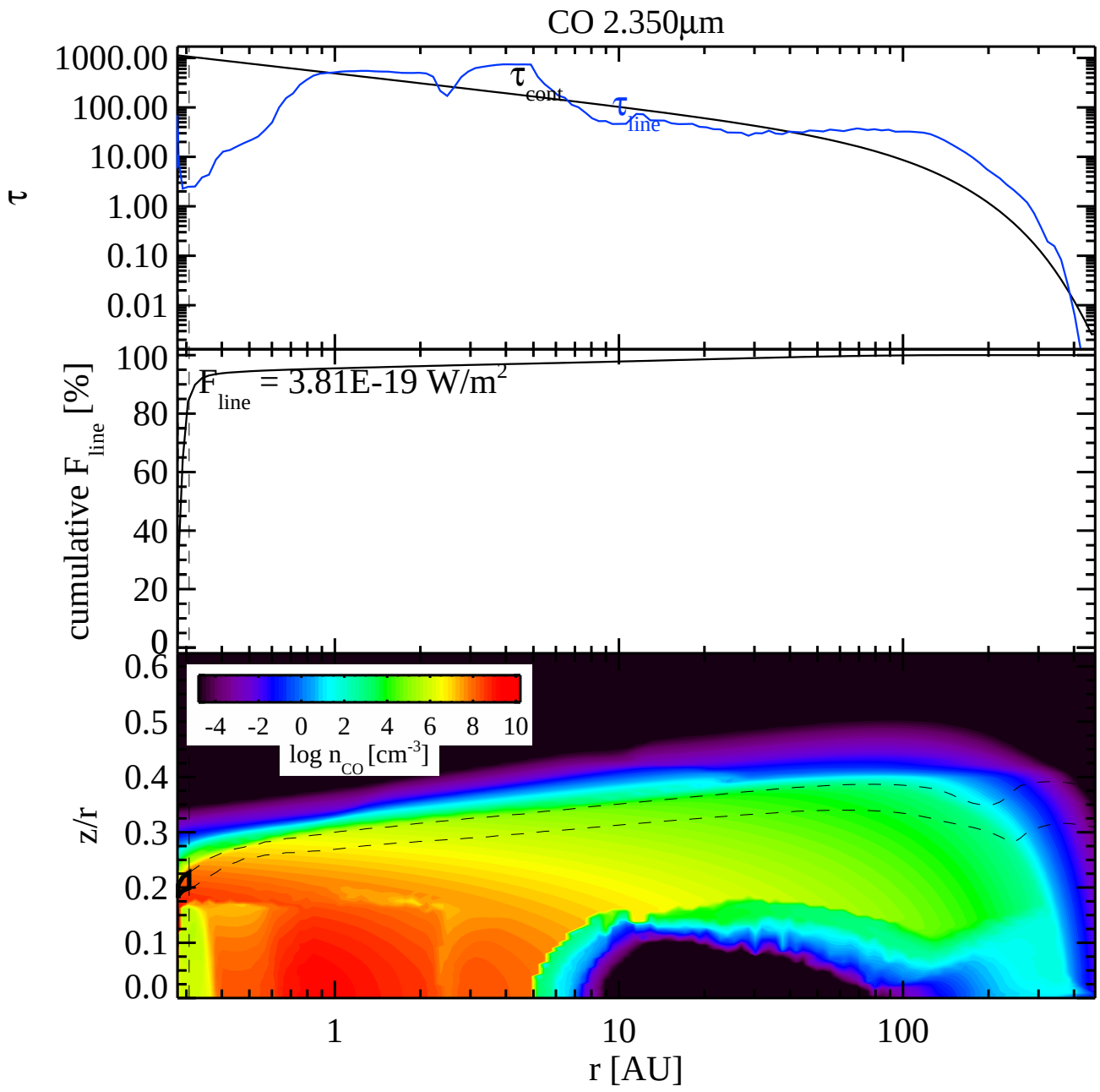

13CO 4.693µm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 1.03E-17 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-6 -4 -2 0 2 4 6
log n_{CO} [cm^{-3}]
1
10
100
r [AU]

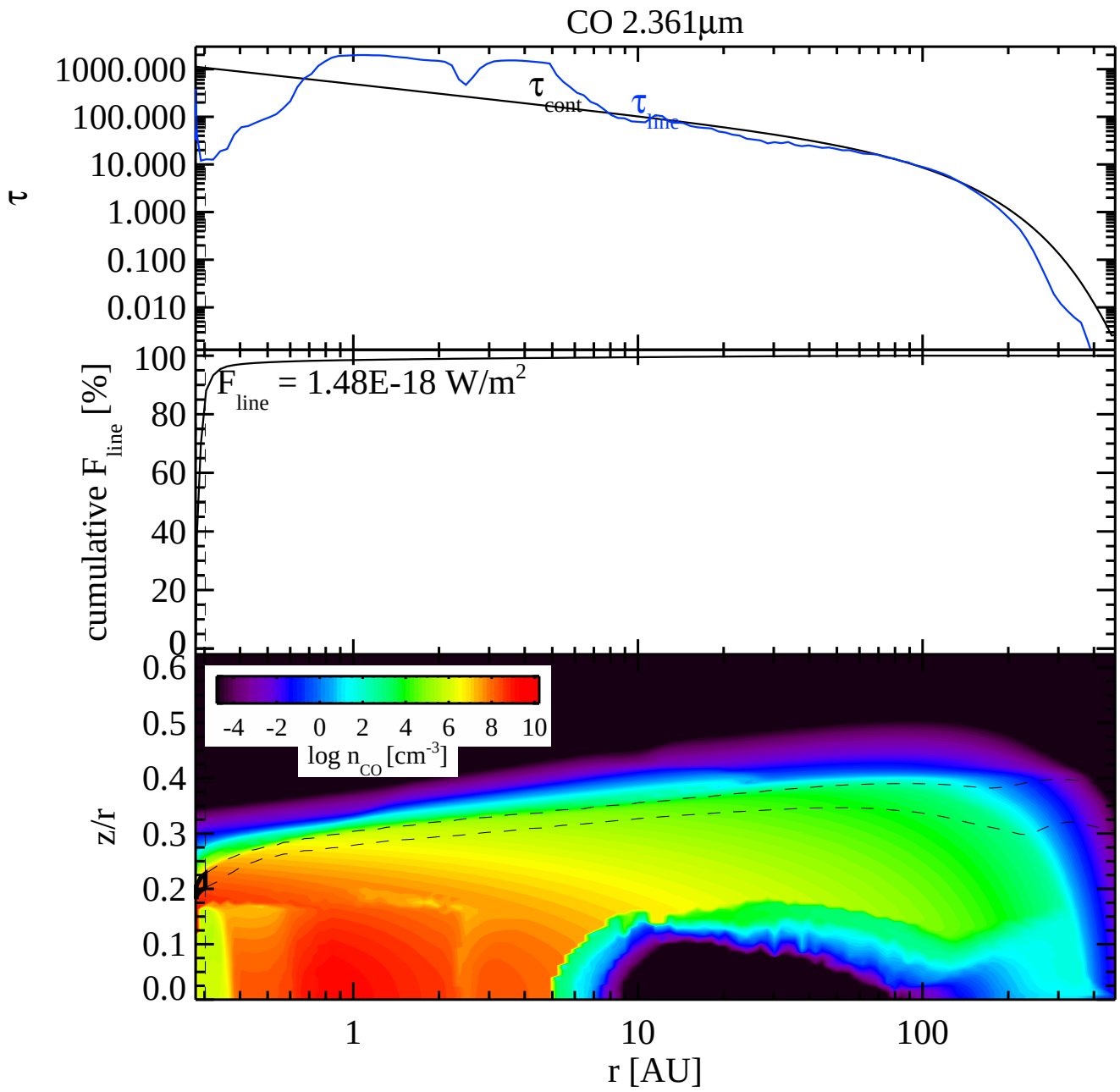

13CO 4.738µm
τ
10^4
10^2
10^0
10^{-2}
τ_{line}
τ_{cont}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 9.08E-18 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-6 -4 -2 0 2 4 6
log n_{CO} [cm^{-3}]
1
10
100
r [AU]

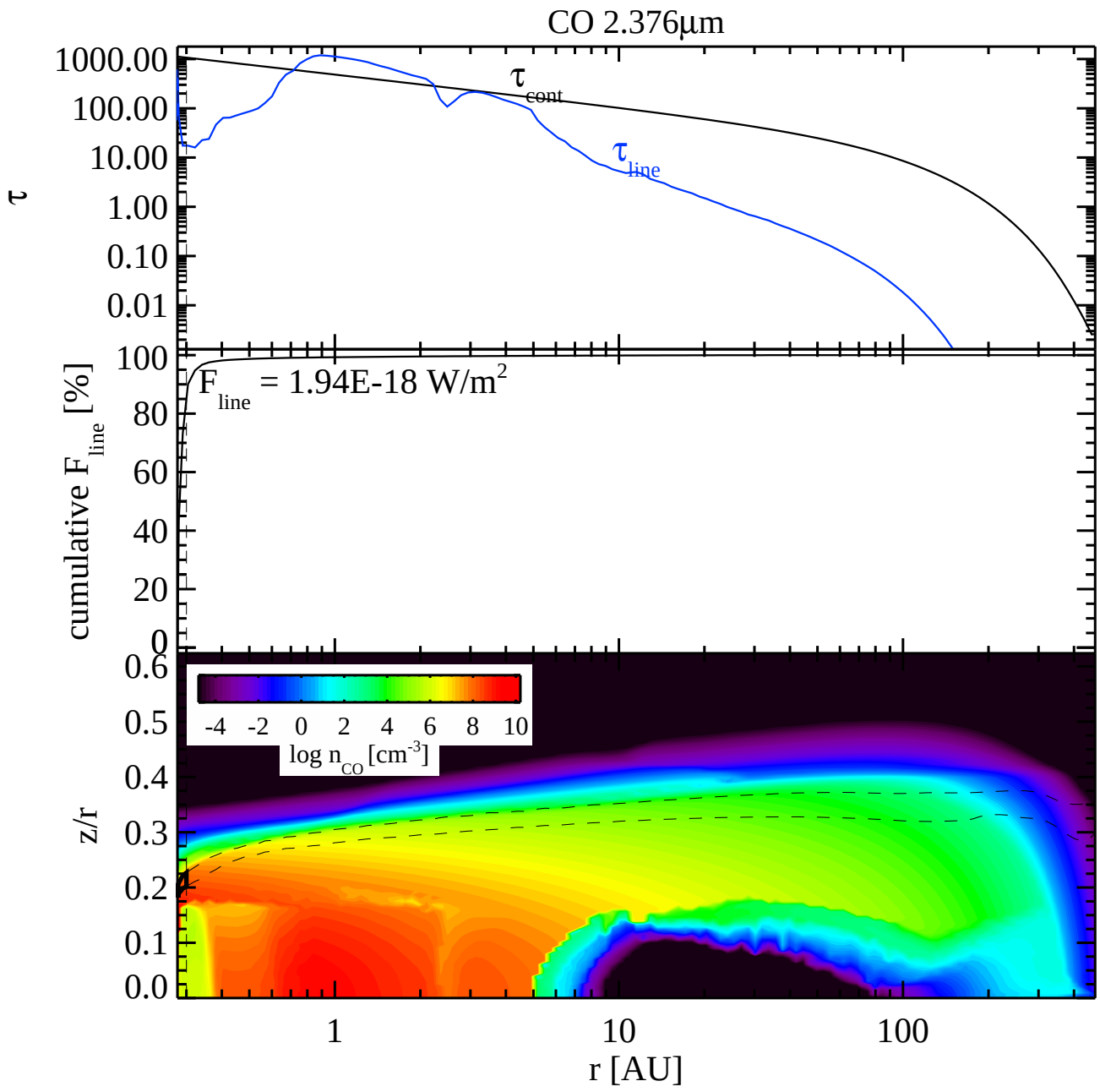

CO 4.733µm
τ
10^3
10^2
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 8.17E-18 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{CO} [cm^{-3}]
1
10
100
r [AU]

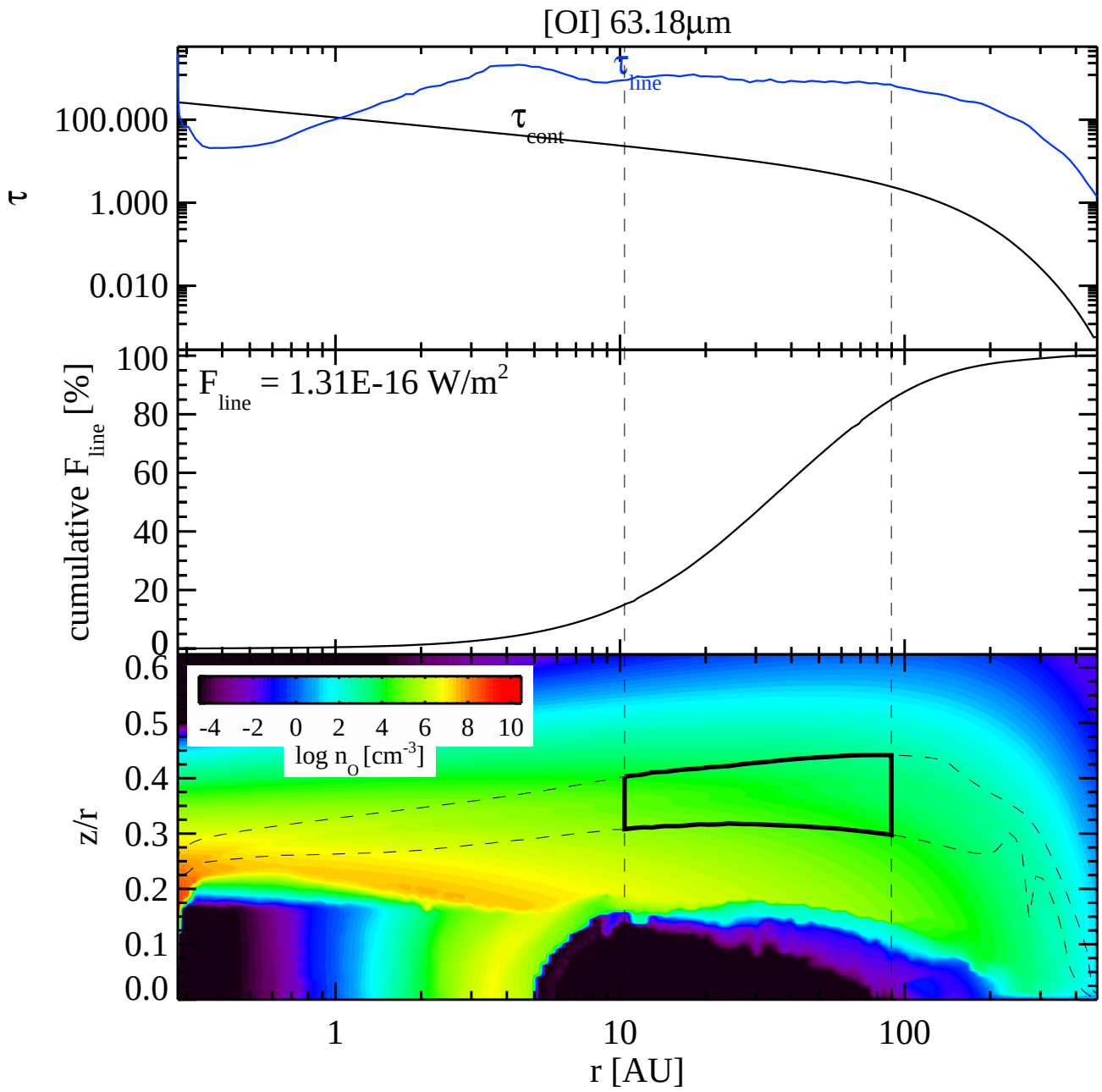

CO 4.777µm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 1.13E-17 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{CO} [cm^{-3}]
1
10
100
r [AU]

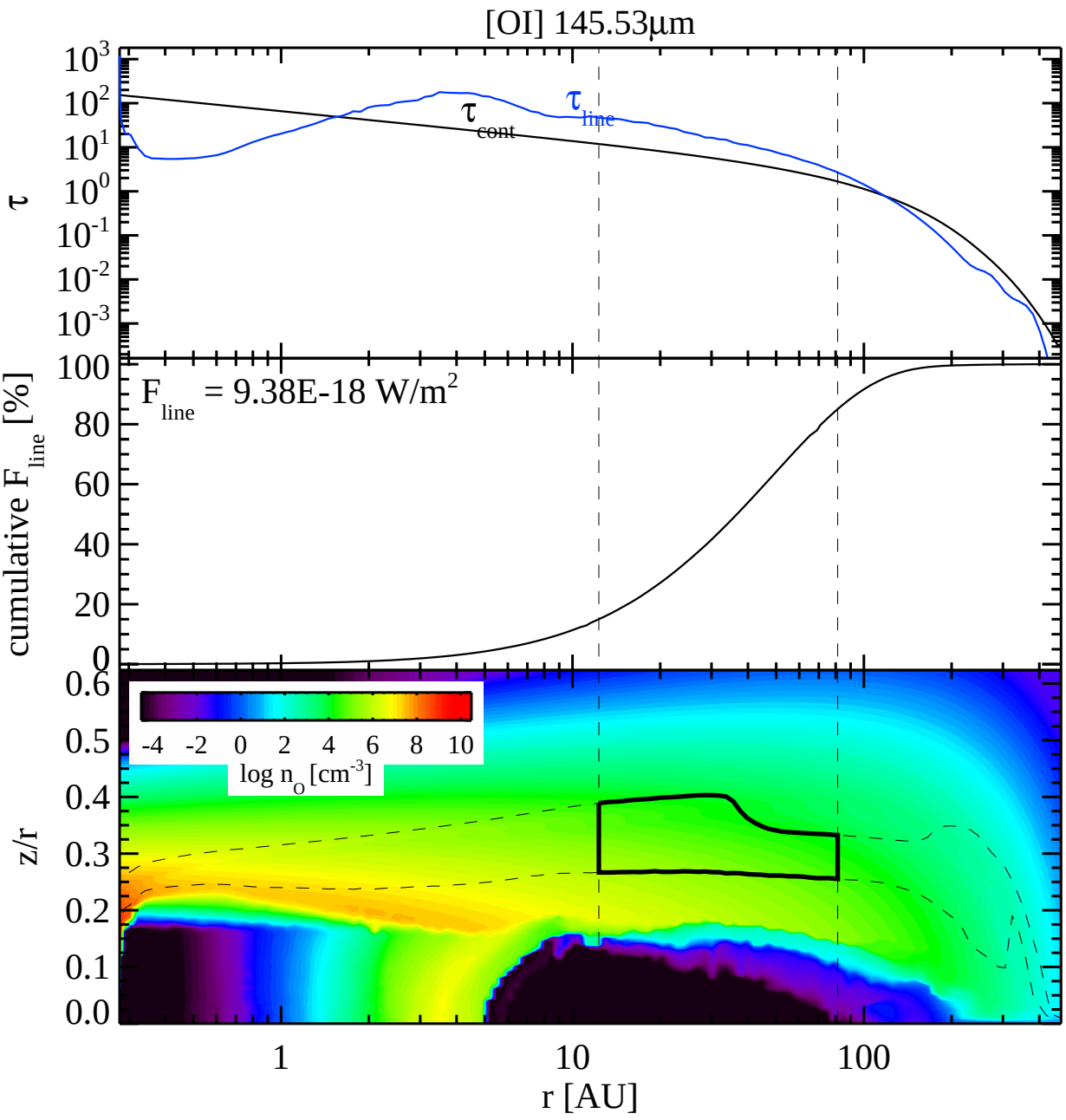

CO 4.834µm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 1.14E-17 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{CO} [cm^{-3}]
1
10
100
r [AU]

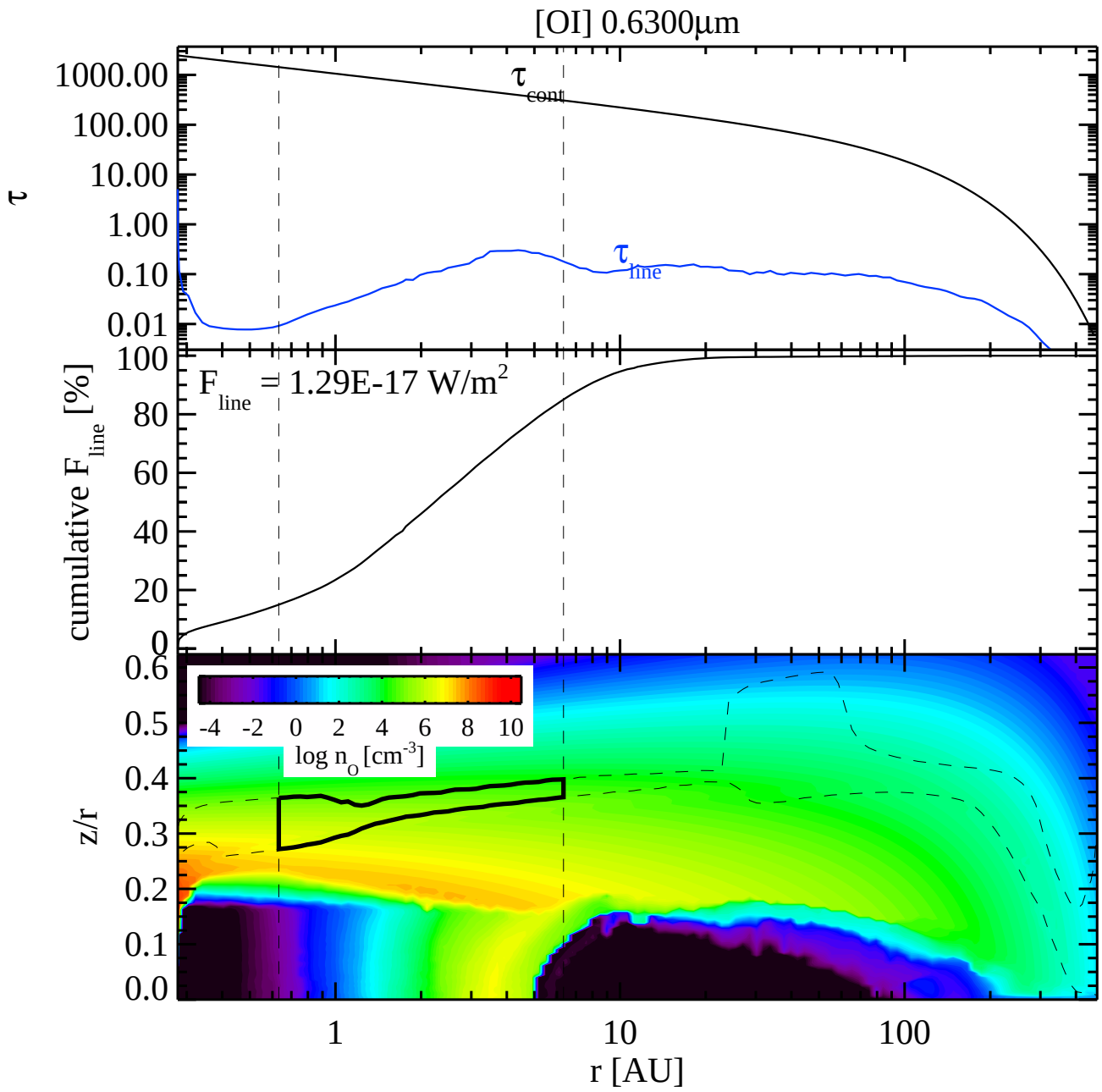

CO 2.350µm
τ
1000.00
100.00
10.00
1.00
0.10
0.01
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 3.81E-19 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n CO [cm-3]
1
10
100
r [AU]

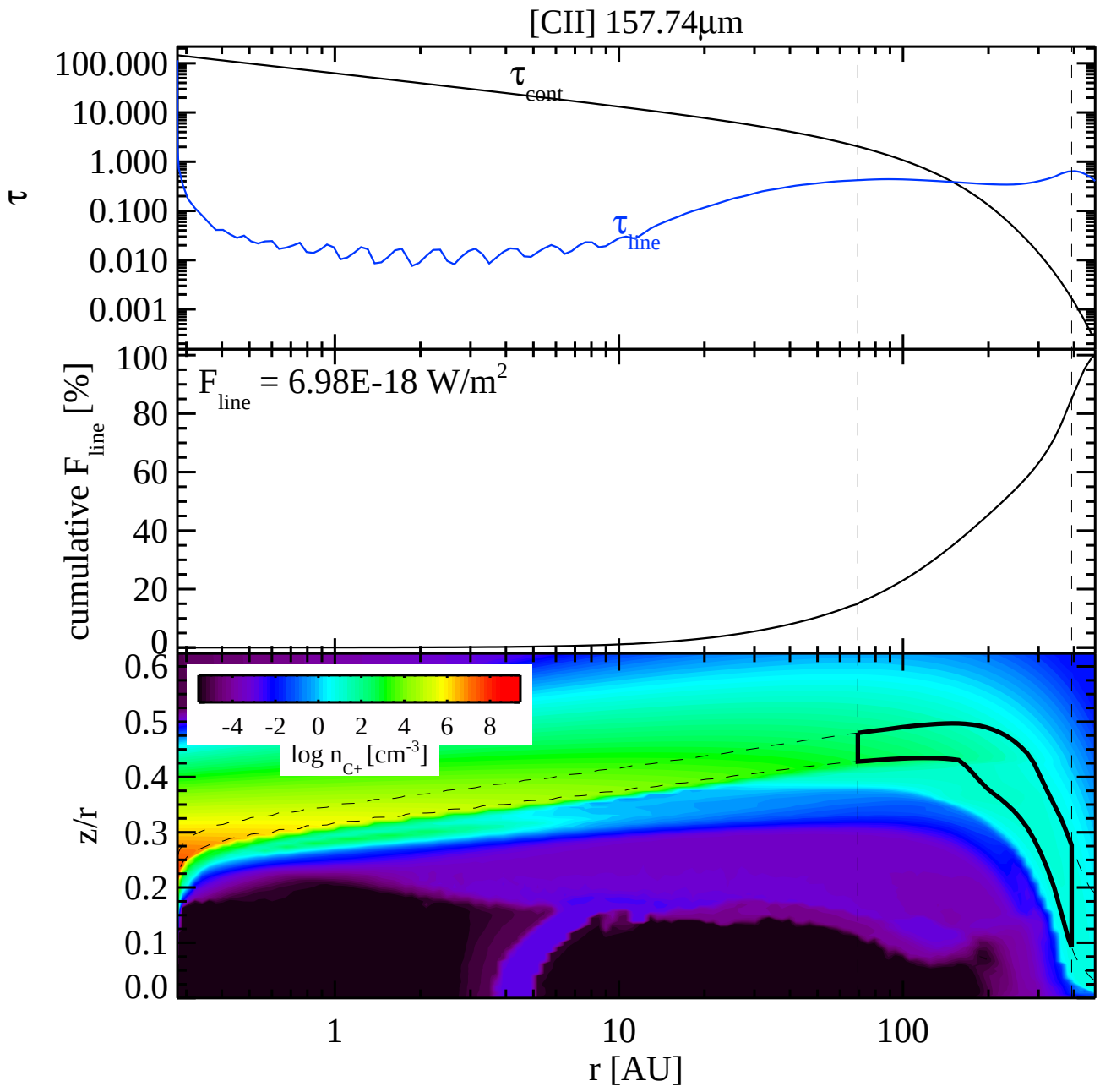

CO 2.361µm
τ
1000.000
100.000
10.000
1.000
0.100
0.010
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 1.48E-18 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n CO [cm-3]
1
10
100
r [AU]

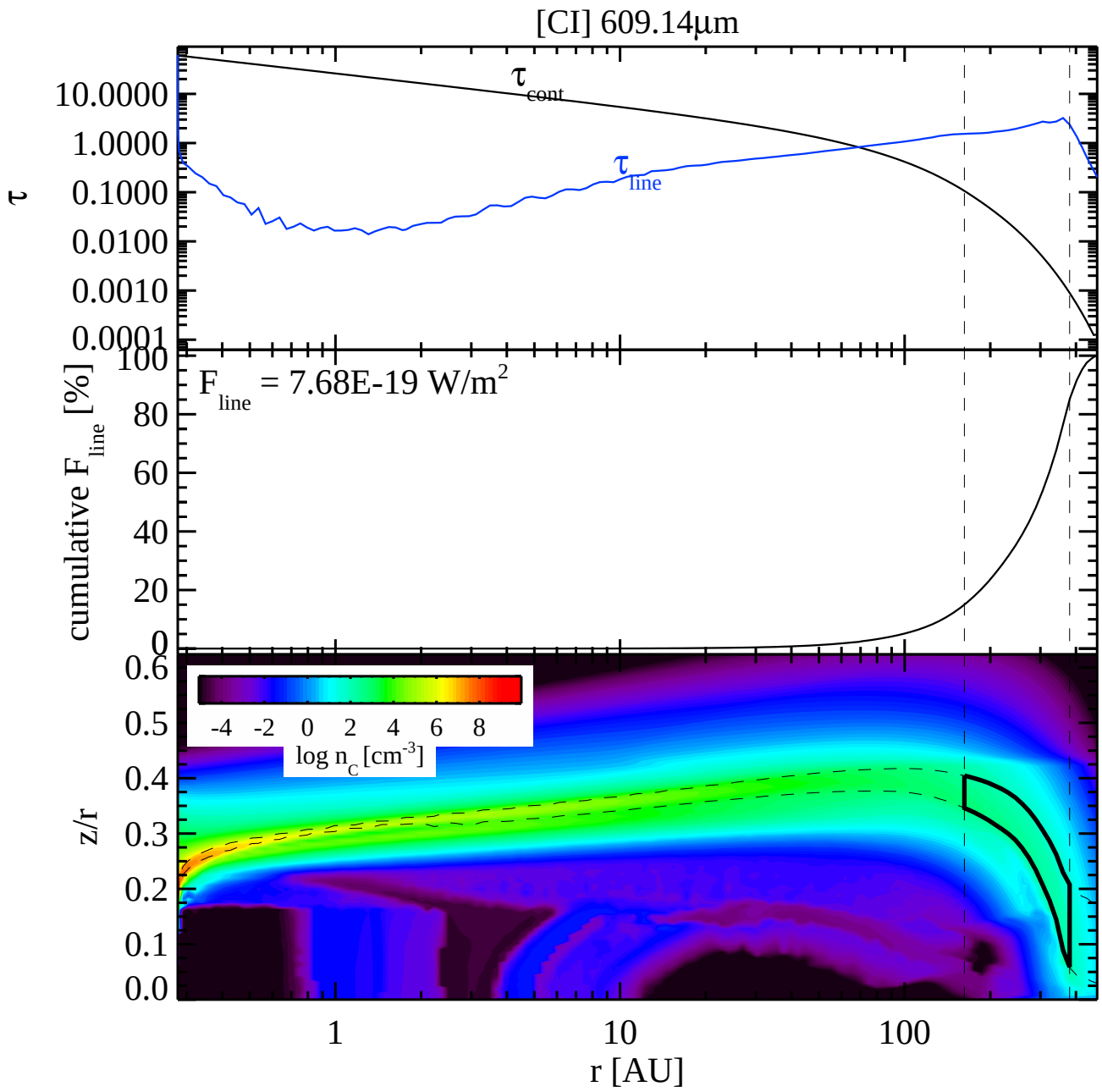

CO 2.376µm
τ
1000.00
100.00
10.00
1.00
0.10
0.01
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 1.94E-18 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n CO [cm-3]
1
10
100
r [AU]

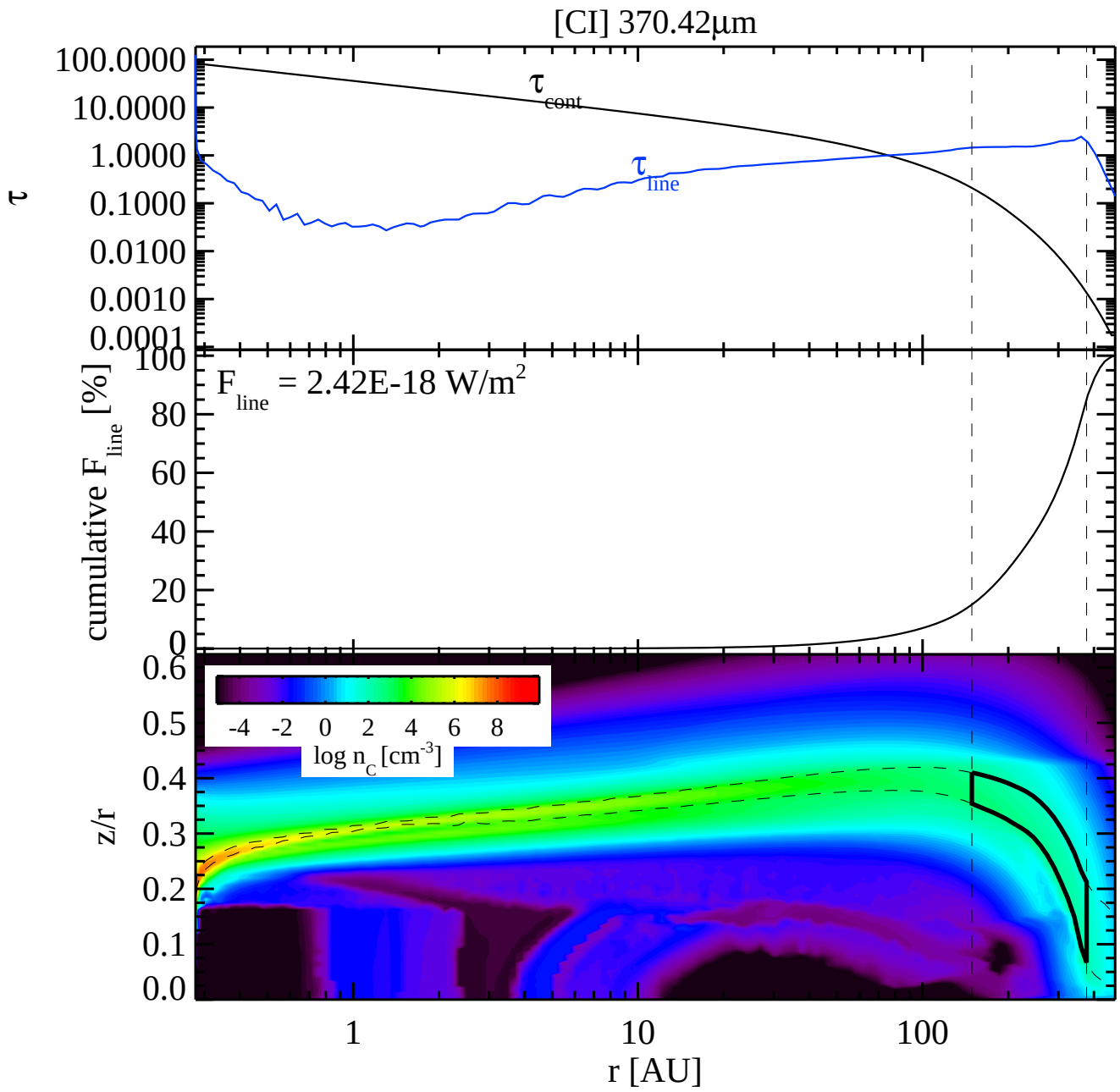

[OI] 63.18µm
τ
100.000
1.000
0.010
τ line
τ cont
cumulative F line [%]
100
80
60
40
20
0
F line = 1.31E-16 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n O [cm-3]
1
10
100
r [AU]

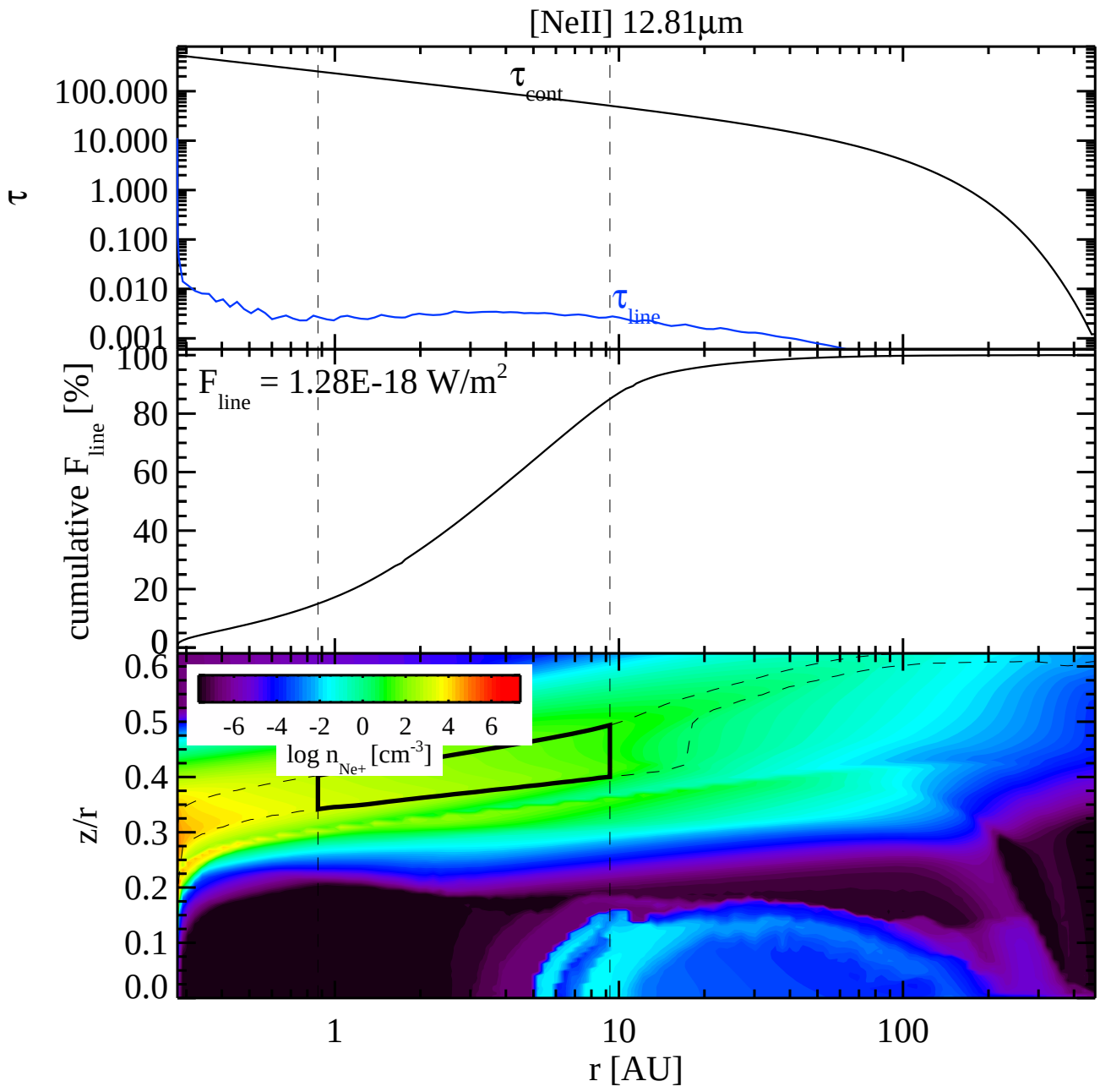

[OI] 145.53µm
τ
τ_cont
τ_line
cumulative F_line [%]
F_line = 9.38E-18 W/m²
log n_O [cm⁻³]
-4 -2 0 2 4 6 8 10
z/r
r [AU]
1
10
100

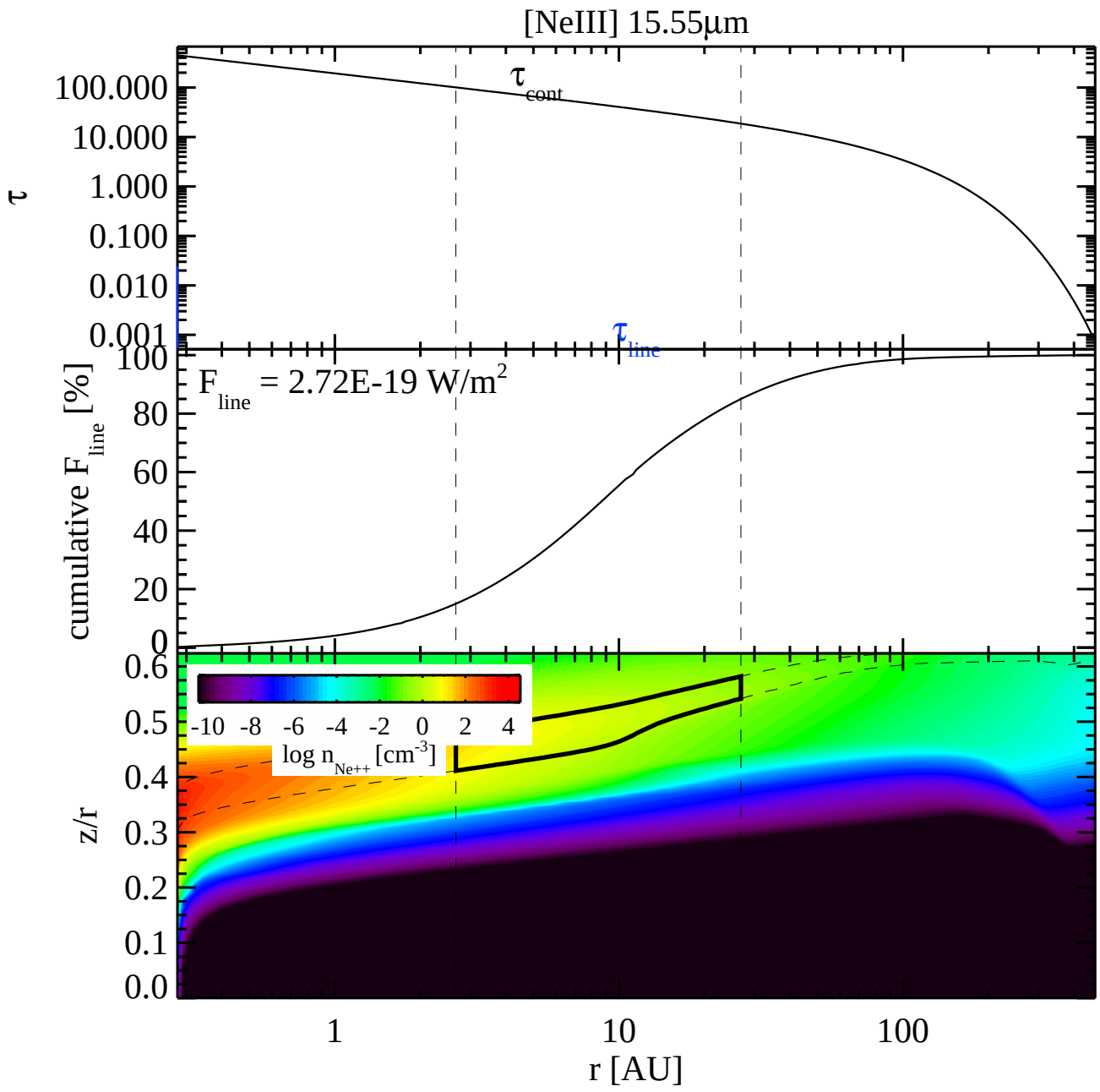

[OI] 0.6300µm
τ
1000.00
100.00
10.00
1.00
0.10
0.01
τ cont
τ line
cumulative F line [%]
F line = 1.29E-17 W/m2
100
80
60
40
20
0
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n O [cm-3]
1
10
100
r [AU]

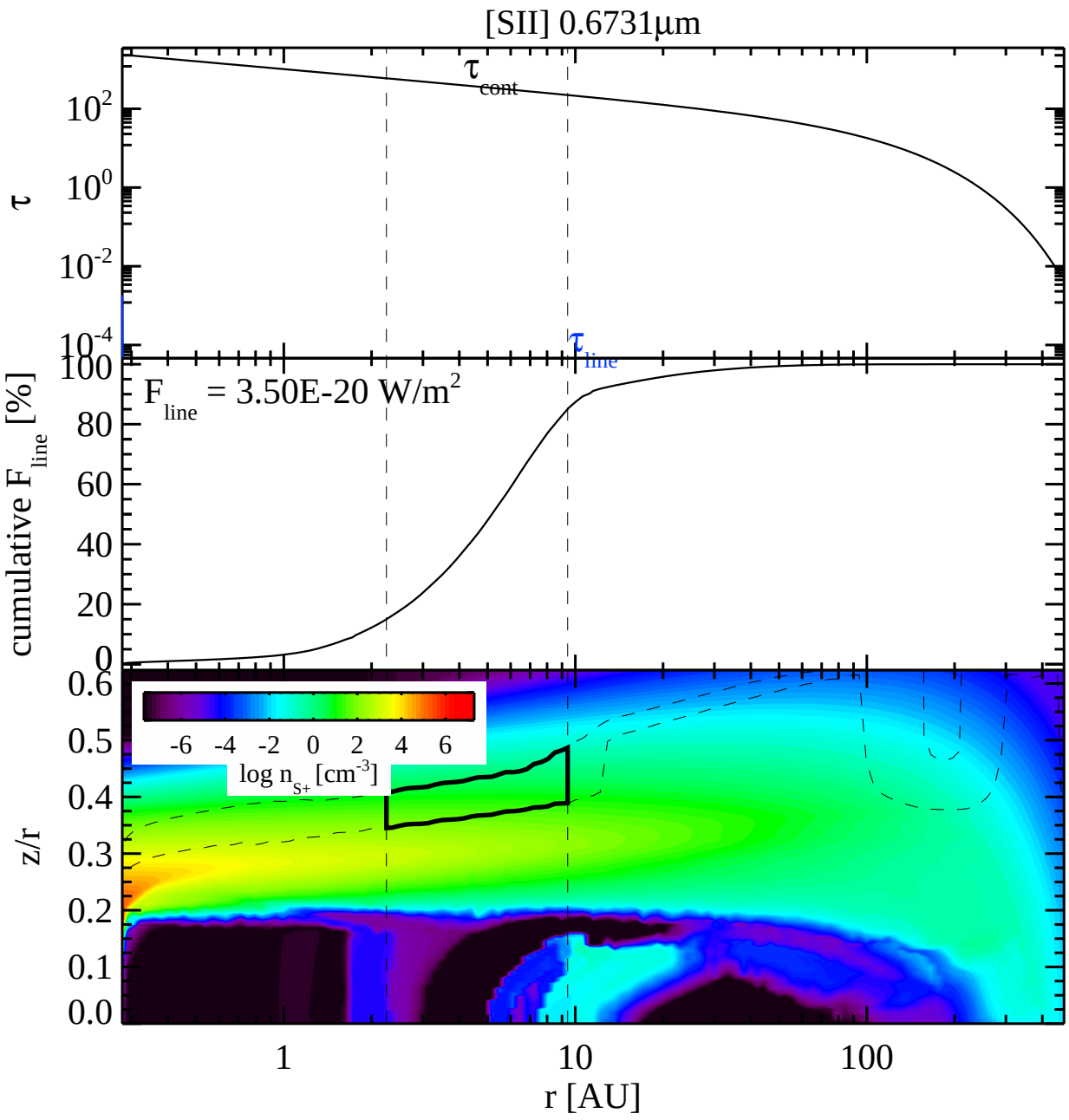

[CII] 157.74µm
τ
100.000
10.000
1.000
0.100
0.010
0.001
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 6.98E-18 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8
log n C+ [cm-3]
1
10
100
r [AU]

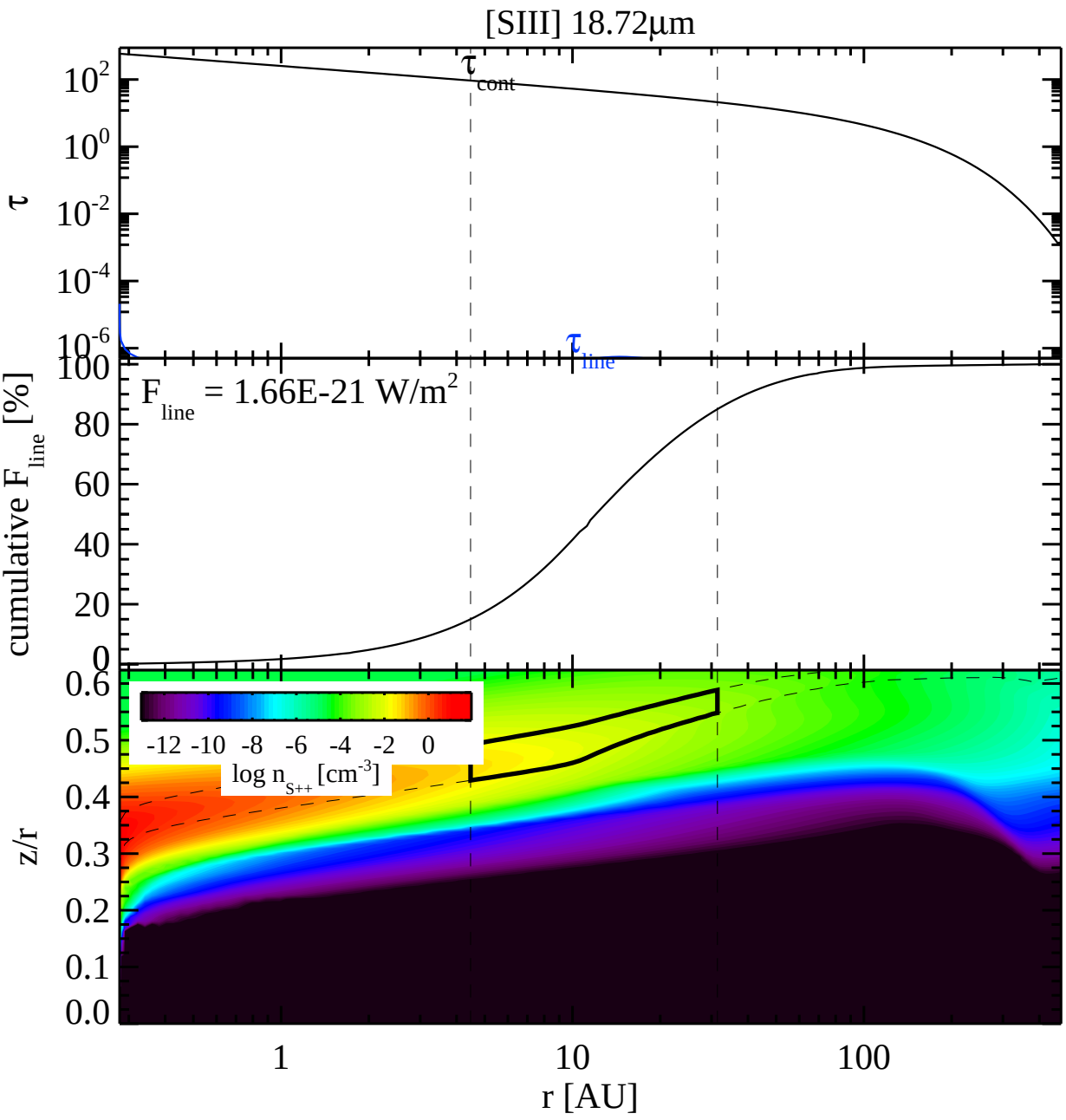

[CI] 609.14µm
τ
10.0000
1.0000
0.1000
0.0100
0.0010
0.0001
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 7.68E-19 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8
log nC [cm-3]
1
10
100
r [AU]

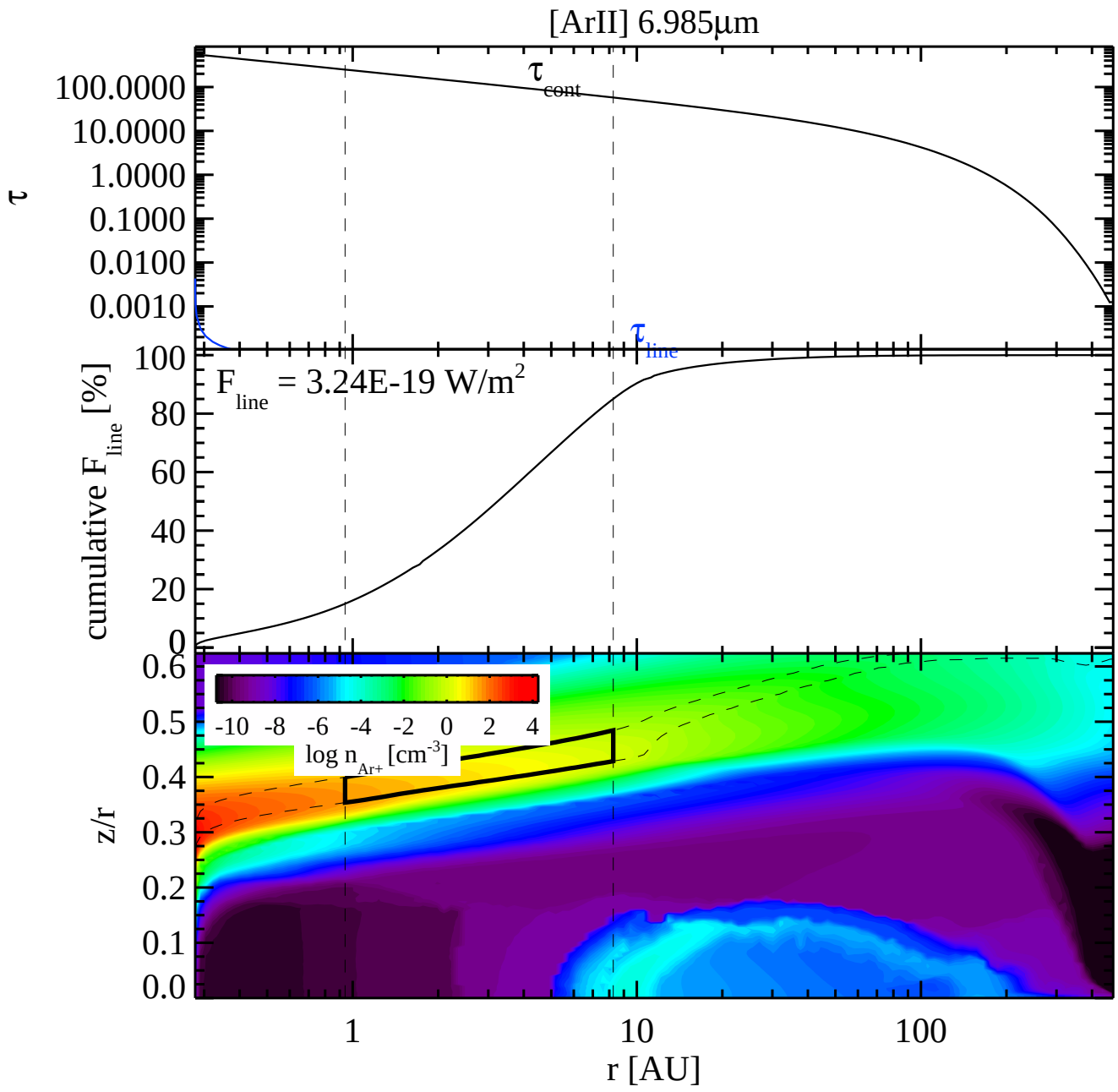

[CI] 370.42µm
τ
100.0000
10.0000
1.0000
0.1000
0.0100
0.0010
0.0001
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 2.42E-18 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8
log n C [cm-3]
1
10
100
r [AU]

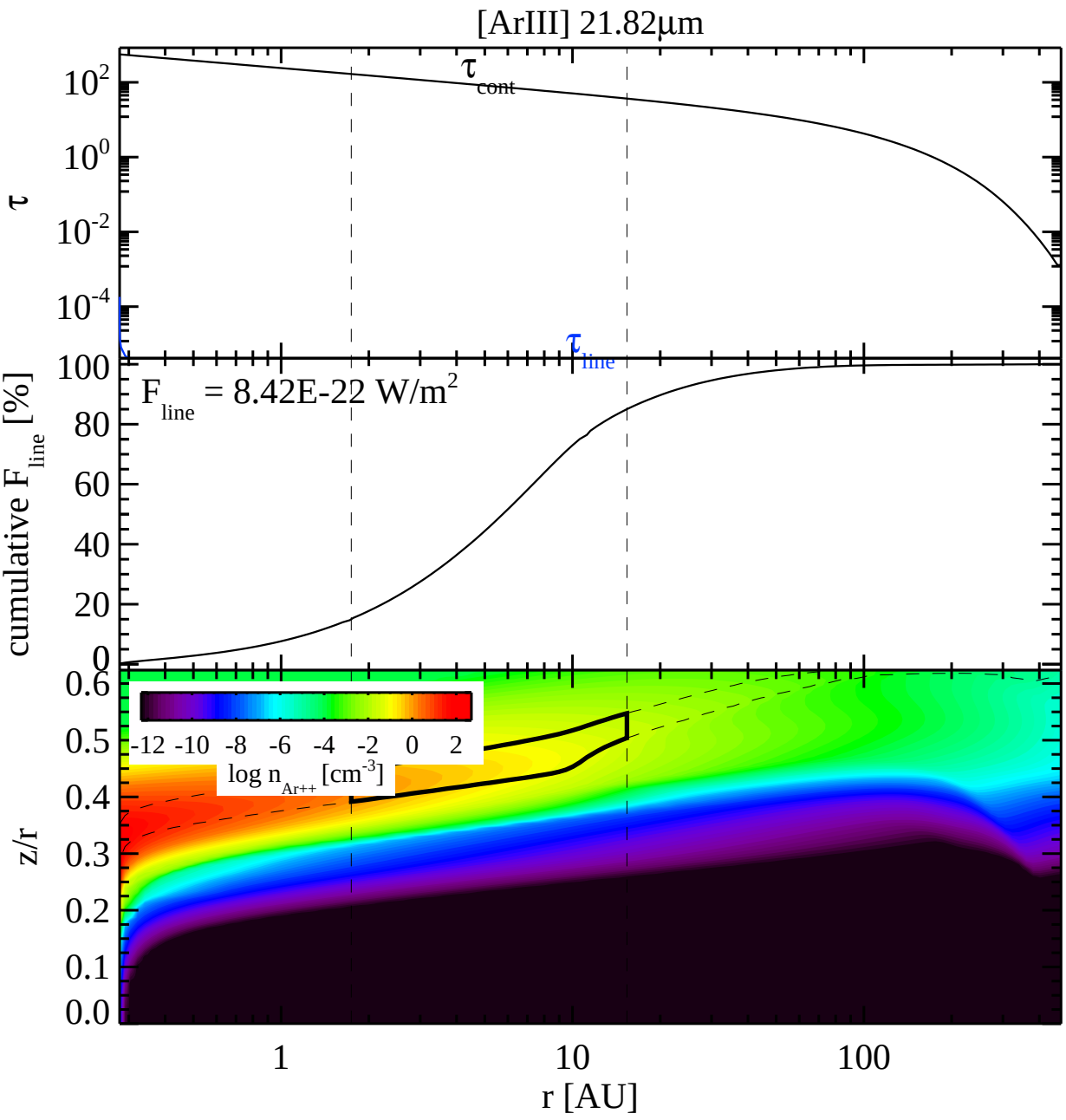

[NeII] 12.81µm
τ
100.000
10.000
1.000
0.100
0.010
0.001
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 1.28E-18 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-6 -4 -2 0 2 4 6
log n Ne+ [cm-3]
1
10
100
r [AU]

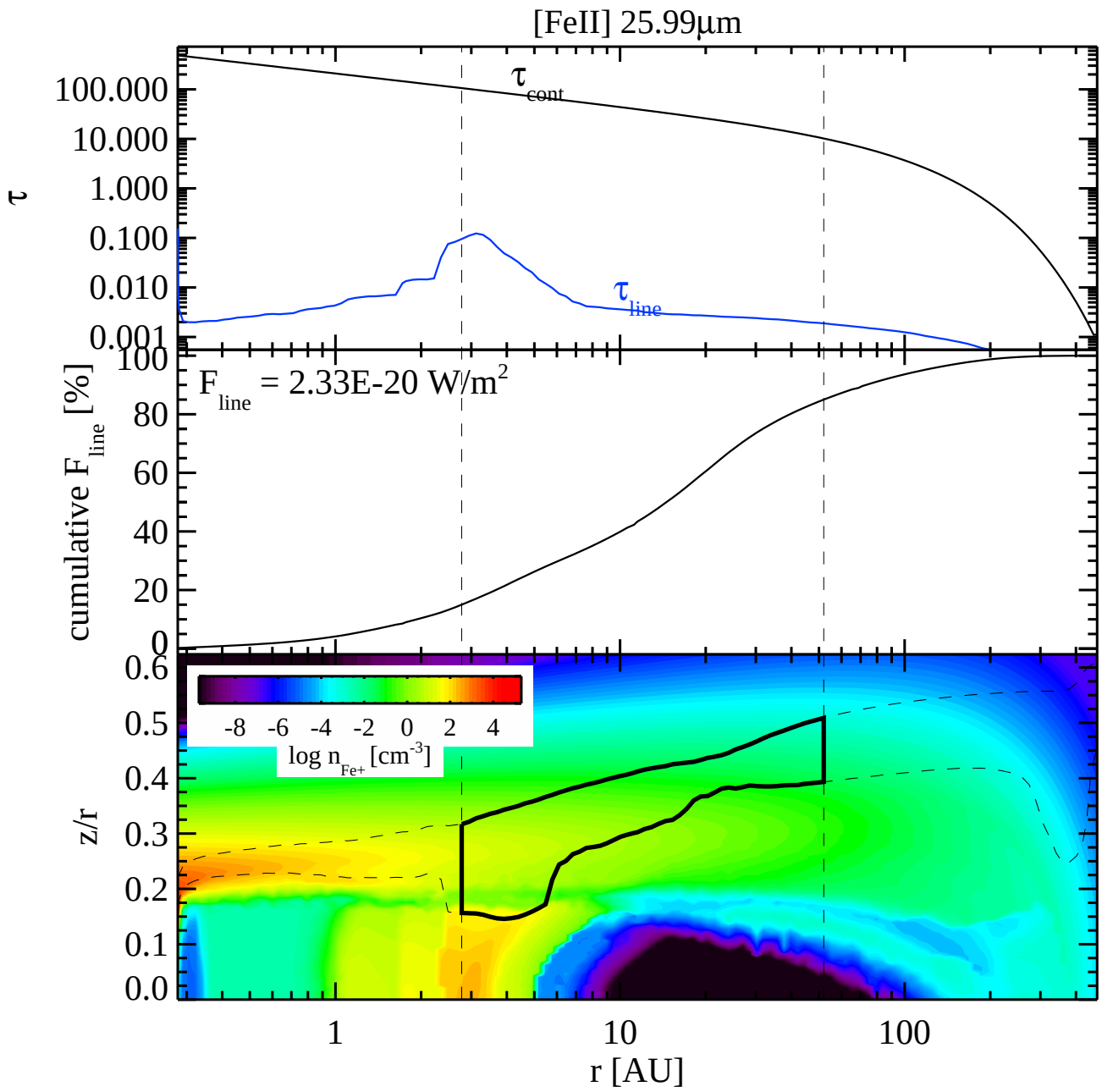

[NeIII] 15.55µm
τ
100.000
10.000
1.000
0.100
0.010
0.001
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 2.72E-19 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-10 -8 -6 -4 -2 0 2 4
log n Ne++ [cm-3]
1
10
100
r [AU]

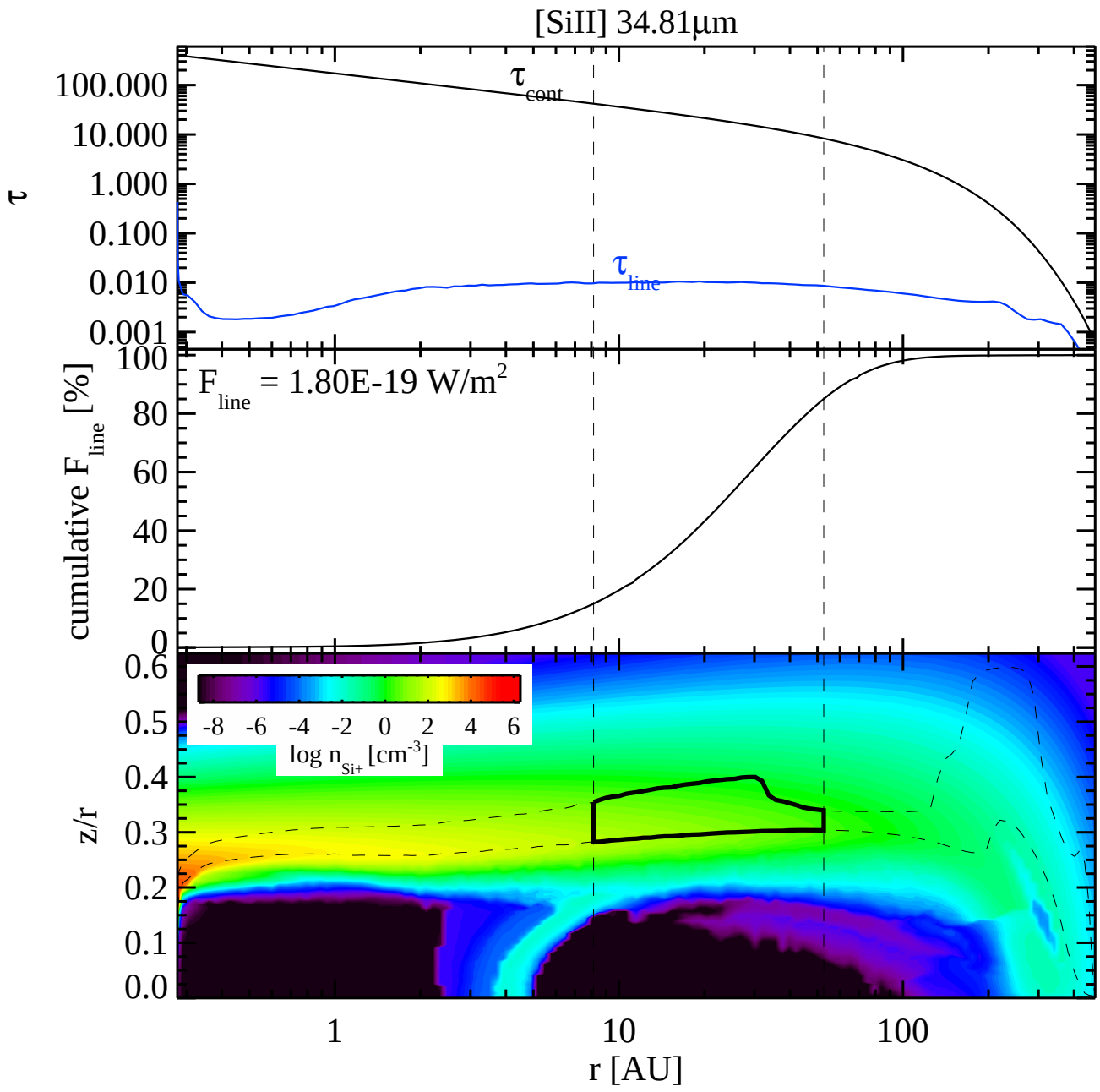

[SII] 0.6731µm
τ
cont
τ
line
τ
10^2
10^0
10^-2
10^-4
cumulative F_line [%]
F_line = 3.50E-20 W/m^2
100
80
60
40
20
0
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-6 -4 -2 0 2 4 6
log n_S+ [cm^-3]
1
10
100
r [AU]

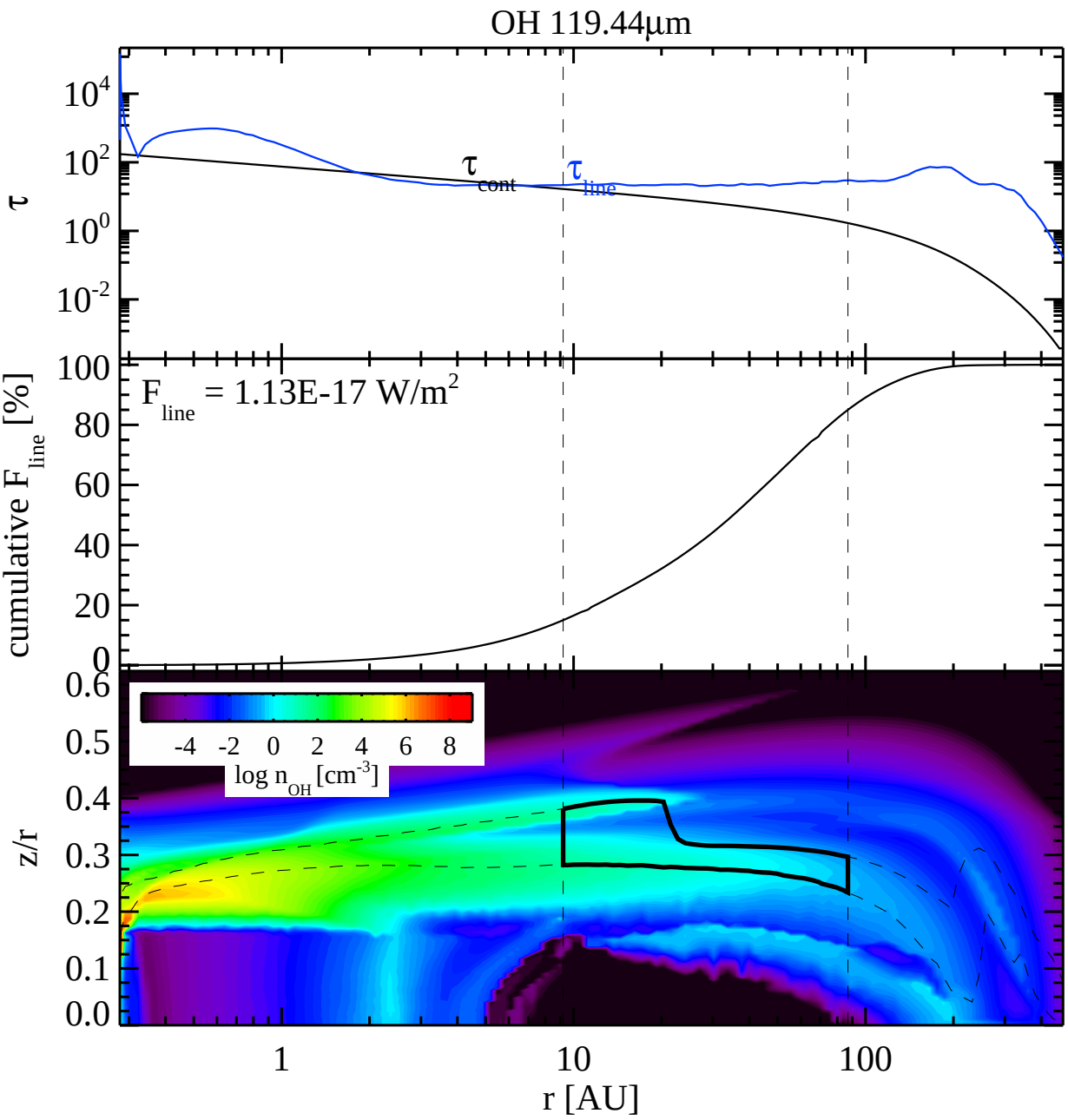

[SIII] 18.72µm
τ
10^{2}
10^{0}
10^{-2}
10^{-4}
10^{-6}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
F_{line} = 1.66E-21 W/m^2
100
80
60
40
20
0
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-12 -10 -8 -6 -4 -2 0
log n_{S++} [cm^{-3}]
1
10
100
r [AU]

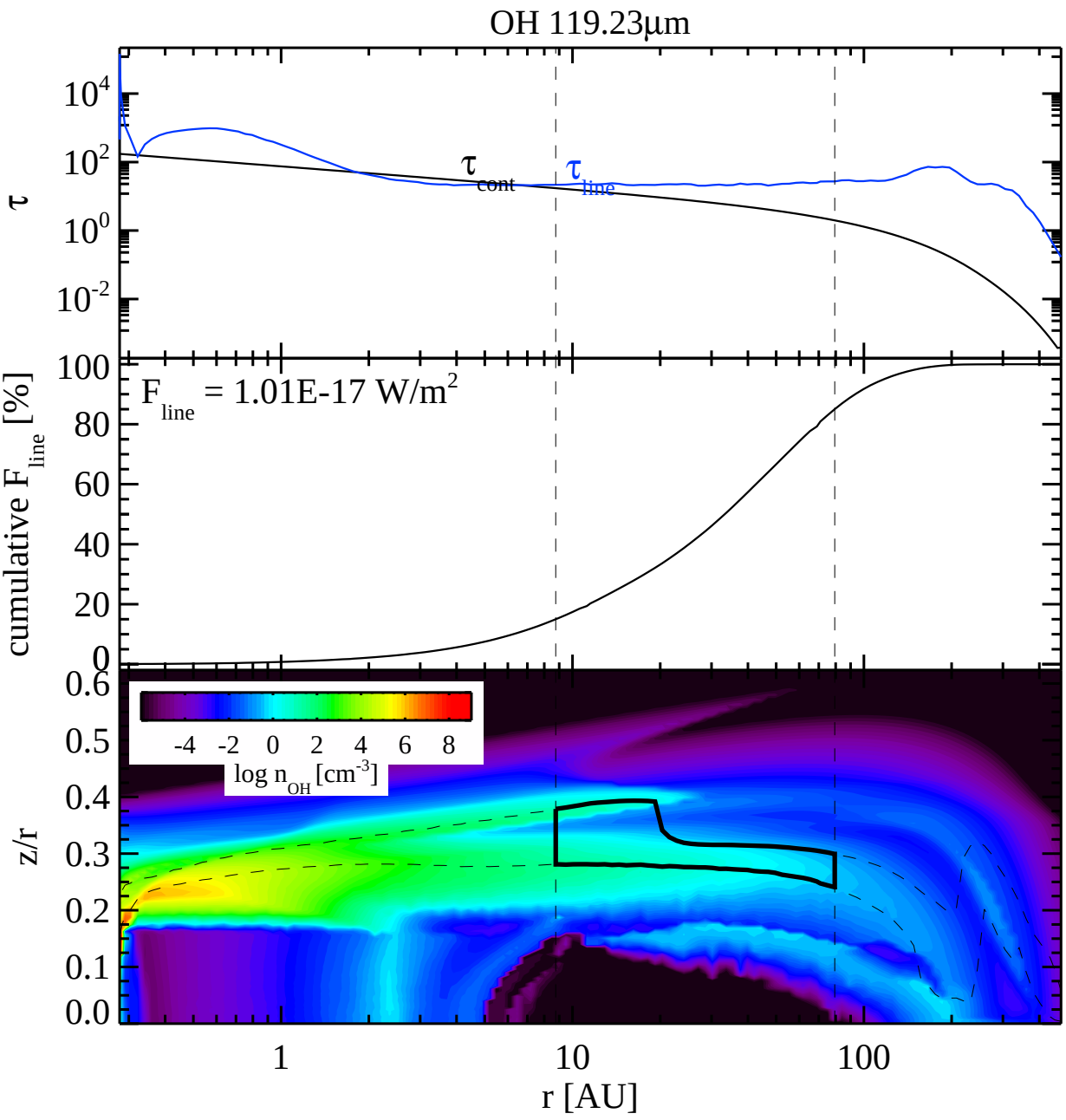

[ArII] 6.985µm
τ
100.0000
10.0000
1.0000
0.1000
0.0100
0.0010
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 3.24E-19 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-10 -8 -6 -4 -2 0 2 4
log n Ar+ [cm-3]
1
10
100
r [AU]

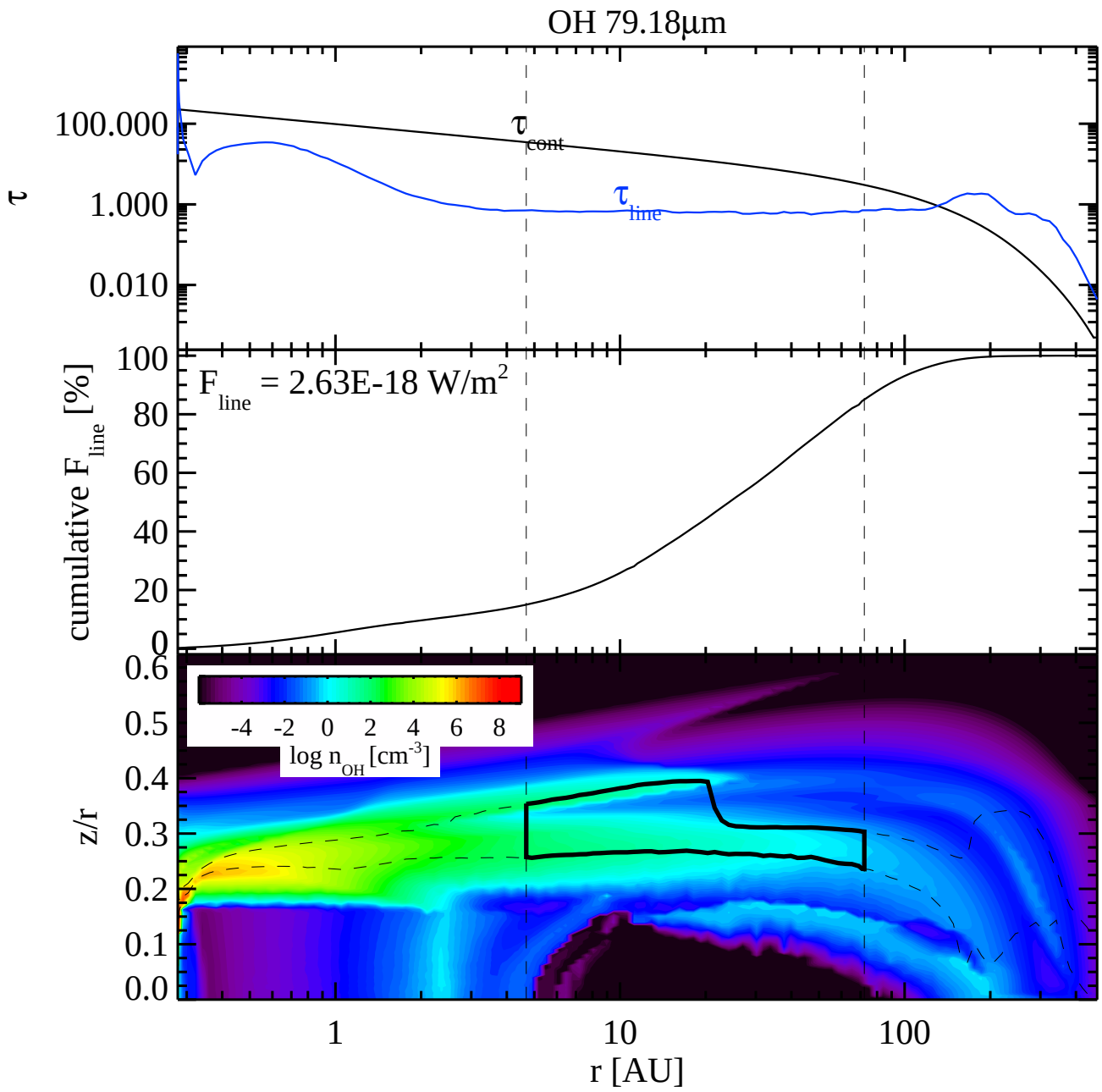

[ArIII] 21.82µm
τ
cont
τ
line
τ
10^{2}
10^{0}
10^{-2}
10^{-4}
F_{line} = 8.42E-22 W/m^2
cumulative F_{line} [%]
100
80
60
40
20
0
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-12 -10 -8 -6 -4 -2 0 2
log n_{Ar++} [cm^{-3}]
1
10
100
r [AU]

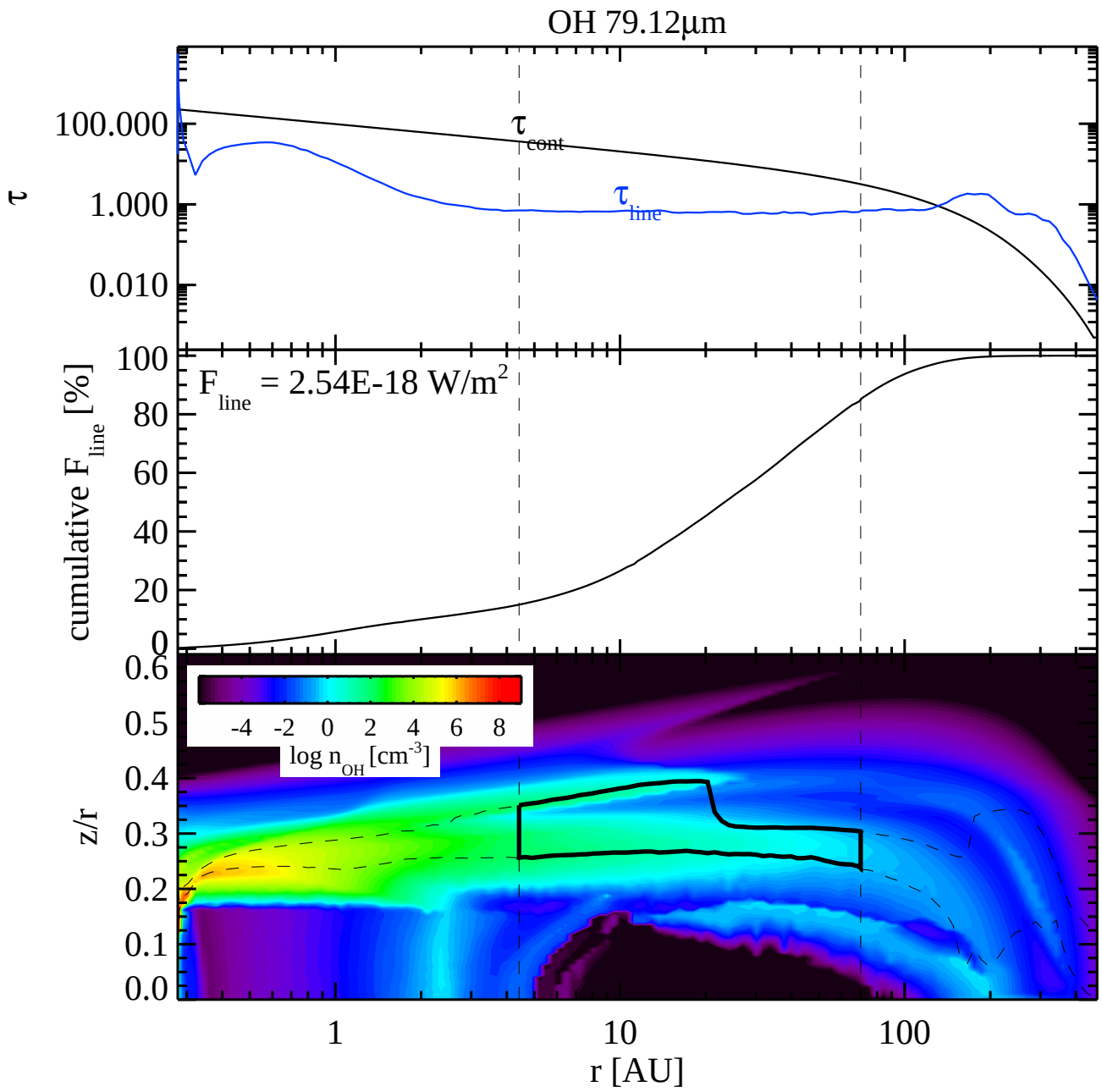

[FeII] 25.99µm
τ
100.000
10.000
1.000
0.100
0.010
0.001
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 2.33E-20 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-8 -6 -4 -2 0 2 4
log n Fe+ [cm-3]
1
10
100
r [AU]

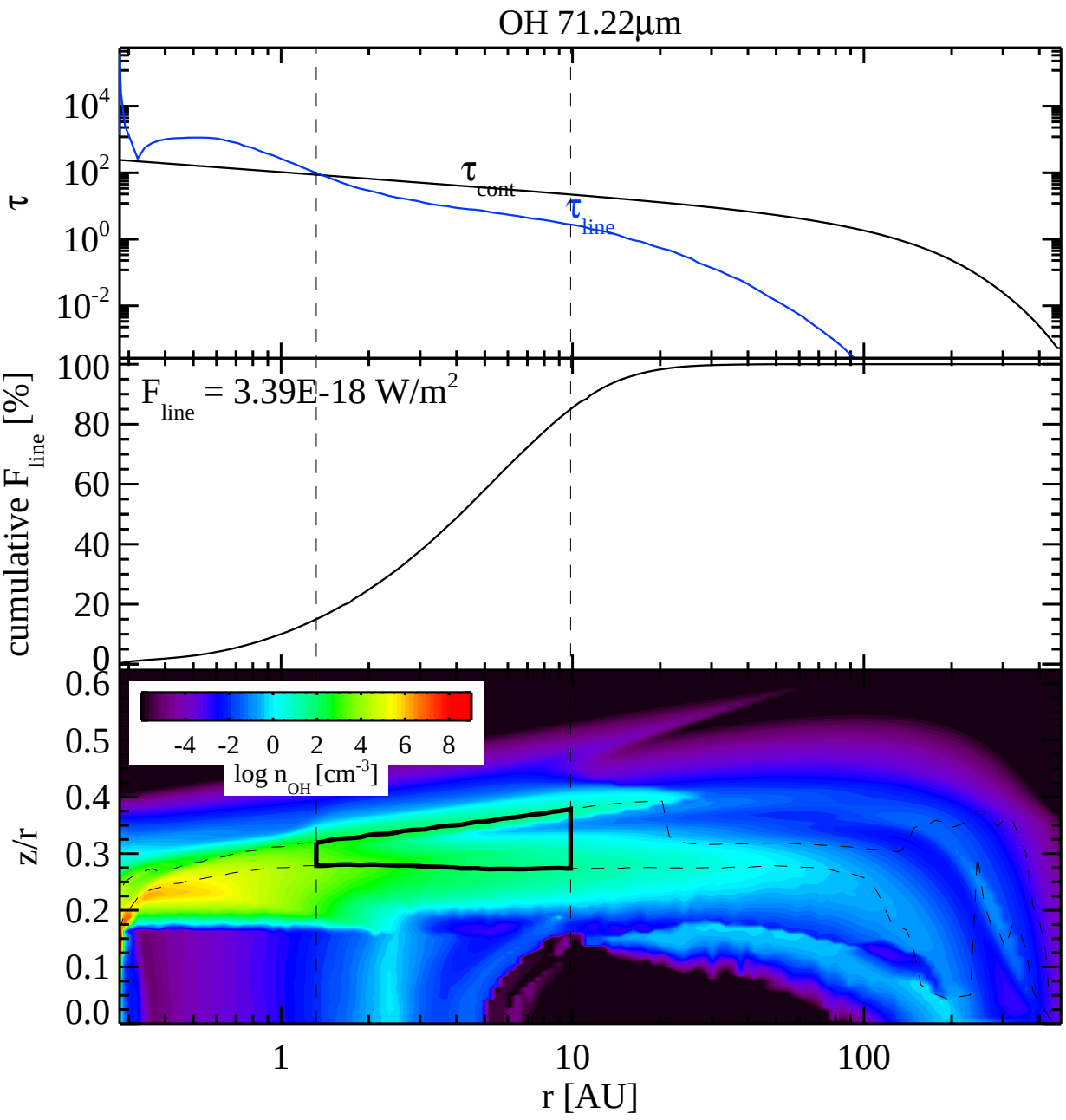

[SiII] 34.81µm
τ
100.000
10.000
1.000
0.100
0.010
0.001
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 1.80E-19 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-8 -6 -4 -2 0 2 4 6
log n Si+ [cm-3]
1
10
100
r [AU]

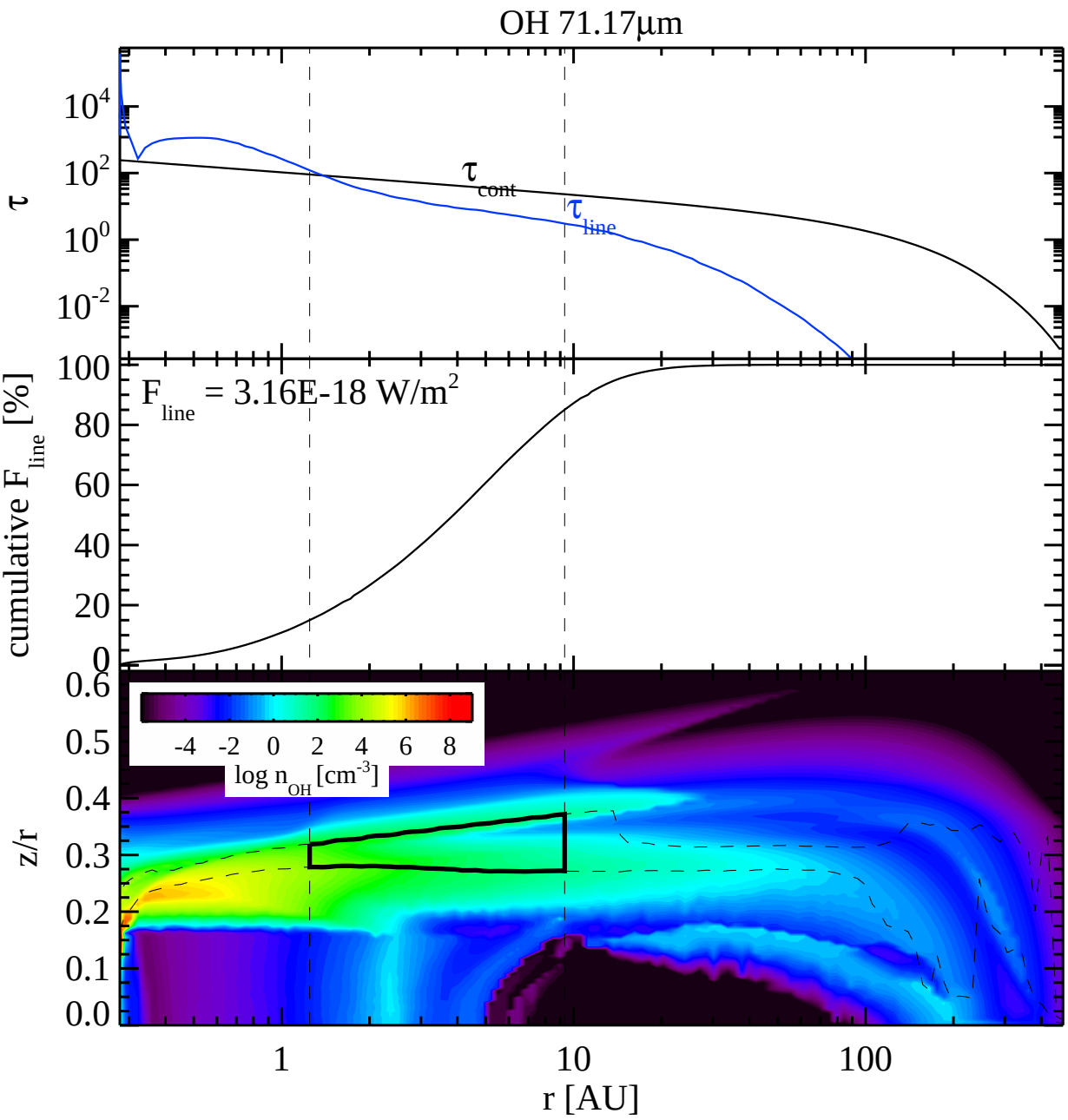

OH 119.44μm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 1.13E-17 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8
log n_{OH} [cm^{-3}]
1
10
100
r [AU]

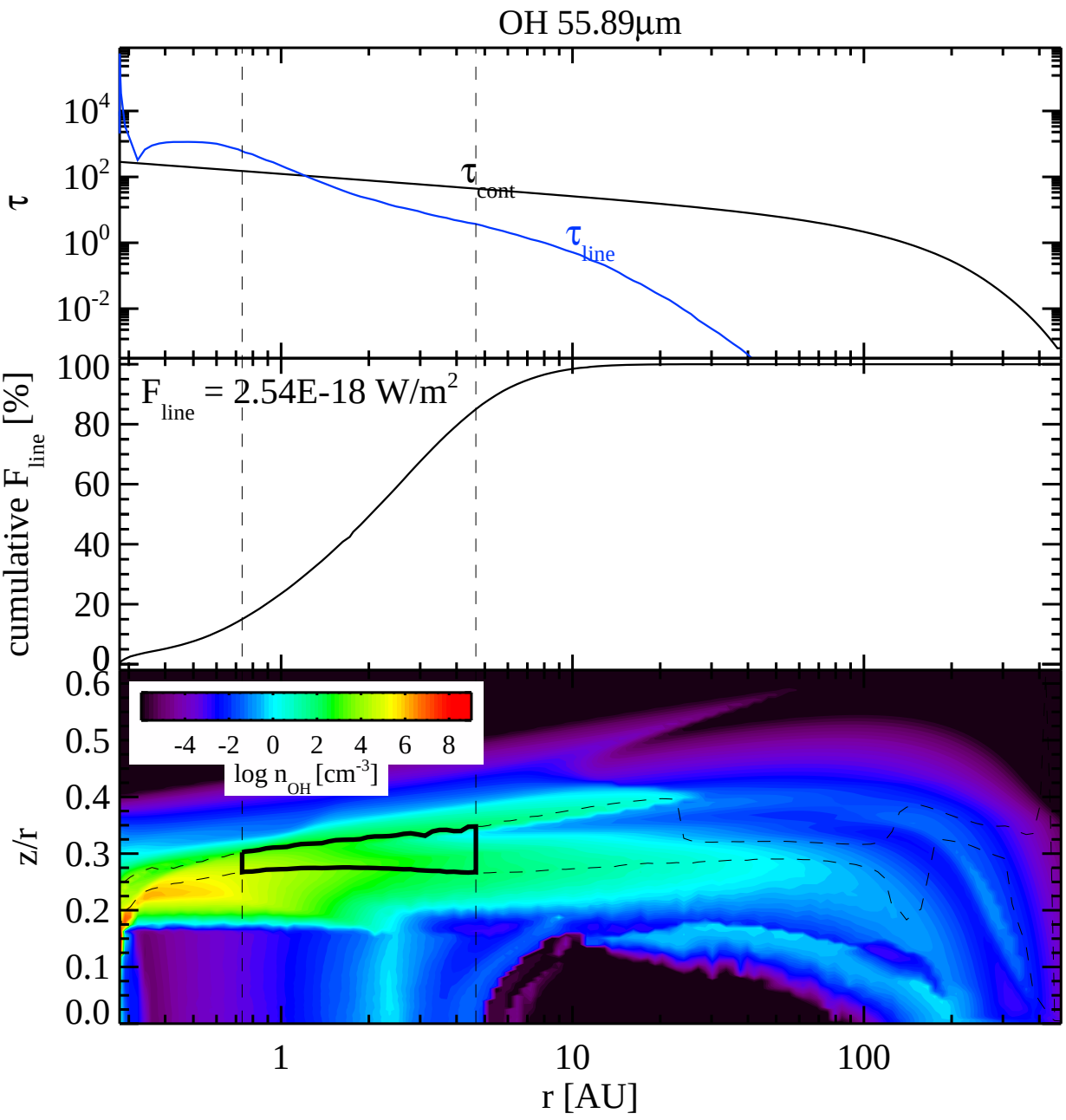

OH 119.23µm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 1.01E-17 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8
log n_{OH} [cm^{-3}]
1
10
100
r [AU]

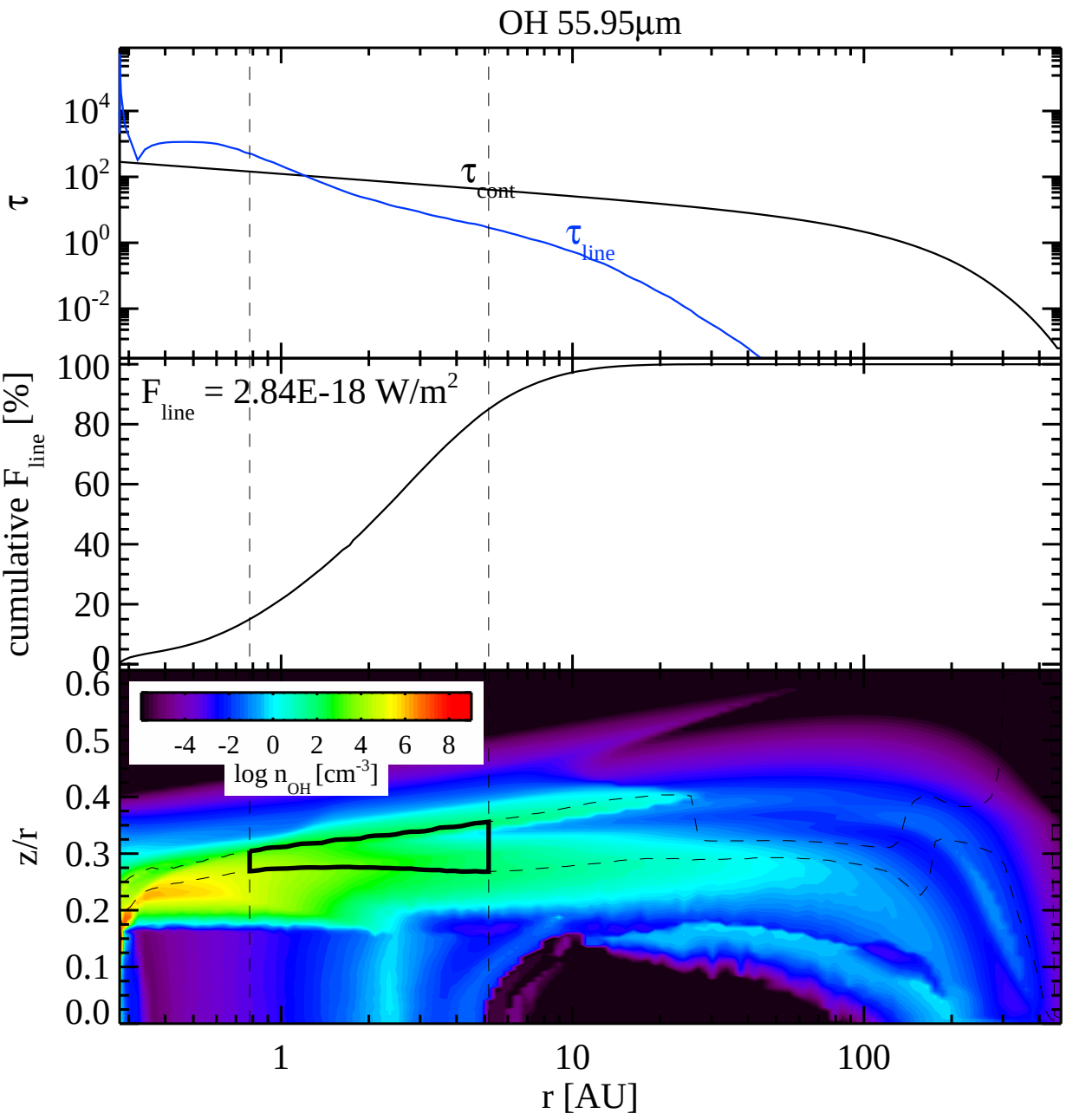

OH 79.18µm
τ
100.000
1.000
0.010
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 2.63E-18 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8
log n OH [cm-3]
1
10
100
r [AU]

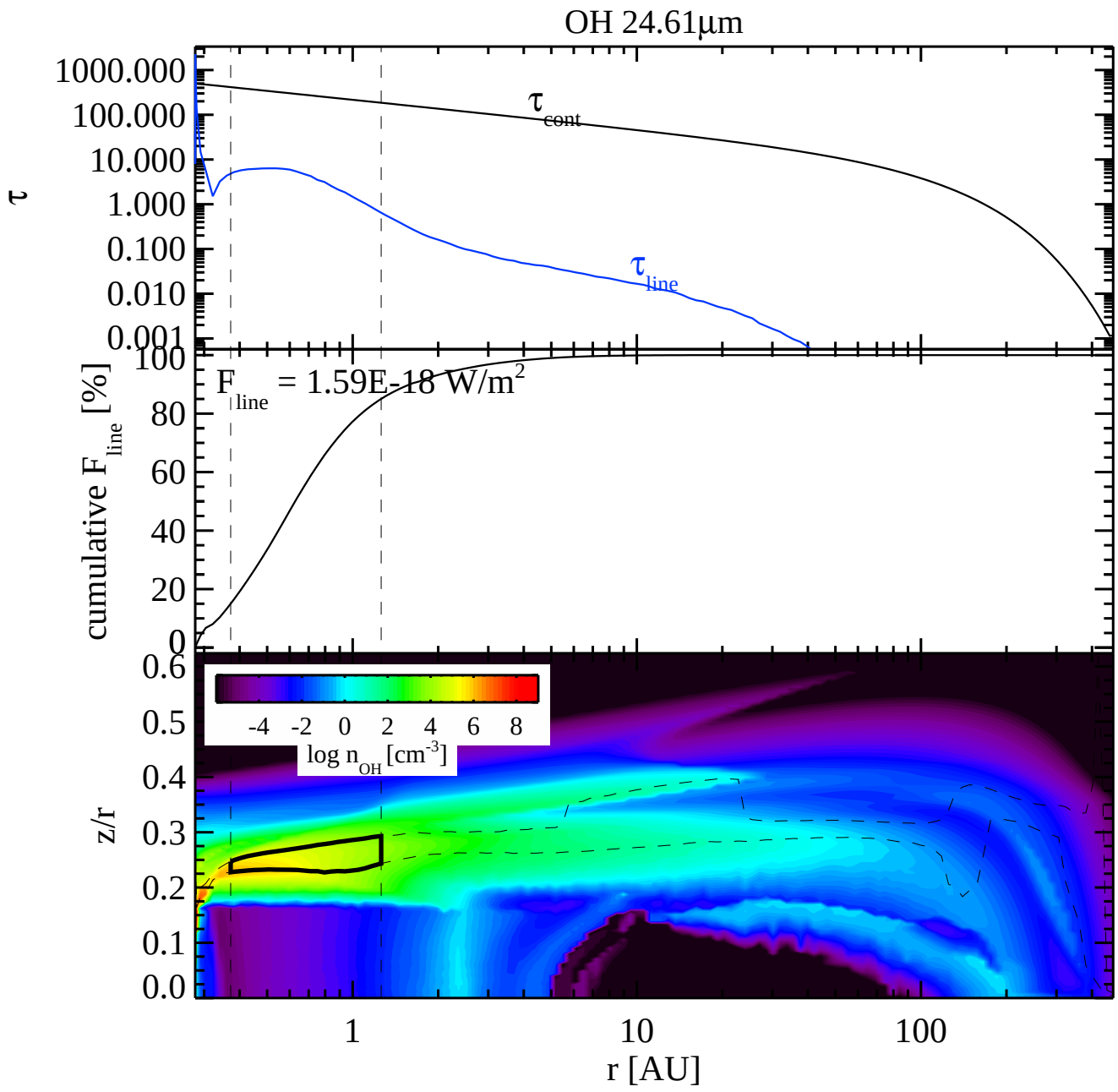

OH 79.12µm
τ
100.000
1.000
0.010
τ cont
τ line
F line = 2.54E-18 W/m2
cumulative F line [%]
100
80
60
40
20
0
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8
log n OH [cm-3]
1
10
100
r [AU]

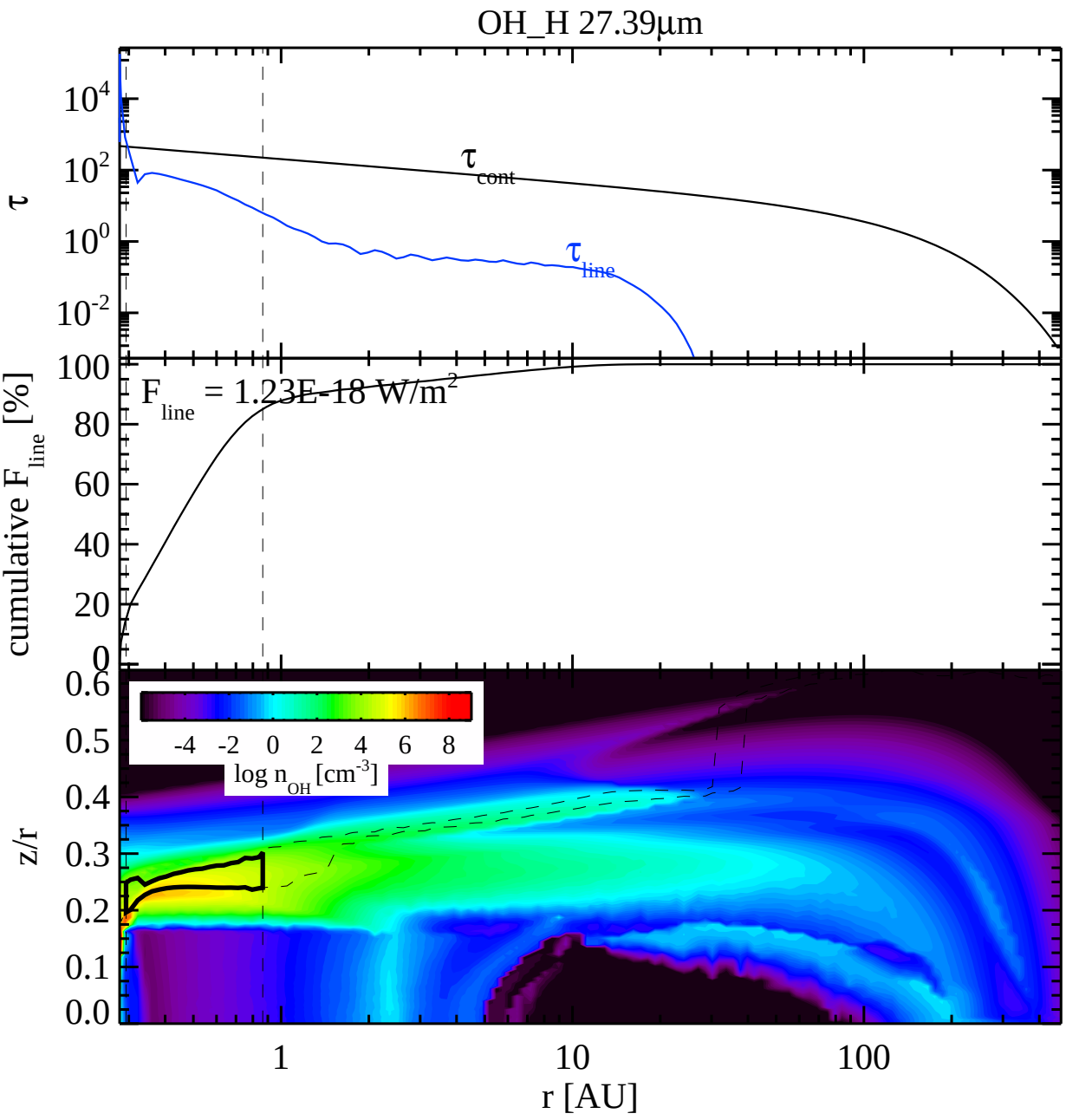

OH 71.22µm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 3.39E-18 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8
log n_{OH} [cm^{-3}]
1
10
100
r [AU]

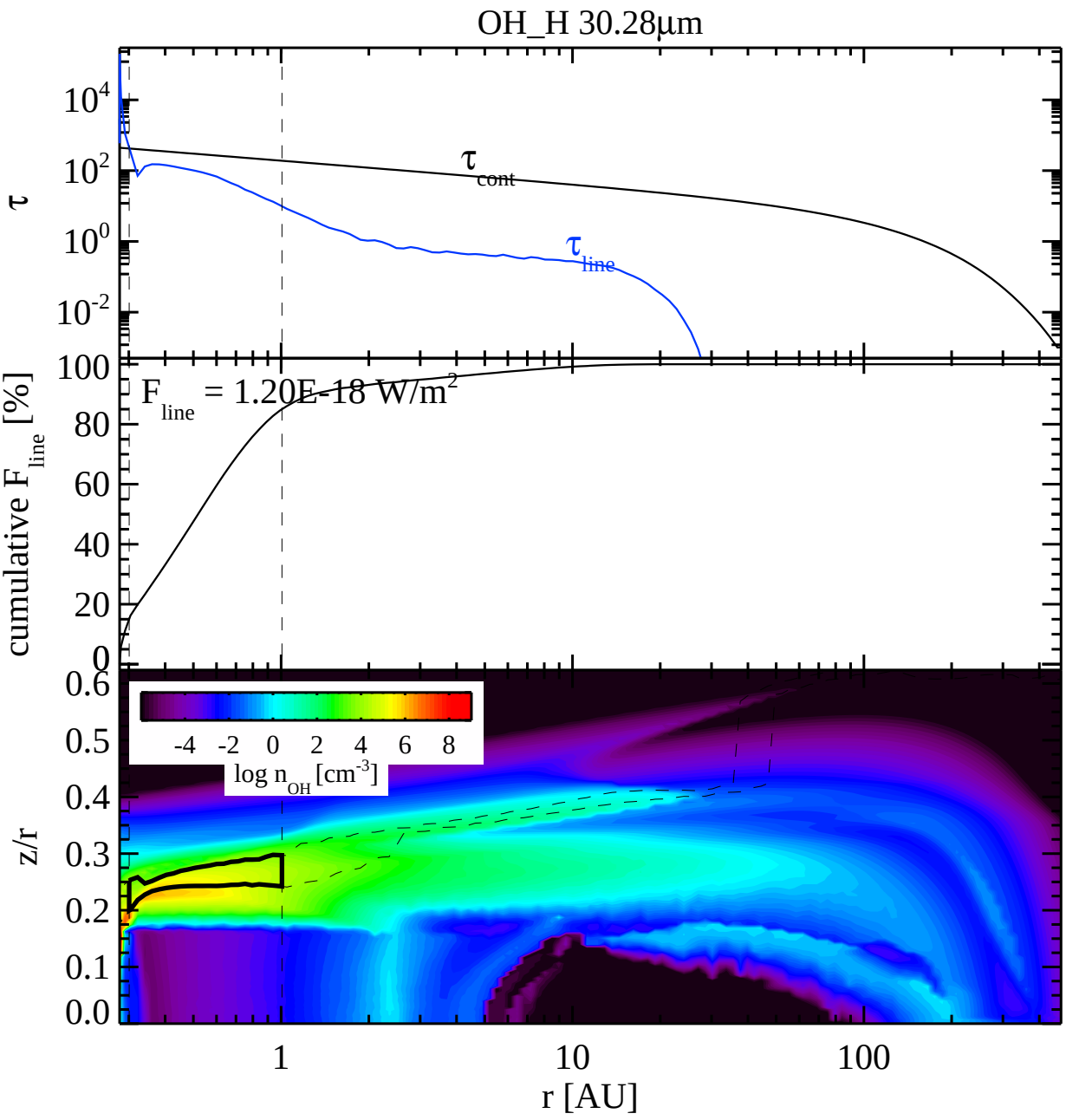

OH 71.17µm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 3.16E-18 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8
log n_{OH} [cm^{-3}]
1
10
100
r [AU]

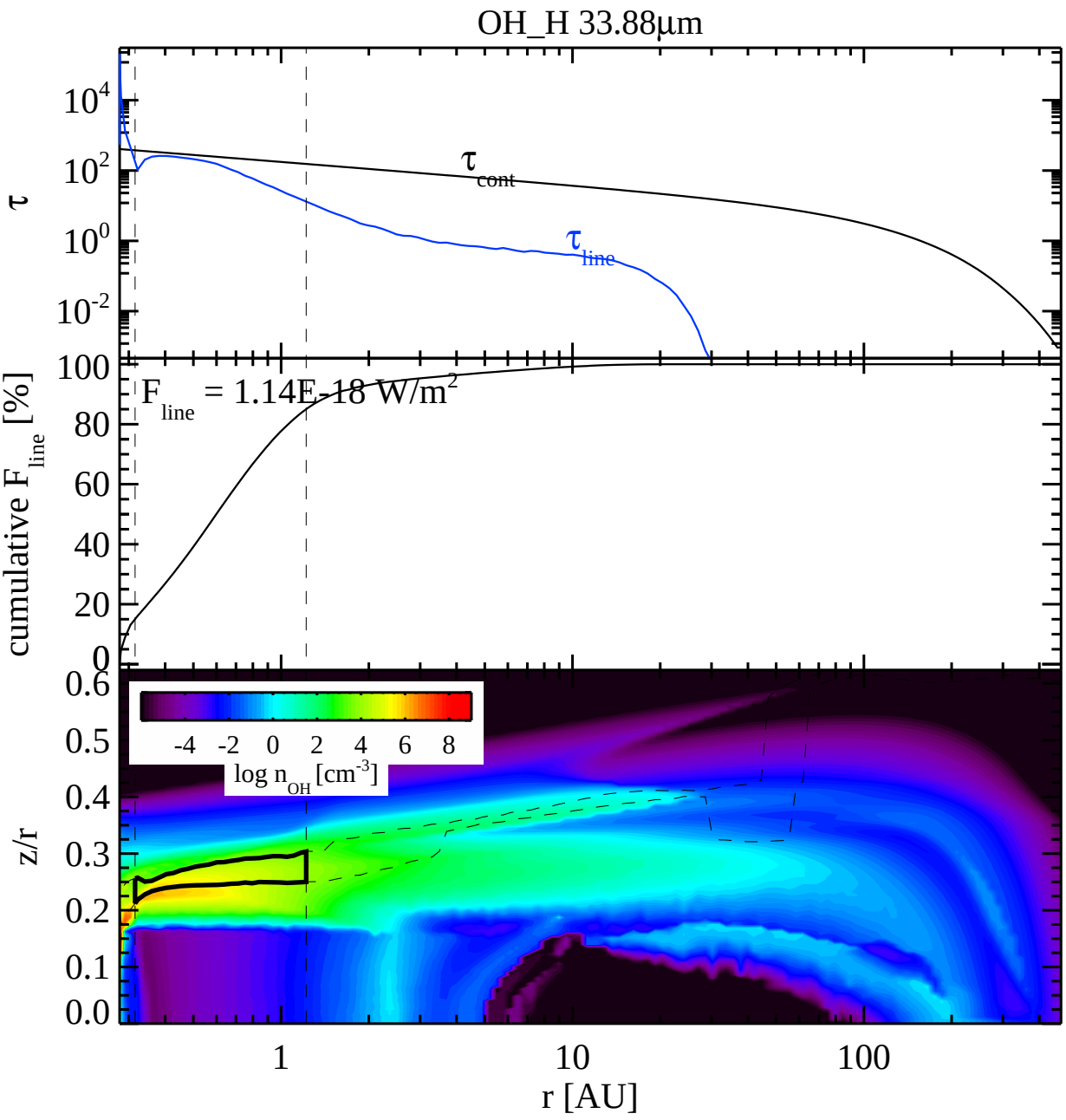

OH 55.89µm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 2.54E-18 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8
log n_{OH} [cm^{-3}]
1
10
100
r [AU]

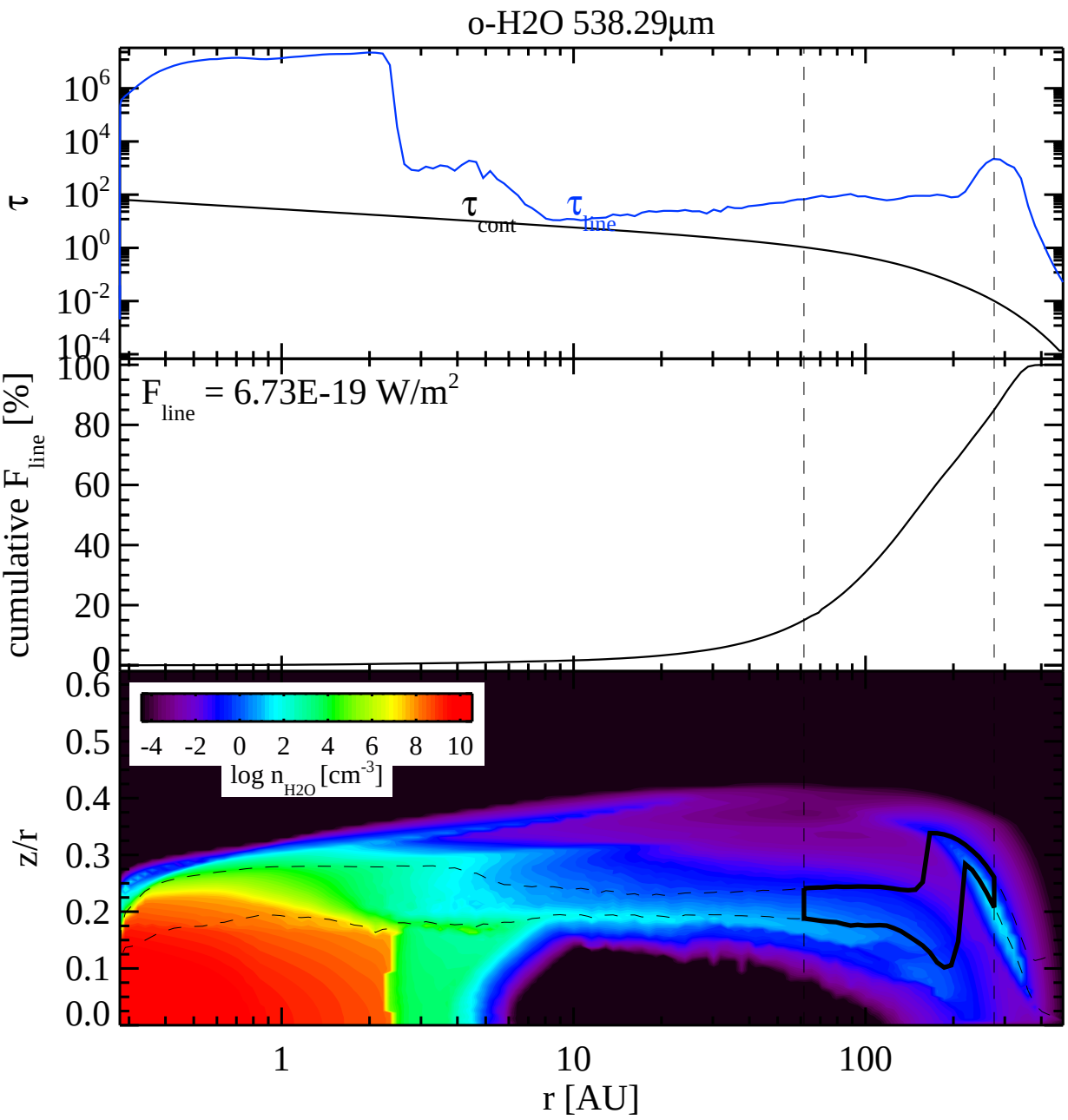

OH 55.95µm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 2.84E-18 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8
log n_{OH} [cm^{-3}]
1
10
100
r [AU]

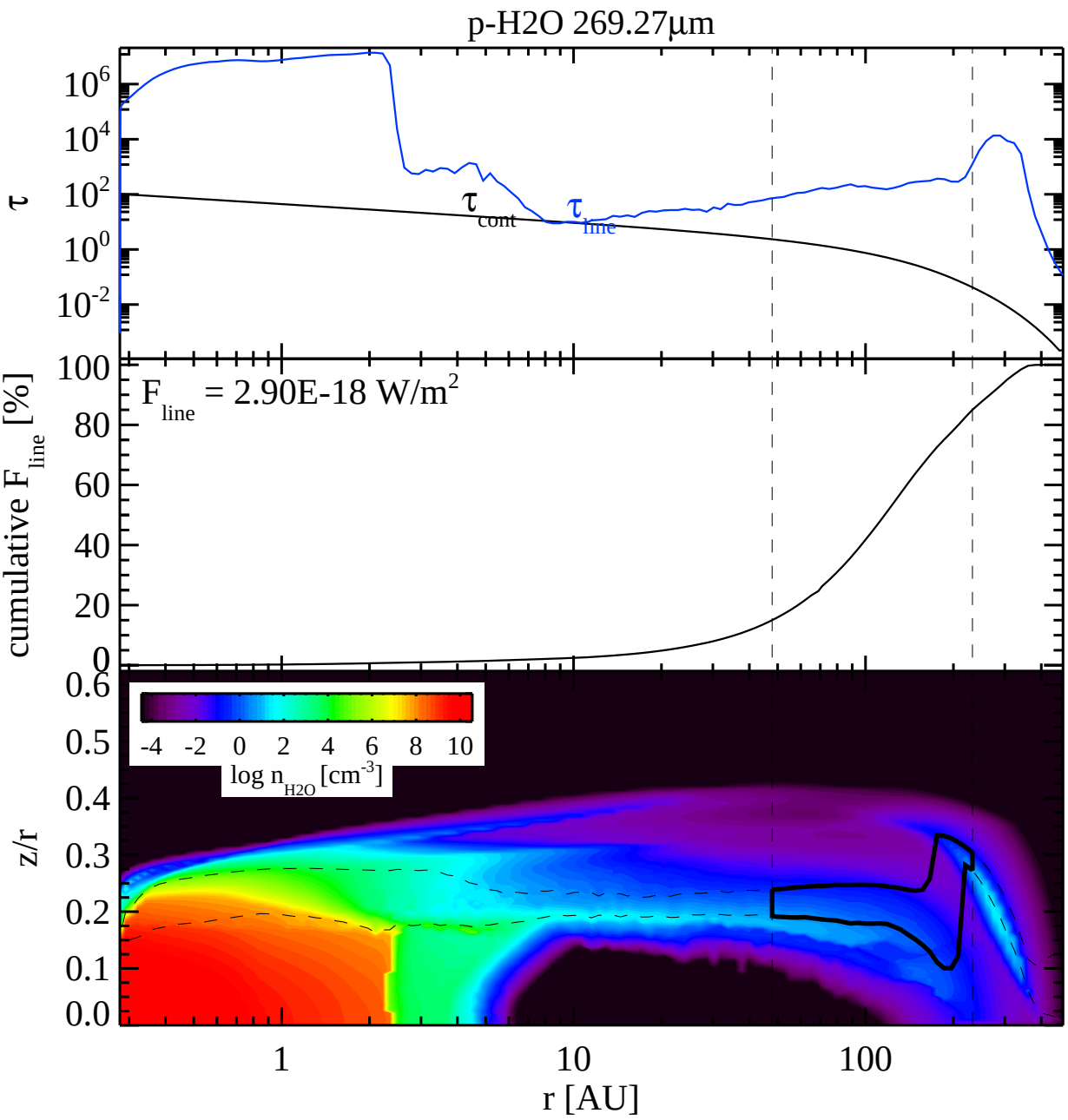

OH 24.61µm
τ
1000.000
100.000
10.000
1.000
0.100
0.010
0.001
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 1.59E-18 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8
log n OH [cm-3]
1
10
100
r [AU]

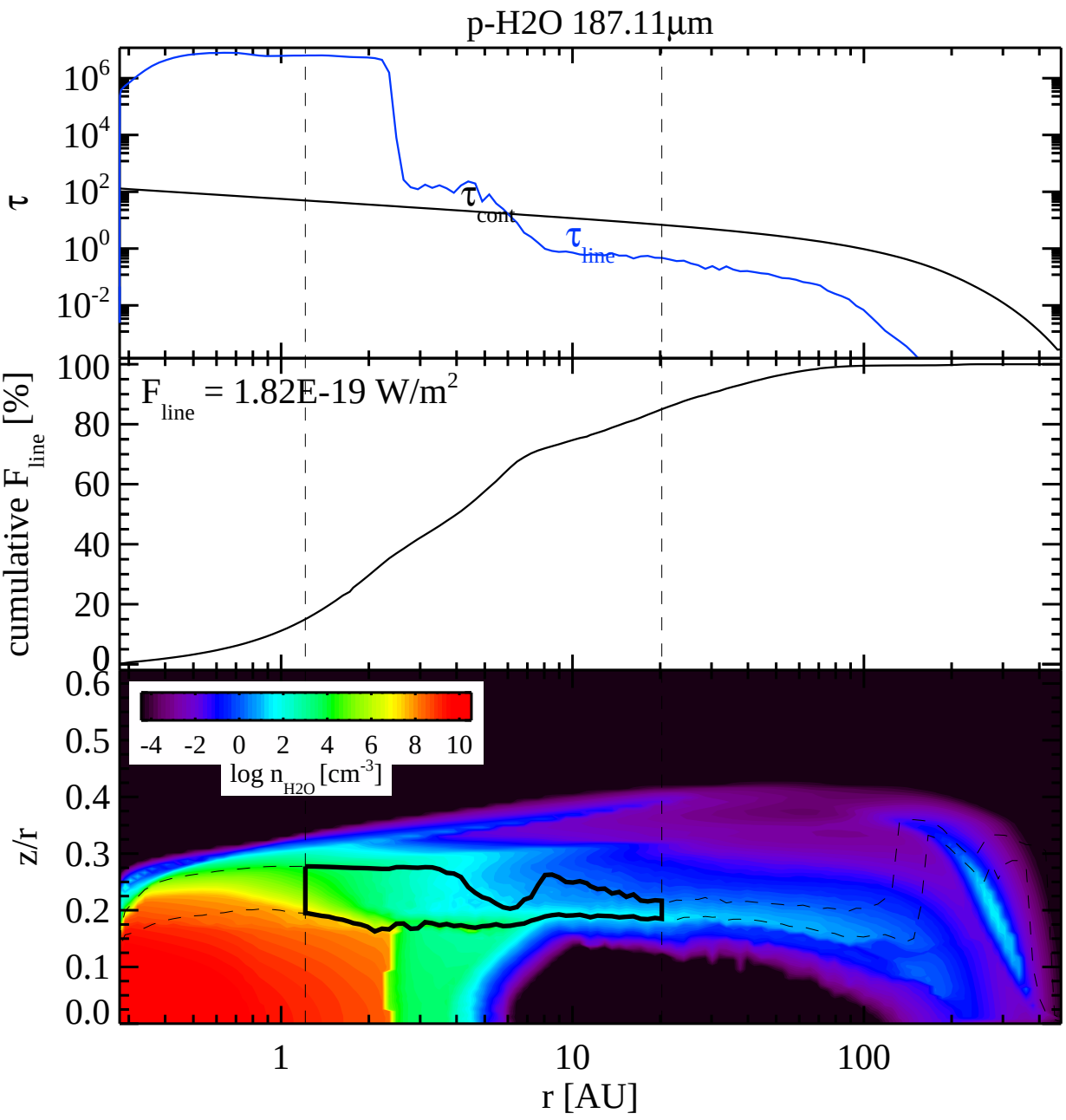

OH_H 27.39µm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 1.23E-18 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8
log n_{OH} [cm^{-3}]
1
10
100
r [AU]

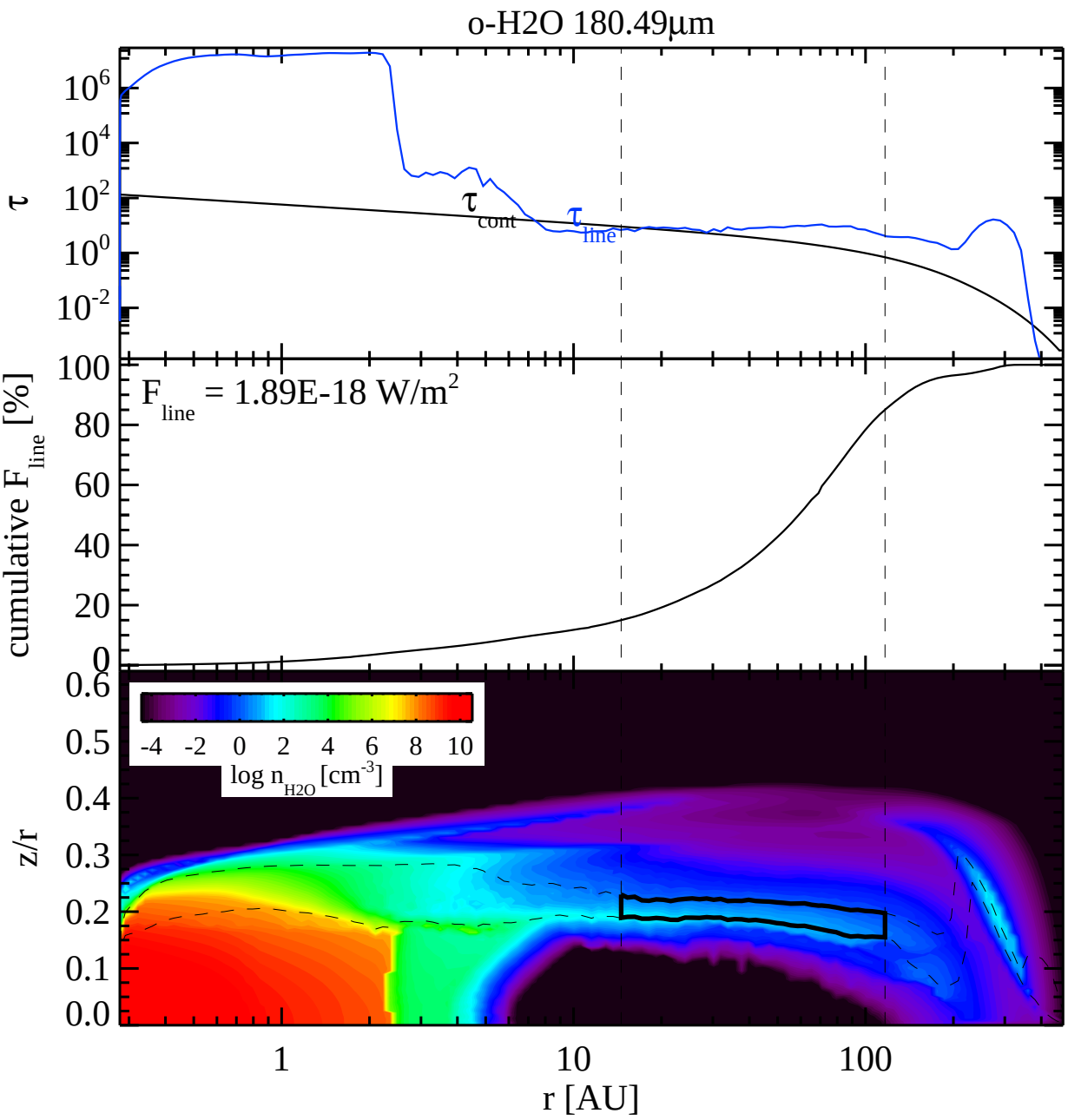

OH_H 30.28µm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 1.20E-18 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8
log n_{OH} [cm^{-3}]
1
10
100
r [AU]

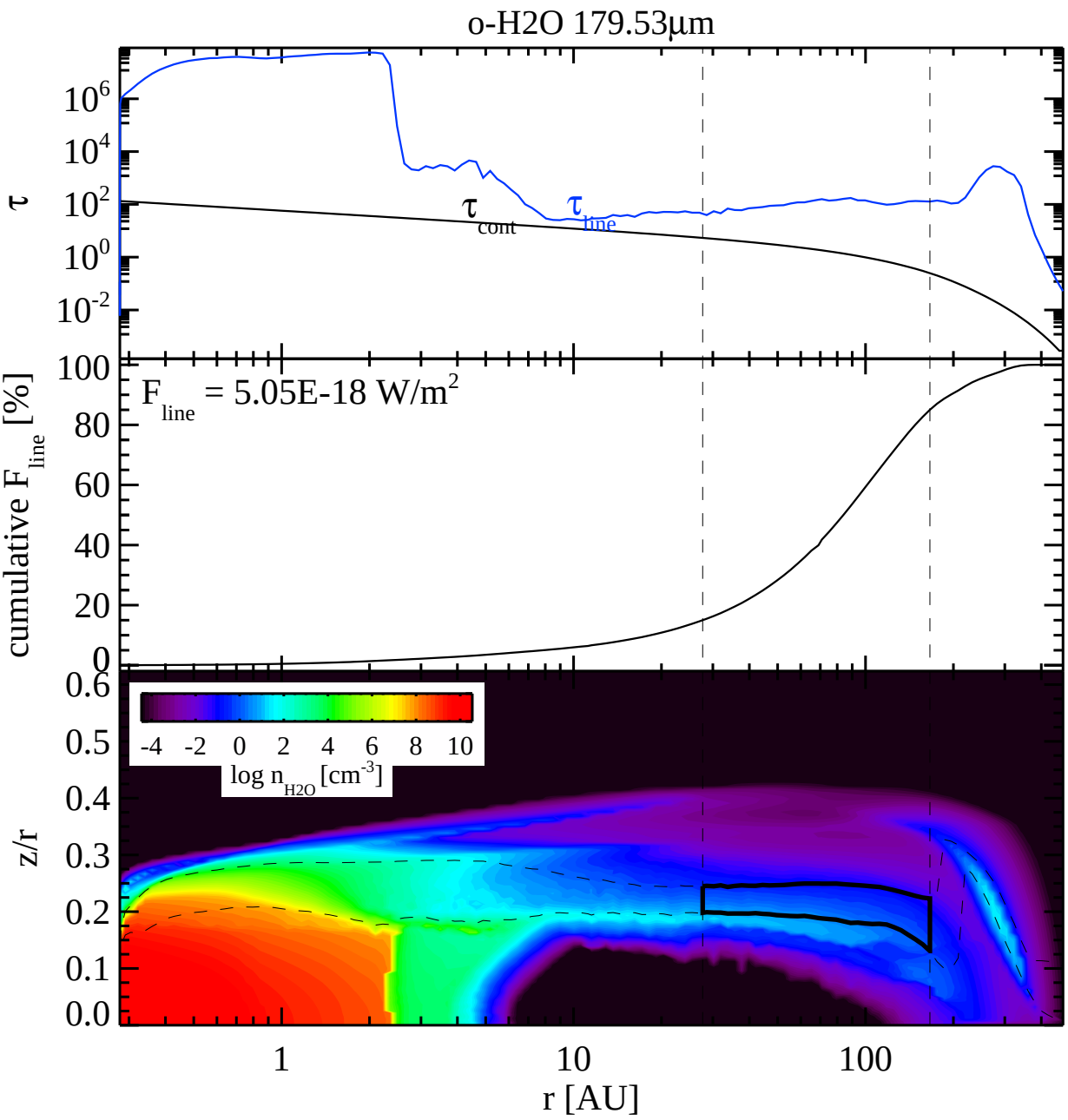

OH_H 33.88µm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 1.14E-18 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8
log n_{OH} [cm^{-3}]
1
10
100
r [AU]

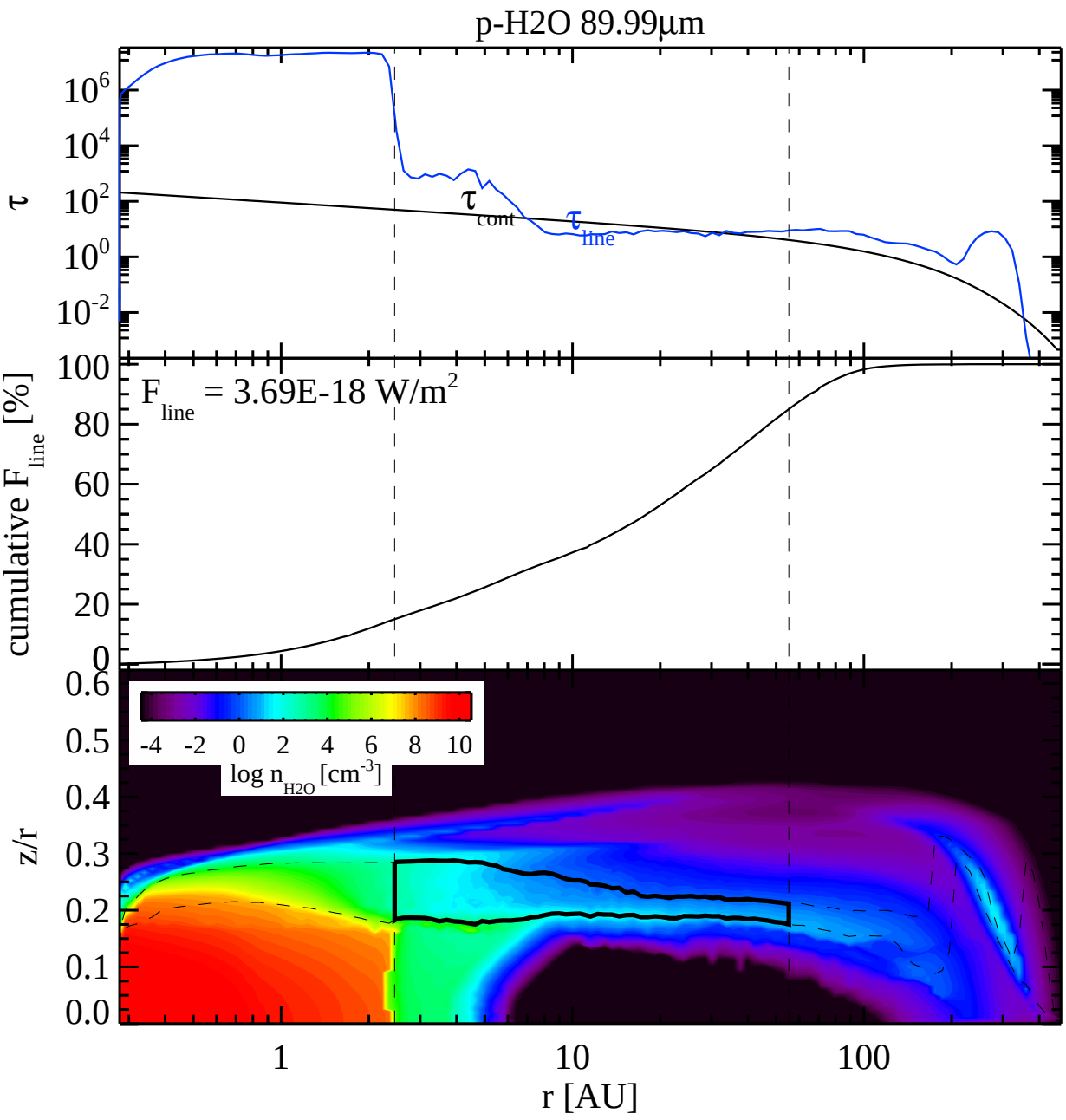

o-H2O 538.29µm
τ
10^6
10^4
10^2
10^0
10^{-2}
10^{-4}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 6.73E-19 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{H2O} [cm^{-3}]
1
10
100
r [AU]

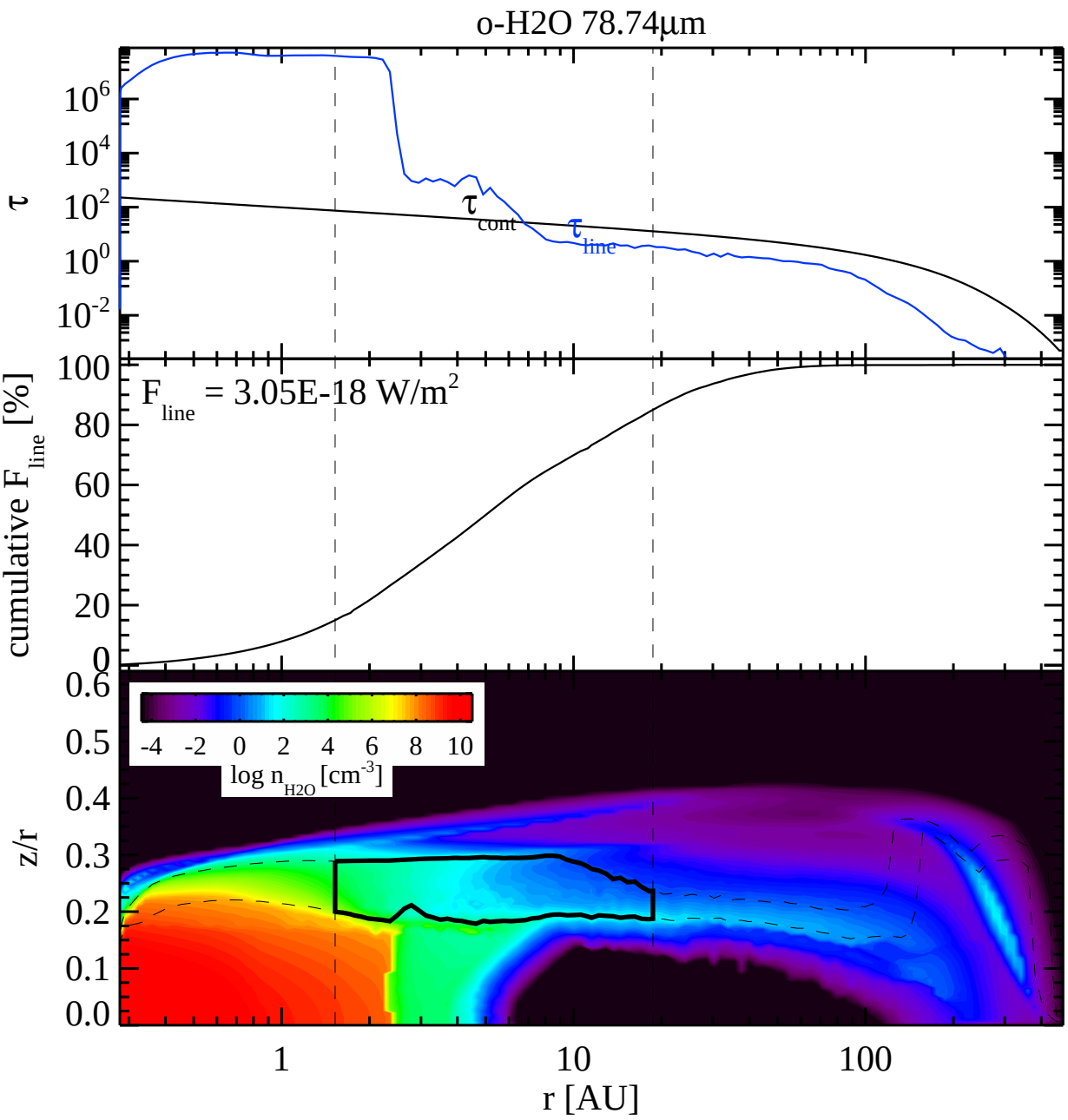

p-H2O 269.27µm
τ
10^6
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
F_{line} = 2.90E-18 W/m^2
100
80
60
40
20
0
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{H2O} [cm^{-3}]
1
10
100
r [AU]

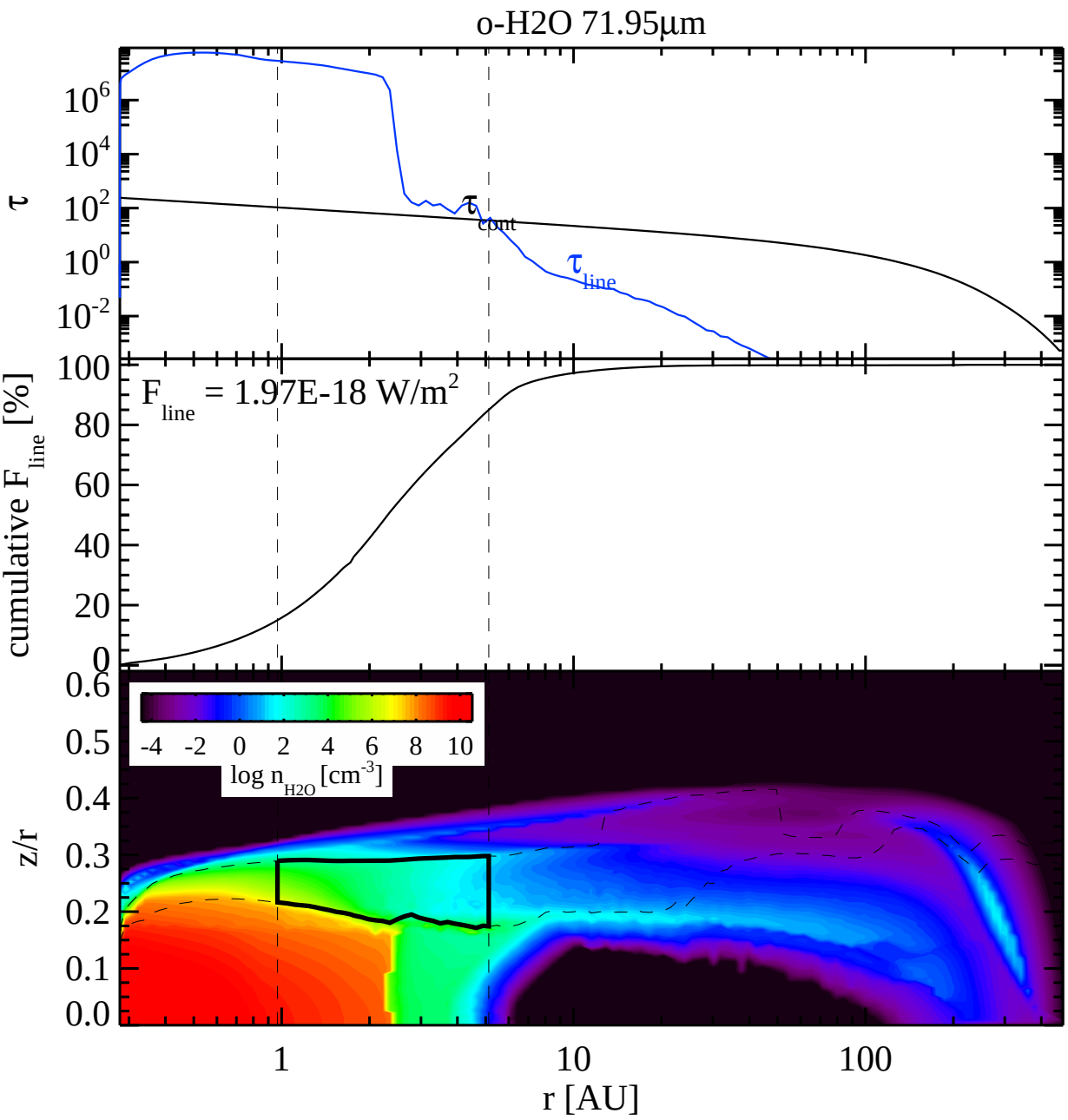

p-H2O 187.11µm
τ
10^6
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
F_{line} = 1.82E-19 W/m^2
100
80
60
40
20
0
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{H2O} [cm^{-3}]
1
10
100
r [AU]

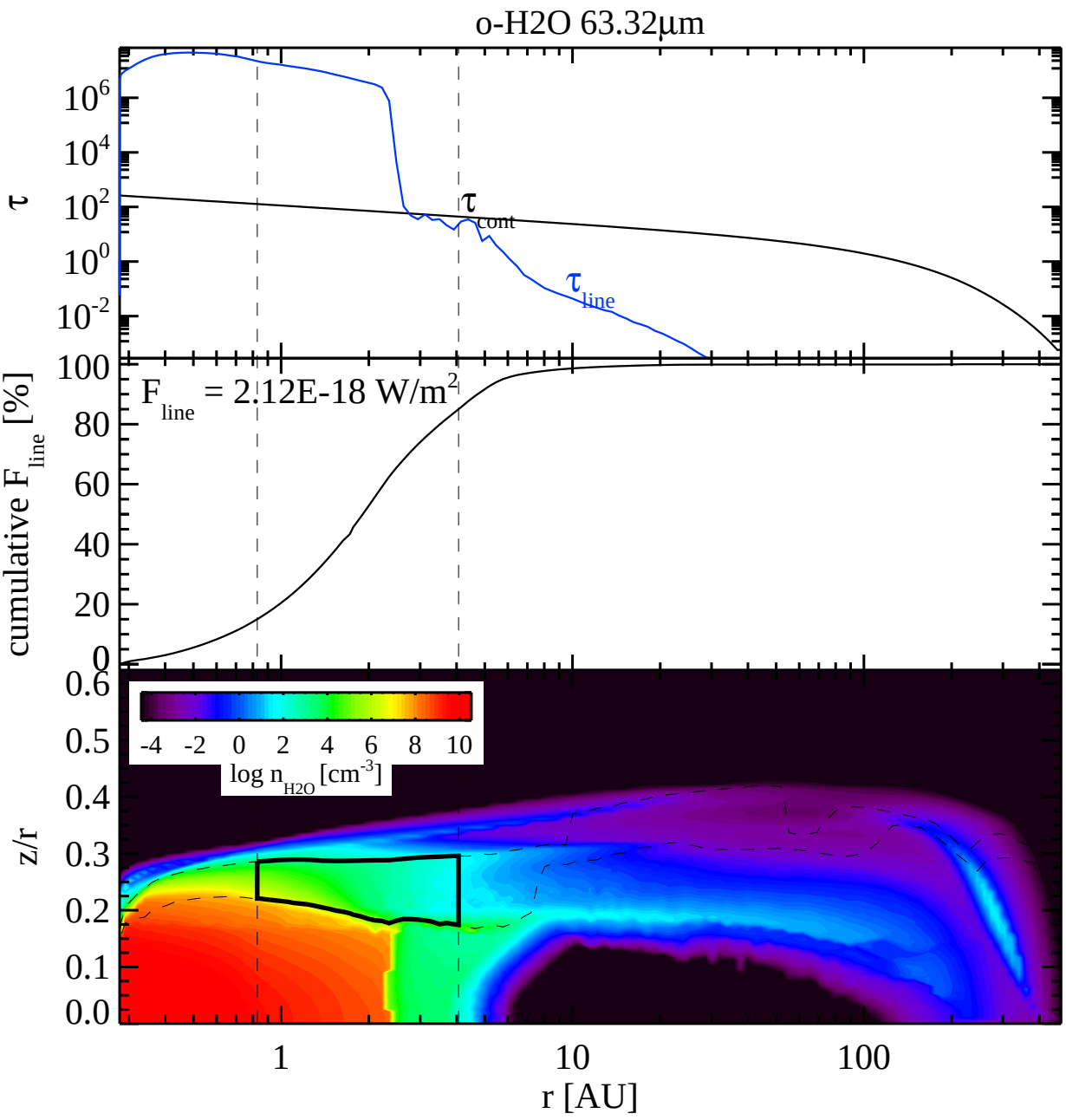

o-H2O 180.49µm
τ
10^6
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
F_{line} = 1.89E-18 W/m^2
100
80
60
40
20
0
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{H2O} [cm^{-3}]
1
10
100
r [AU]

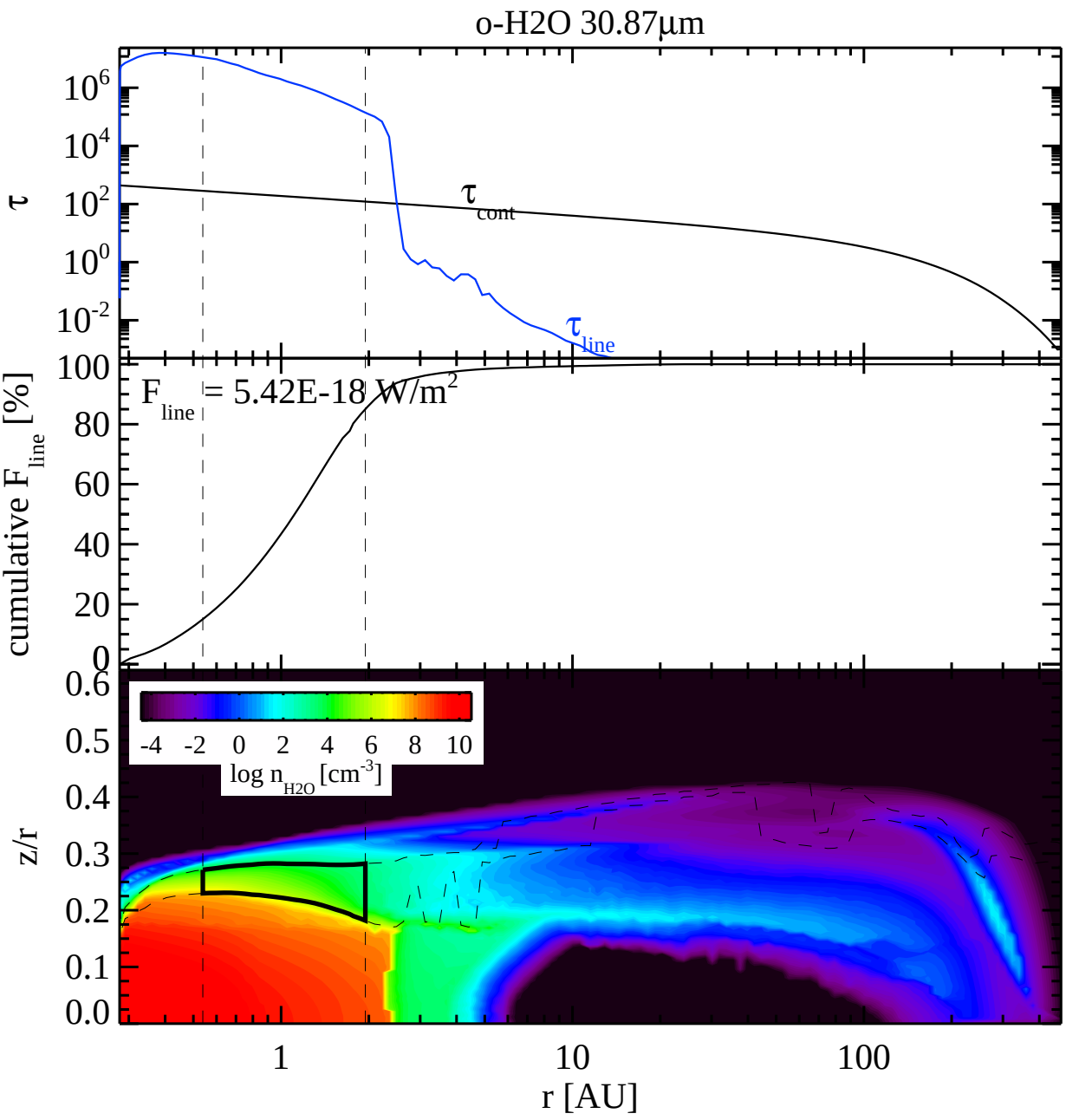

o-H2O 179.53µm
τ
10^6
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 5.05E-18 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{H2O} [cm^{-3}]
1
10
100
r [AU]

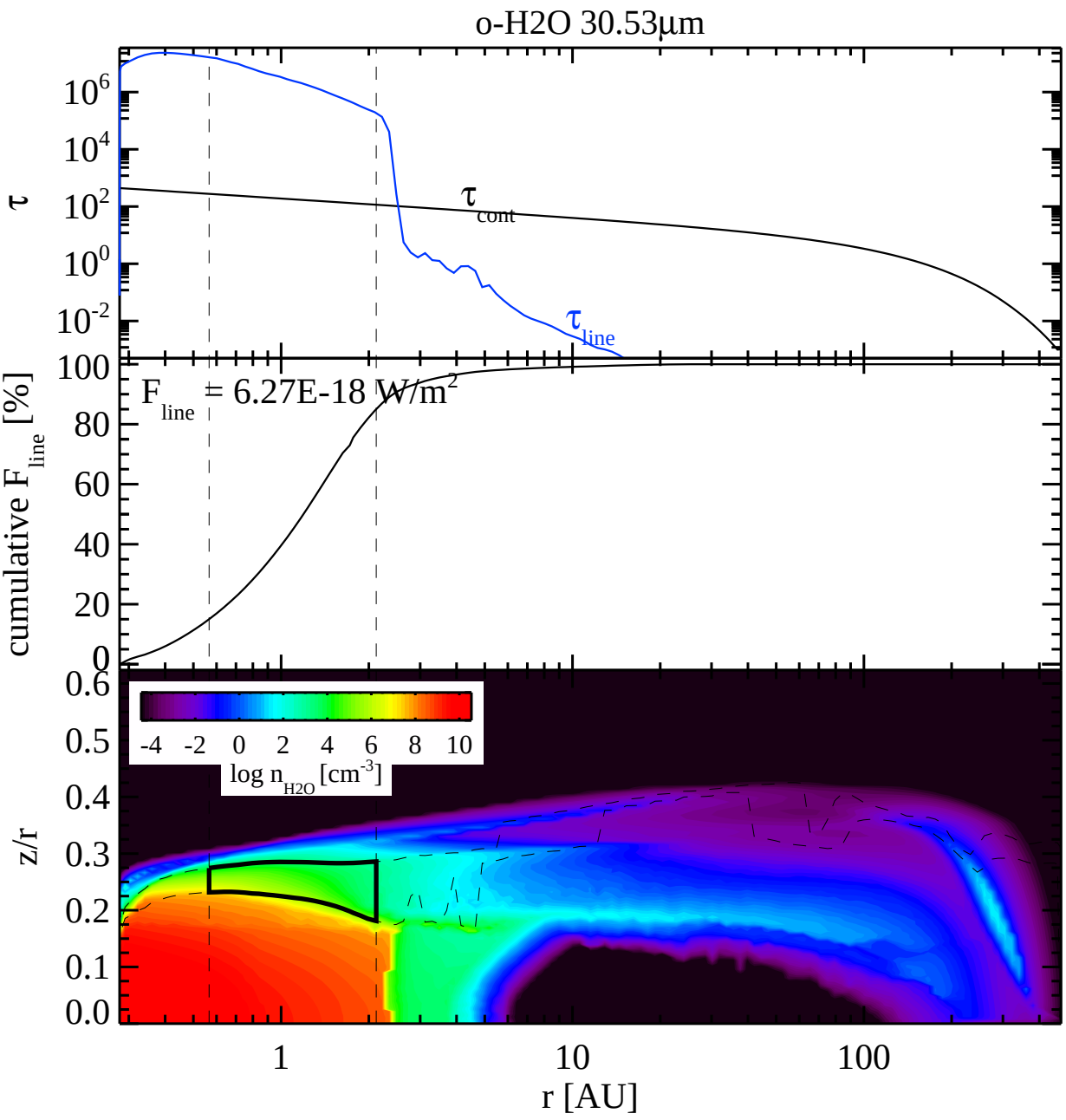

p-H2O 89.99µm
τ
10^6
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
F_{line} = 3.69E-18 W/m^2
100
80
60
40
20
0
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{H2O} [cm^{-3}]
1
10
100
r [AU]

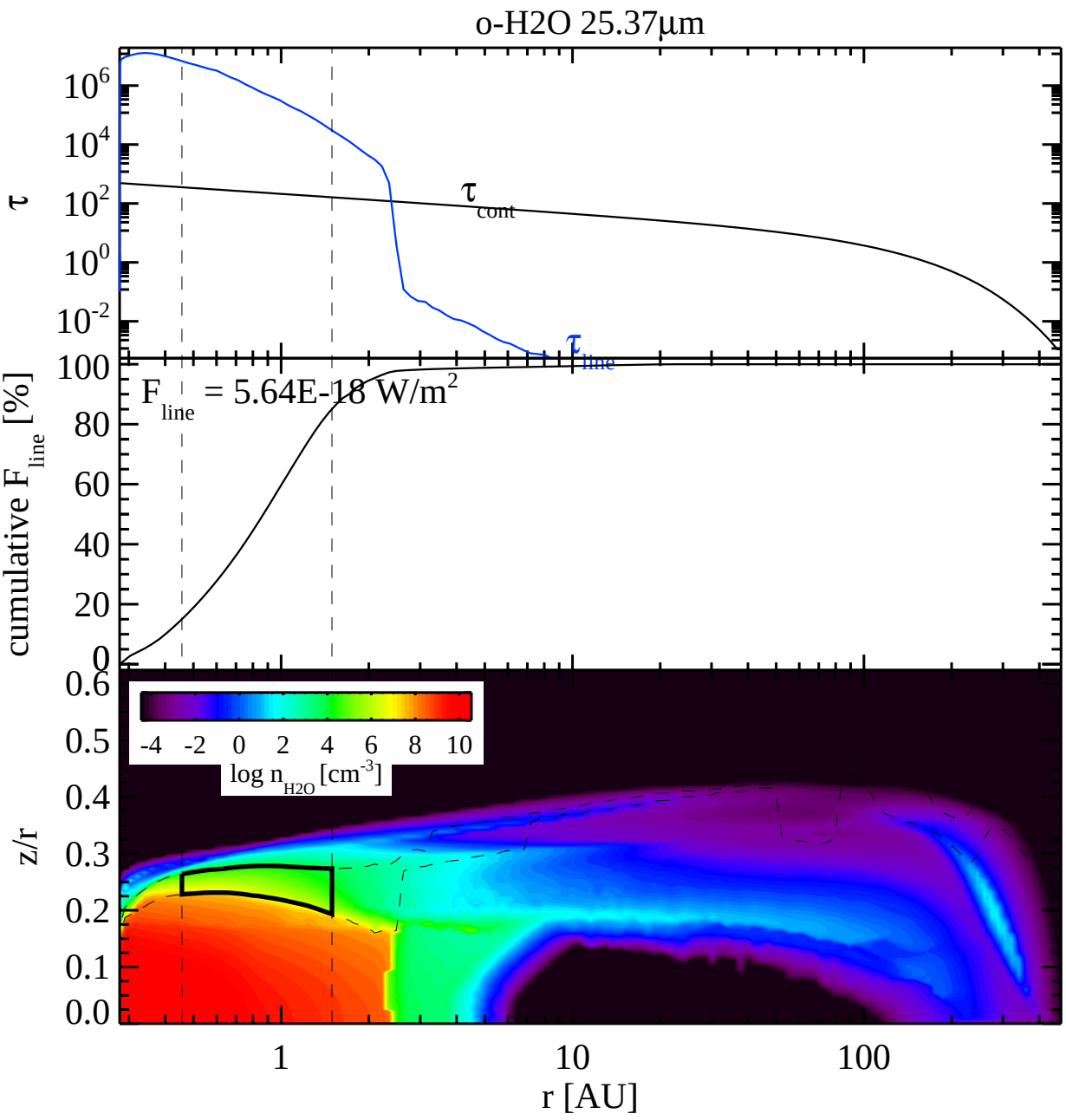

o-H2O 78.74µm
τ
10^6
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 3.05E-18 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{H2O} [cm^{-3}]
1
10
100
r [AU]

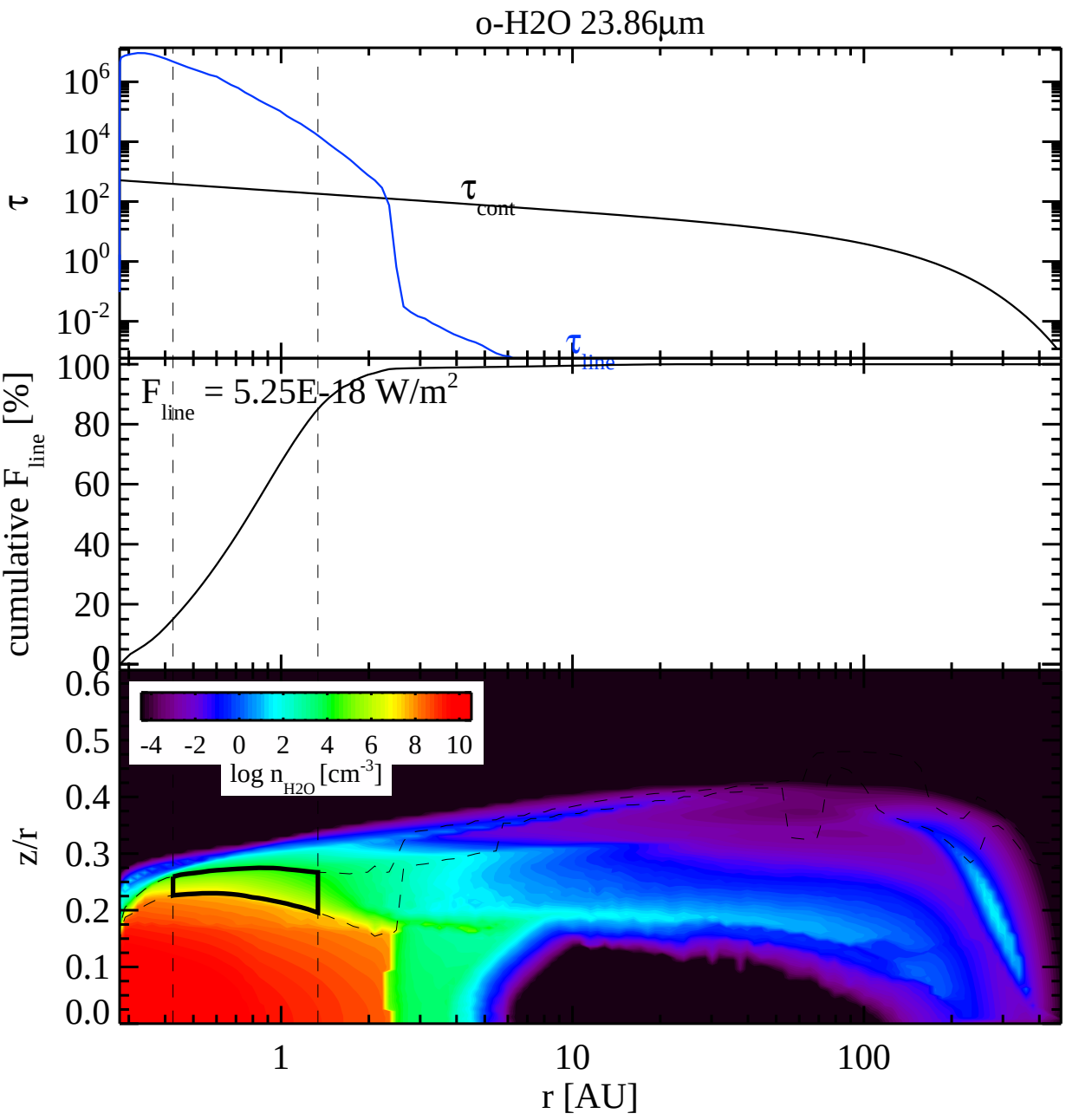

o-H2O 71.95µm
τ
10^6
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
F_{line} = 1.97E-18 W/m^2
100
80
60
40
20
0
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{H2O} [cm^{-3}]
1
10
100
r [AU]

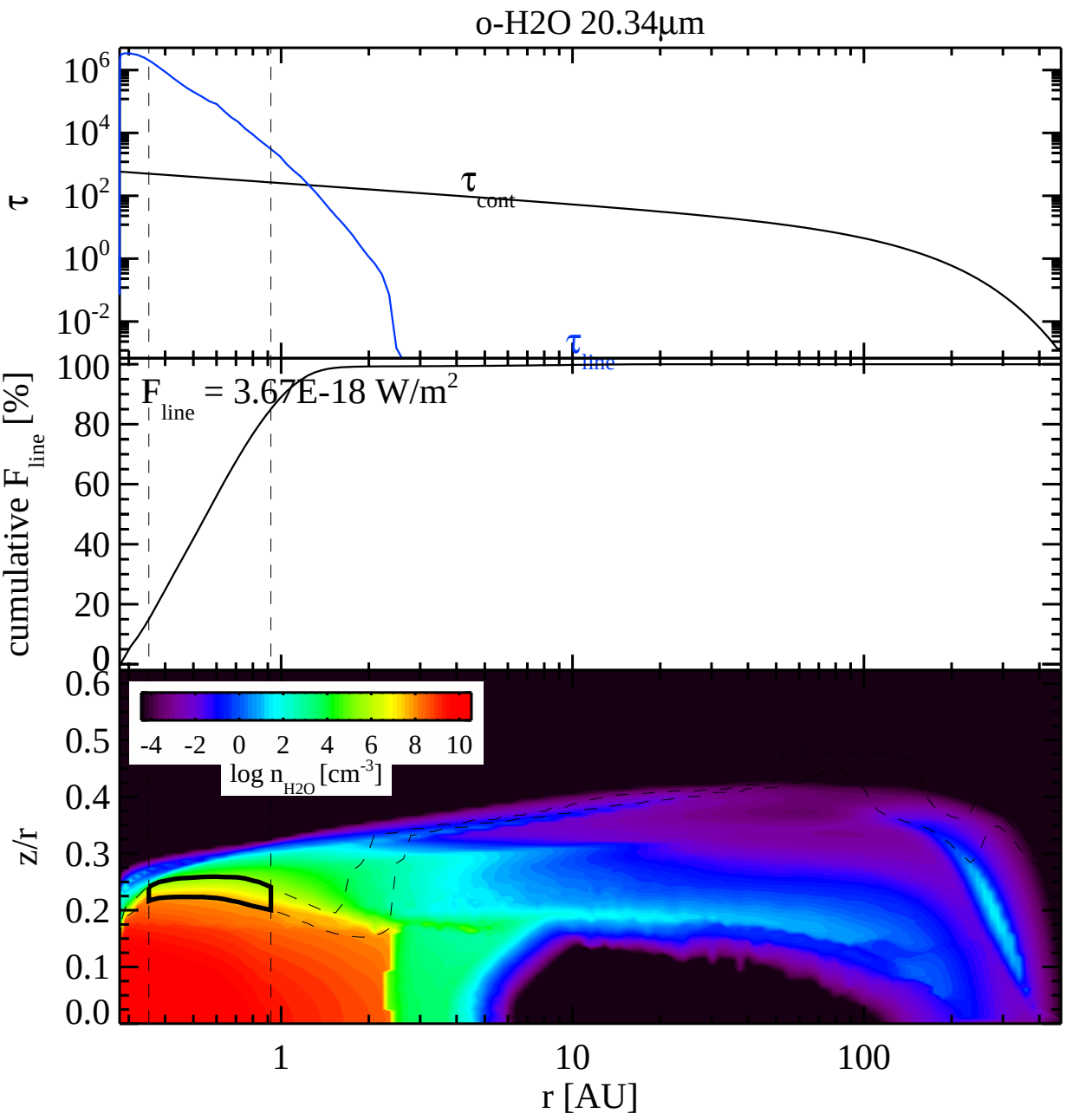

o-H2O 63.32µm
τ
10^6
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
F_{line} = 2.12E-18 W/m^2
100
80
60
40
20
0
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{H2O} [cm^{-3}]
1
10
100
r [AU]

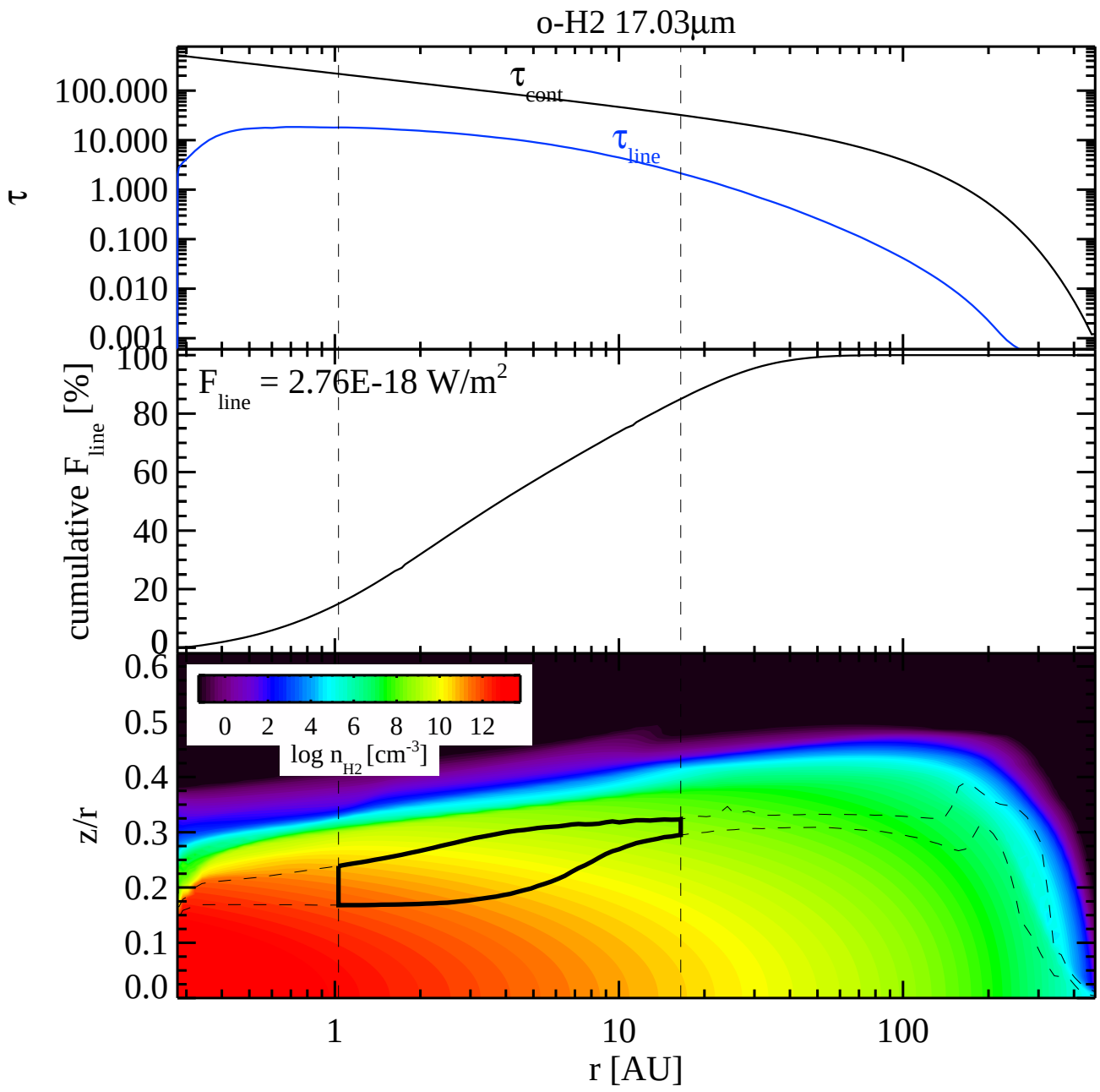

o-H2O 30.87µm
τ
10^6
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 5.42E-18 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{H2O} [cm^{-3}]
1
10
100
r [AU]

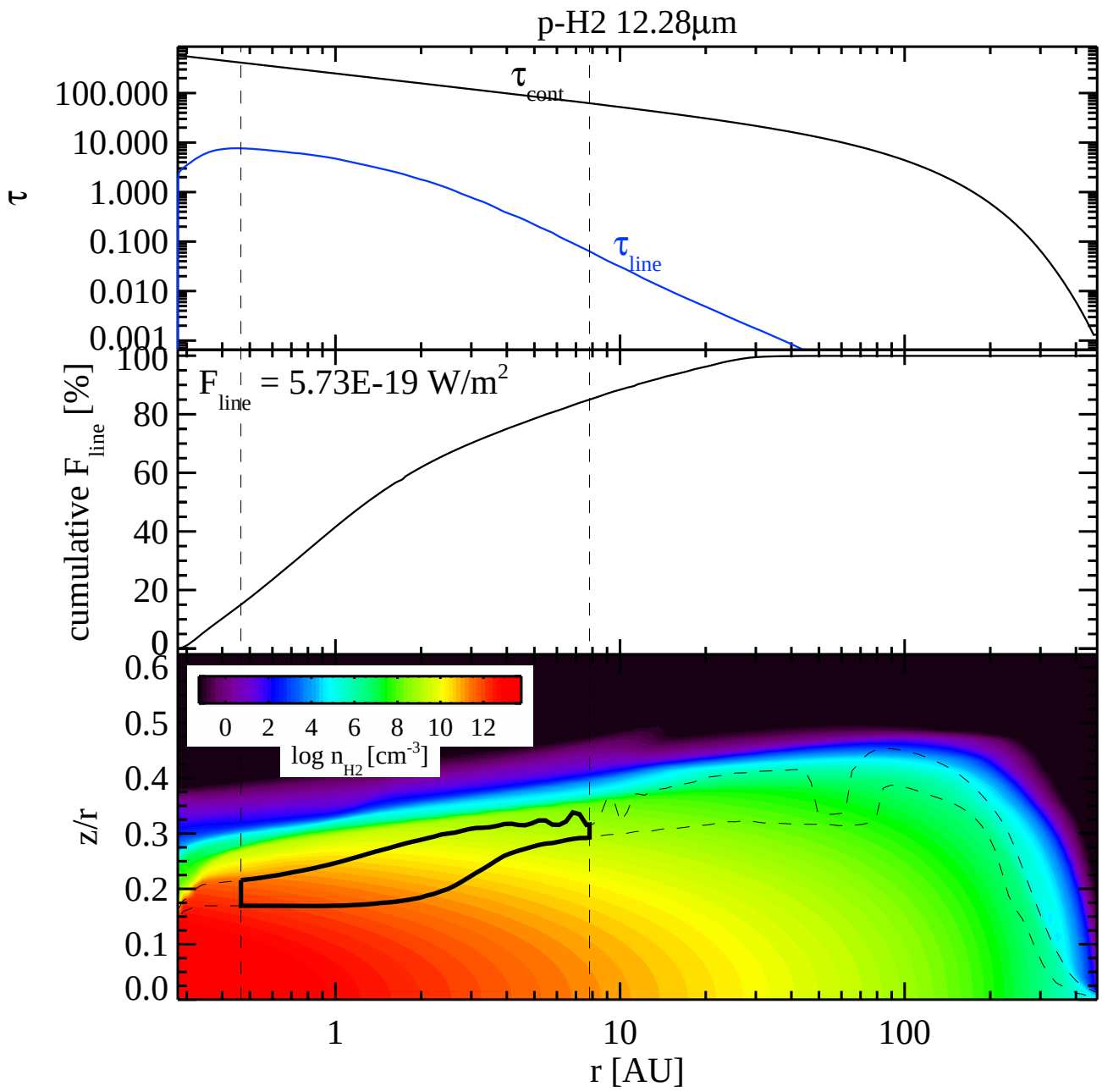

o-H2O 30.53µm
τ
10^6
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 6.27E-18 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{H2O} [cm^{-3}]
1
10
100
r [AU]

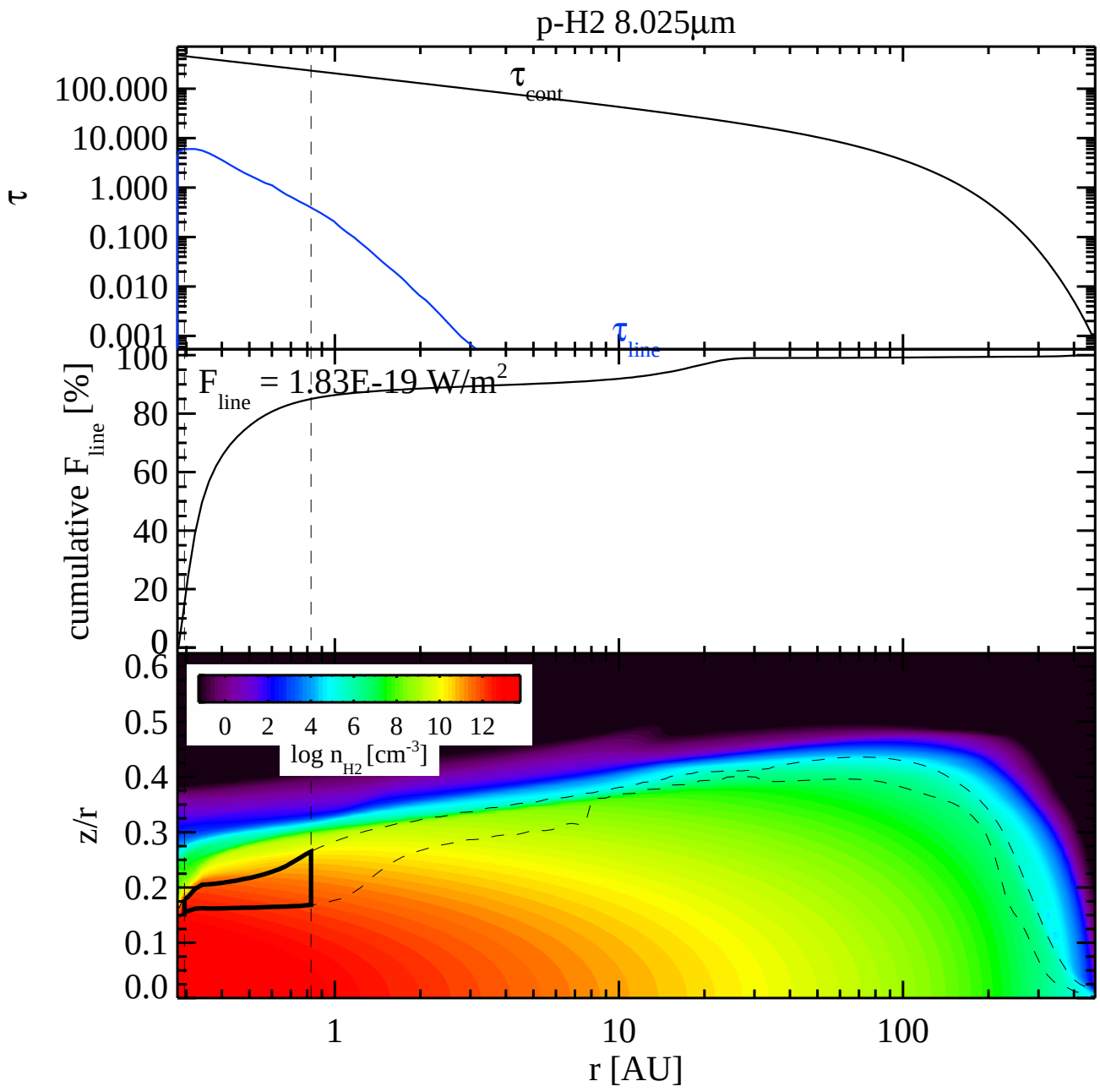

o-H2O 25.37µm
τ
10^6
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
F_{line} = 5.64E-18 W/m^2
100
80
60
40
20
0
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{H2O} [cm^{-3}]
1
10
100
r [AU]

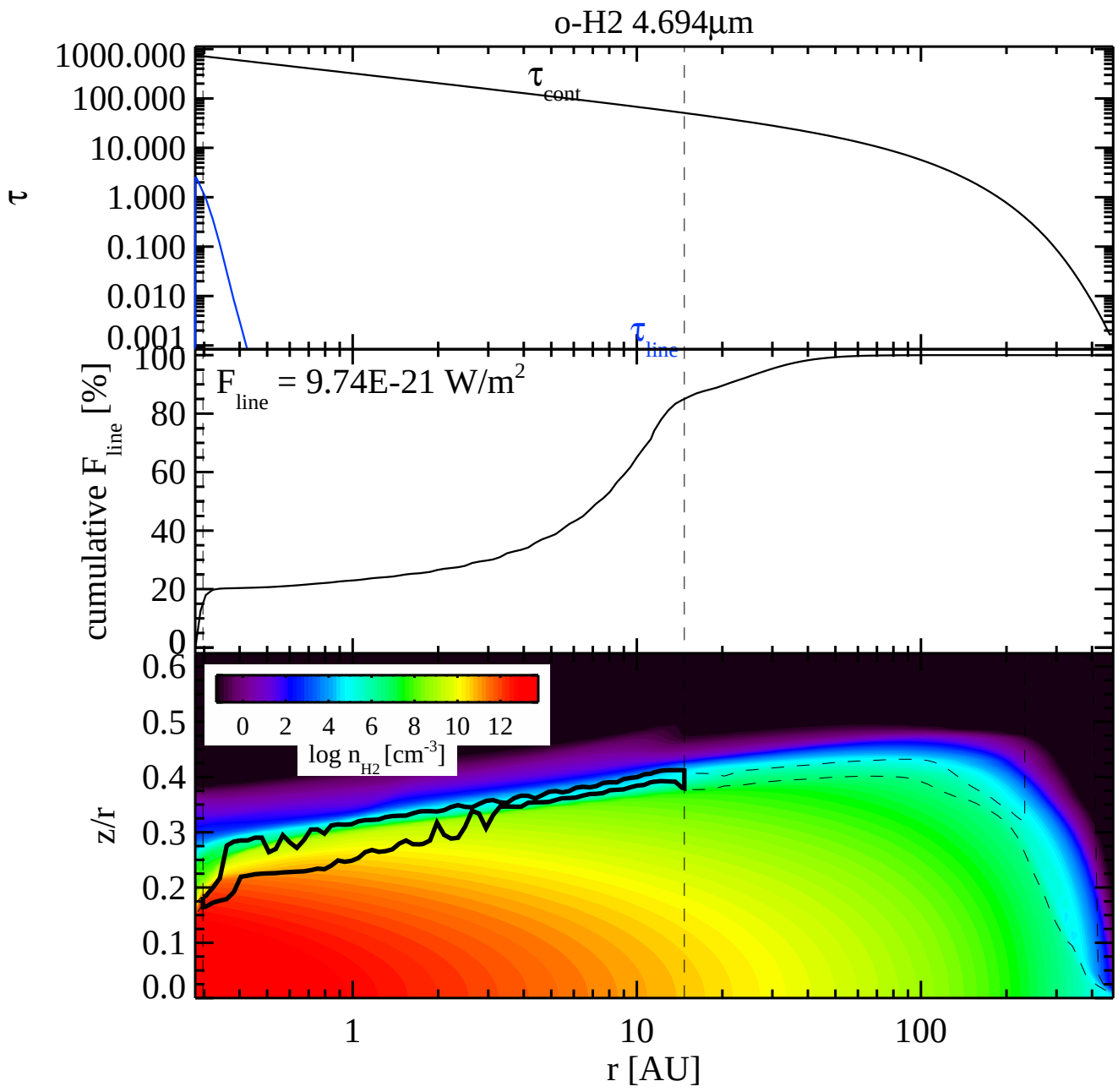

o-H2O 23.86µm
τ
10^6
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
F_{line} = 5.25E-18 W/m^2
100
80
60
40
20
0
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{H2O} [cm^{-3}]
1
10
100
r [AU]

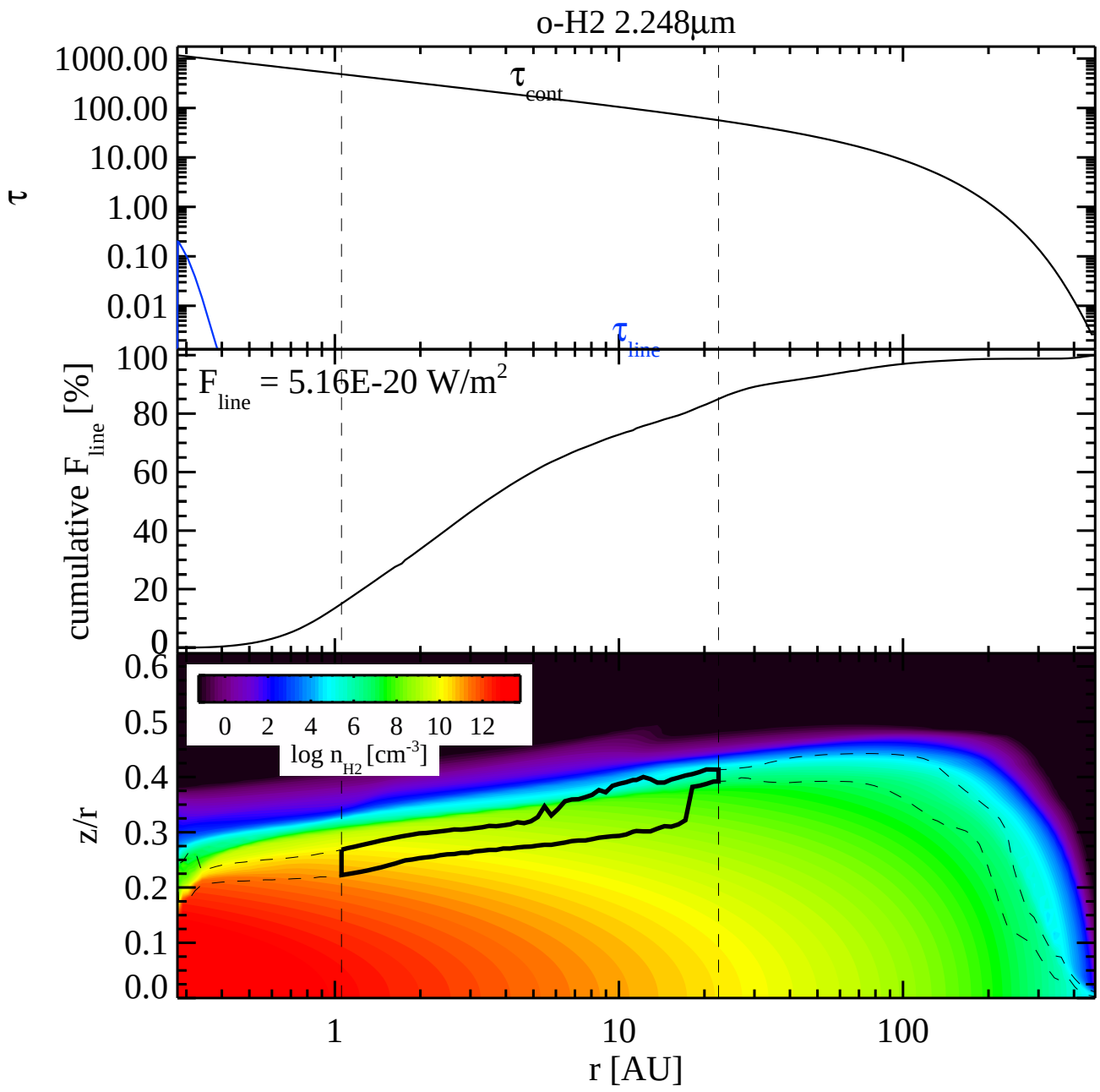

o-H2O 20.34µm
τ
10^6
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 3.67E-18 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{H2O} [cm^{-3}]
1
10
100
r [AU]

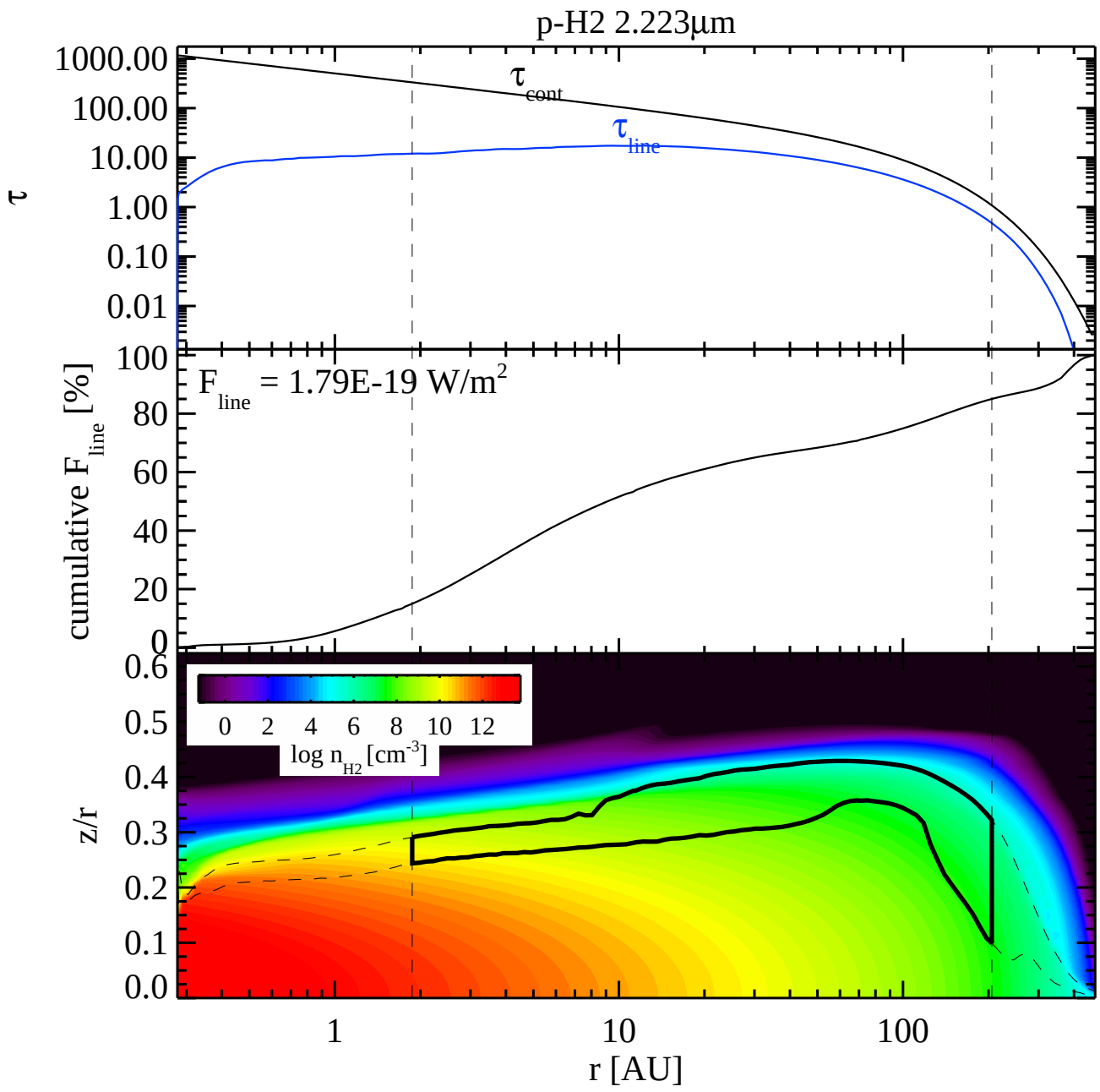

o-H2 17.03µm
τ
100.000
10.000
1.000
0.100
0.010
0.001
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 2.76E-18 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0 2 4 6 8 10 12
log n H2 [cm-3]
1
10
100
r [AU]

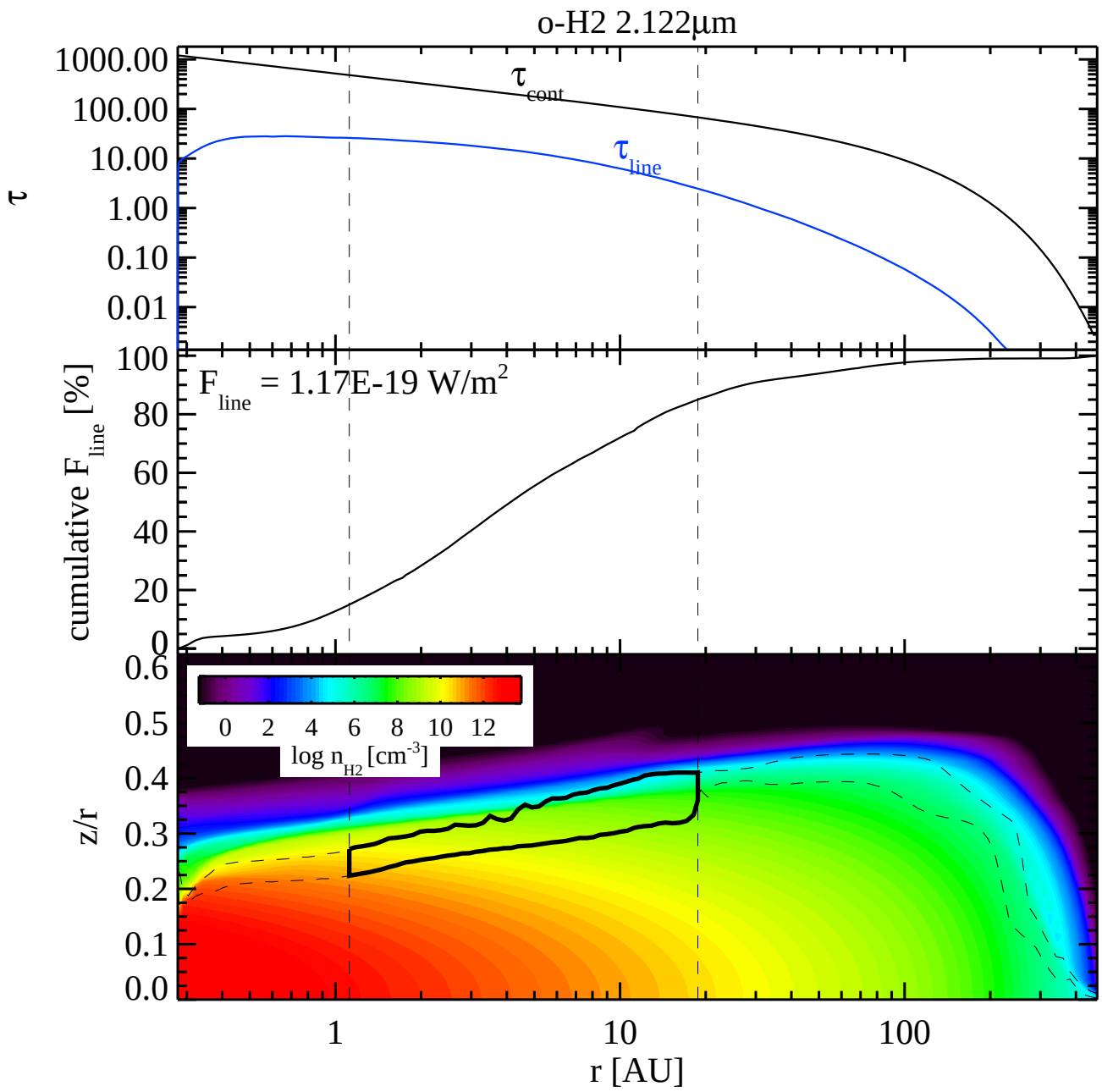

p-H2 12.28µm
τ
100.000
10.000
1.000
0.100
0.010
0.001
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 5.73E-19 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0 2 4 6 8 10 12
log n H2 [cm-3]
1
10
100
r [AU]

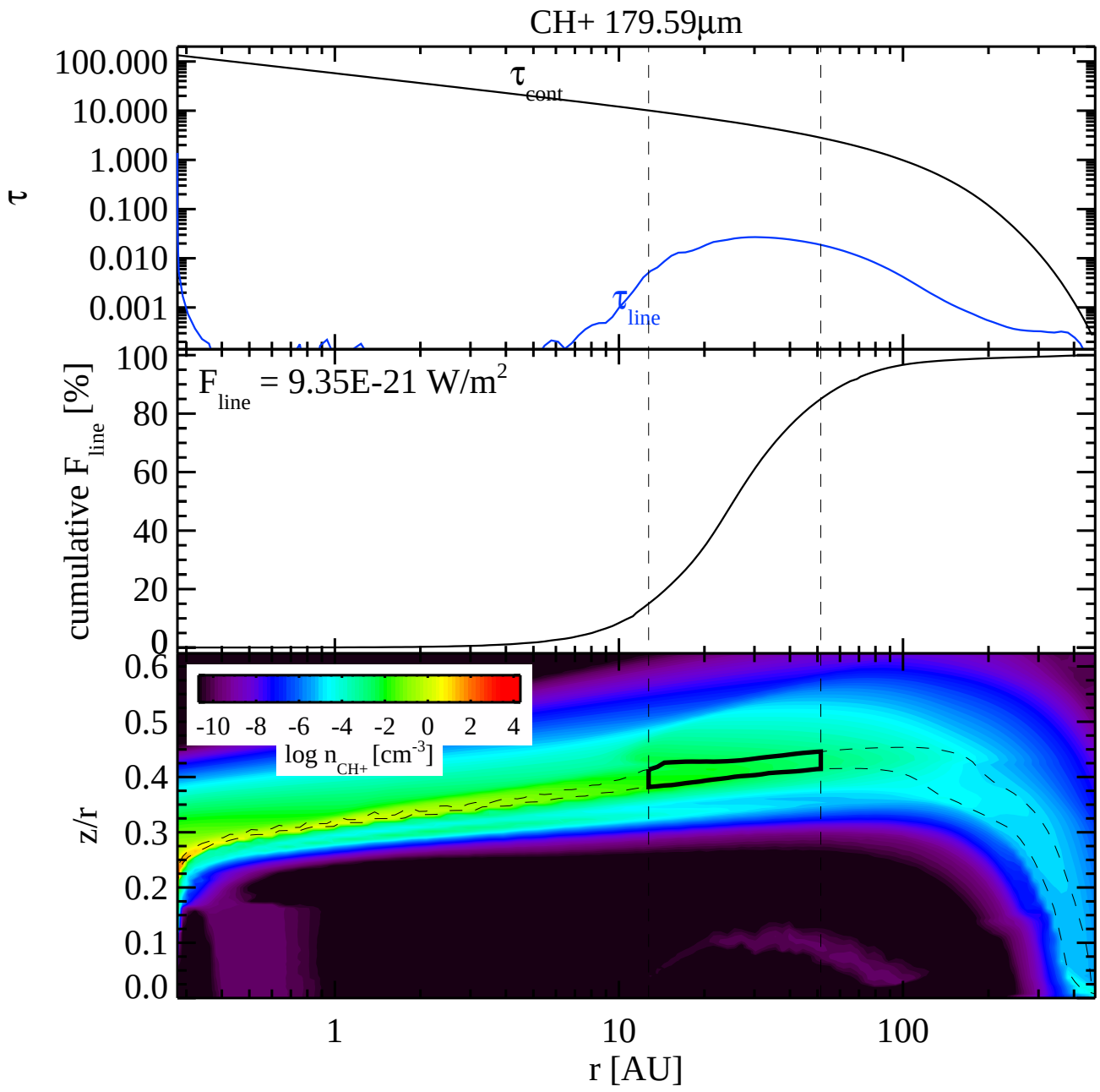

p-H2 8.025µm
τ
100.000
10.000
1.000
0.100
0.010
0.001
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 1.83E-19 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0 2 4 6 8 10 12
log n H2 [cm-3]
1
10
100
r [AU]

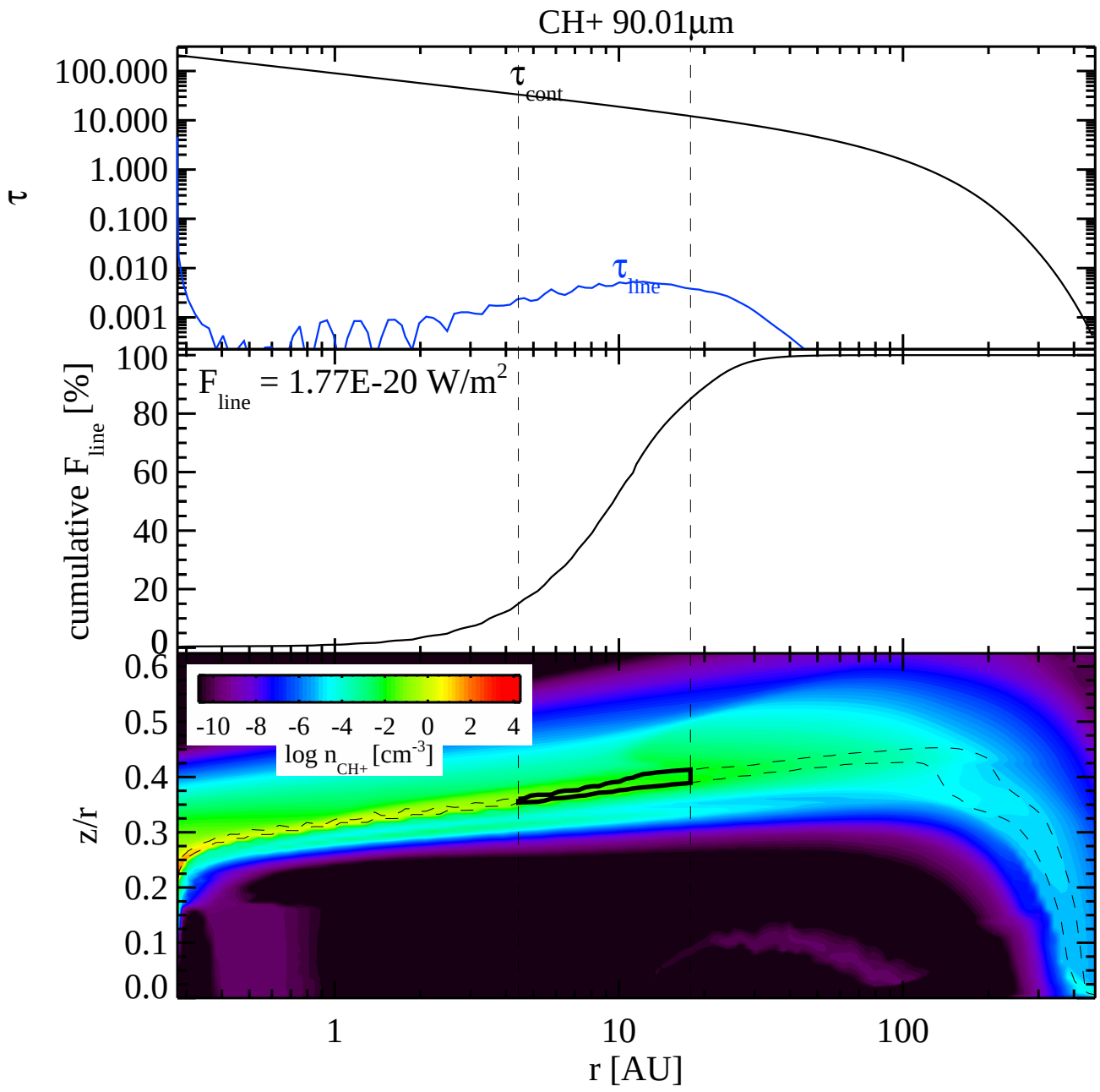

o-H2 4.694µm
τ
1000.000
100.000
10.000
1.000
0.100
0.010
0.001
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 9.74E-21 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0 2 4 6 8 10 12
log n H2 [cm-3]
1
10
100
r [AU]

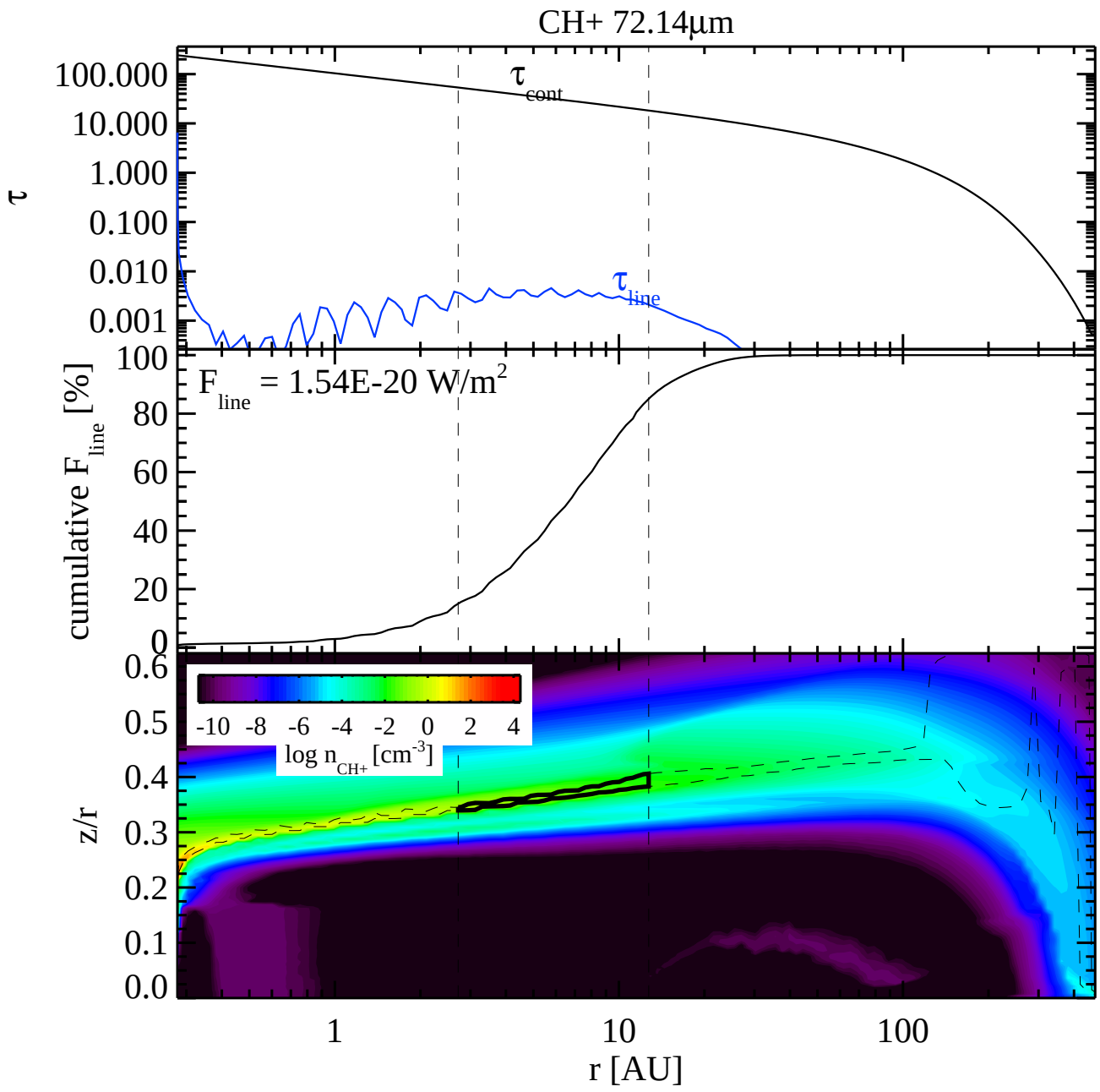

o-H2 2.248µm
τ
1000.00
100.00
10.00
1.00
0.10
0.01
τ cont
τ line
cumulative F line [%]
F line = 5.16E-20 W/m2
100
80
60
40
20
0
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0 2 4 6 8 10 12
log n H2 [cm-3]
1
10
100
r [AU]

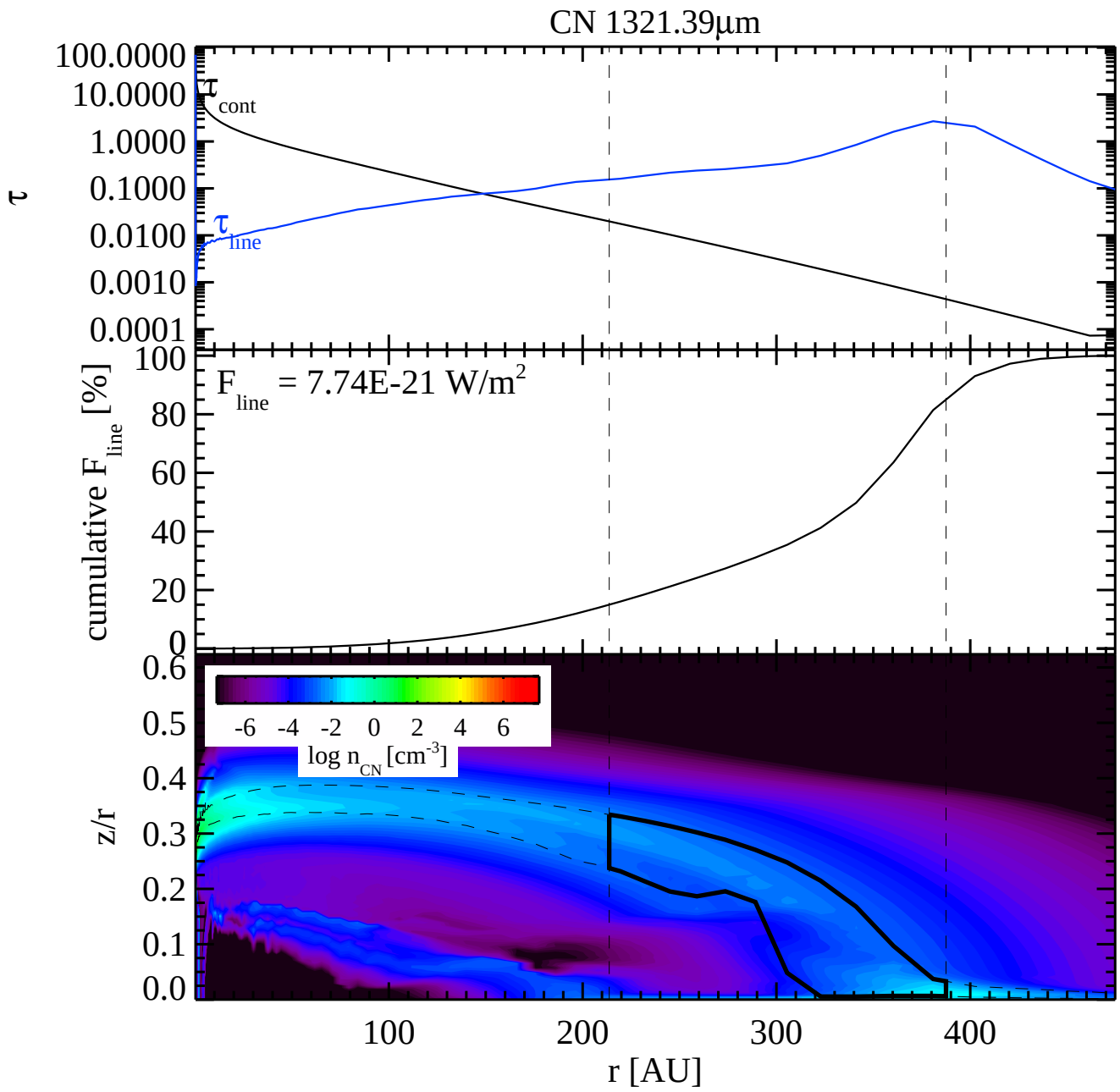

p-H2 2.223µm
τ
1000.00
100.00
10.00
1.00
0.10
0.01
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 1.79E-19 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0 2 4 6 8 10 12
log n H2 [cm-3]
1
10
100
r [AU]

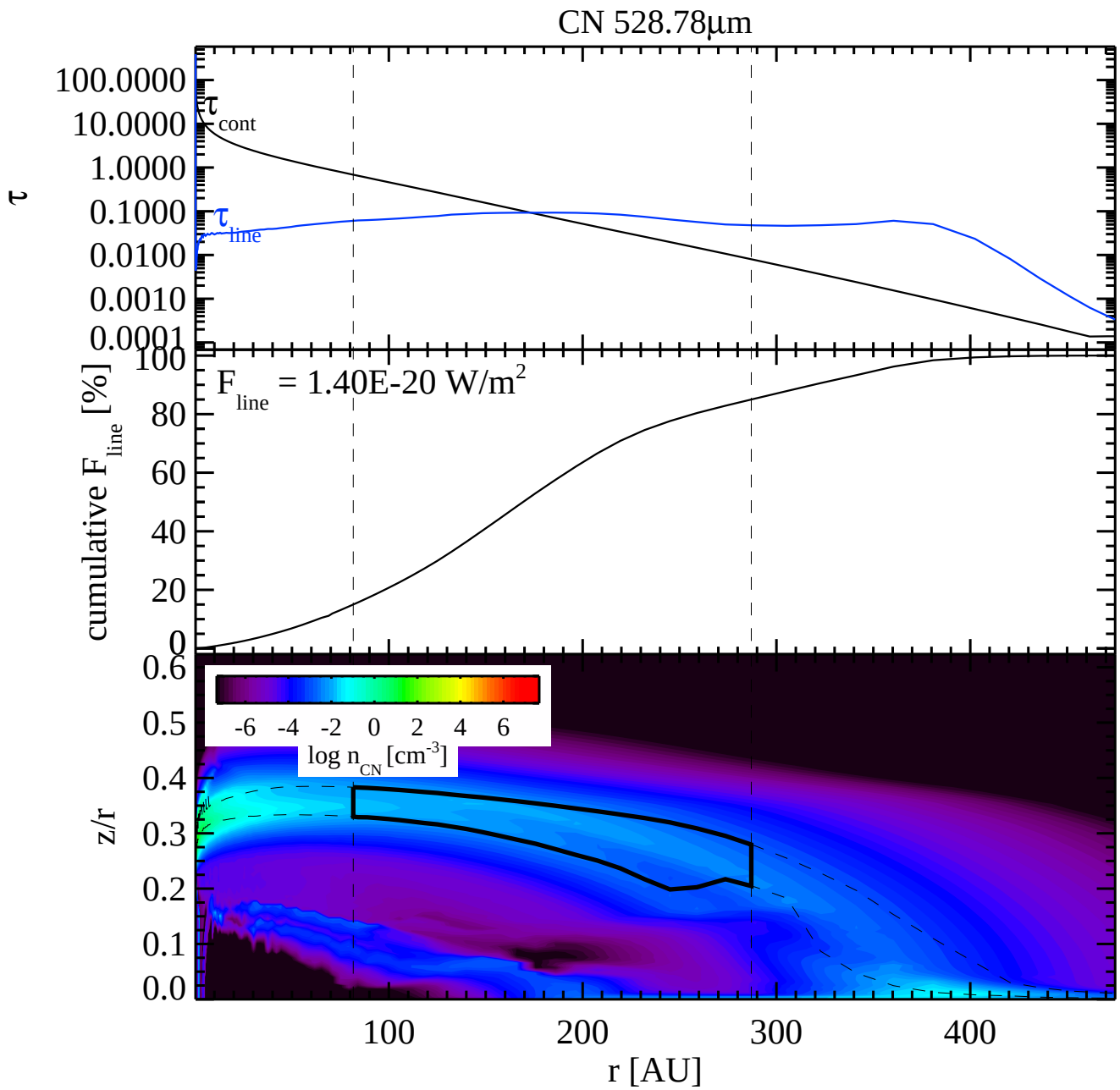

o-H2 2.122µm
τ
1000.00
100.00
10.00
1.00
0.10
0.01
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 1.17E-19 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0 2 4 6 8 10 12
log n H2 [cm-3]
1
10
100
r [AU]

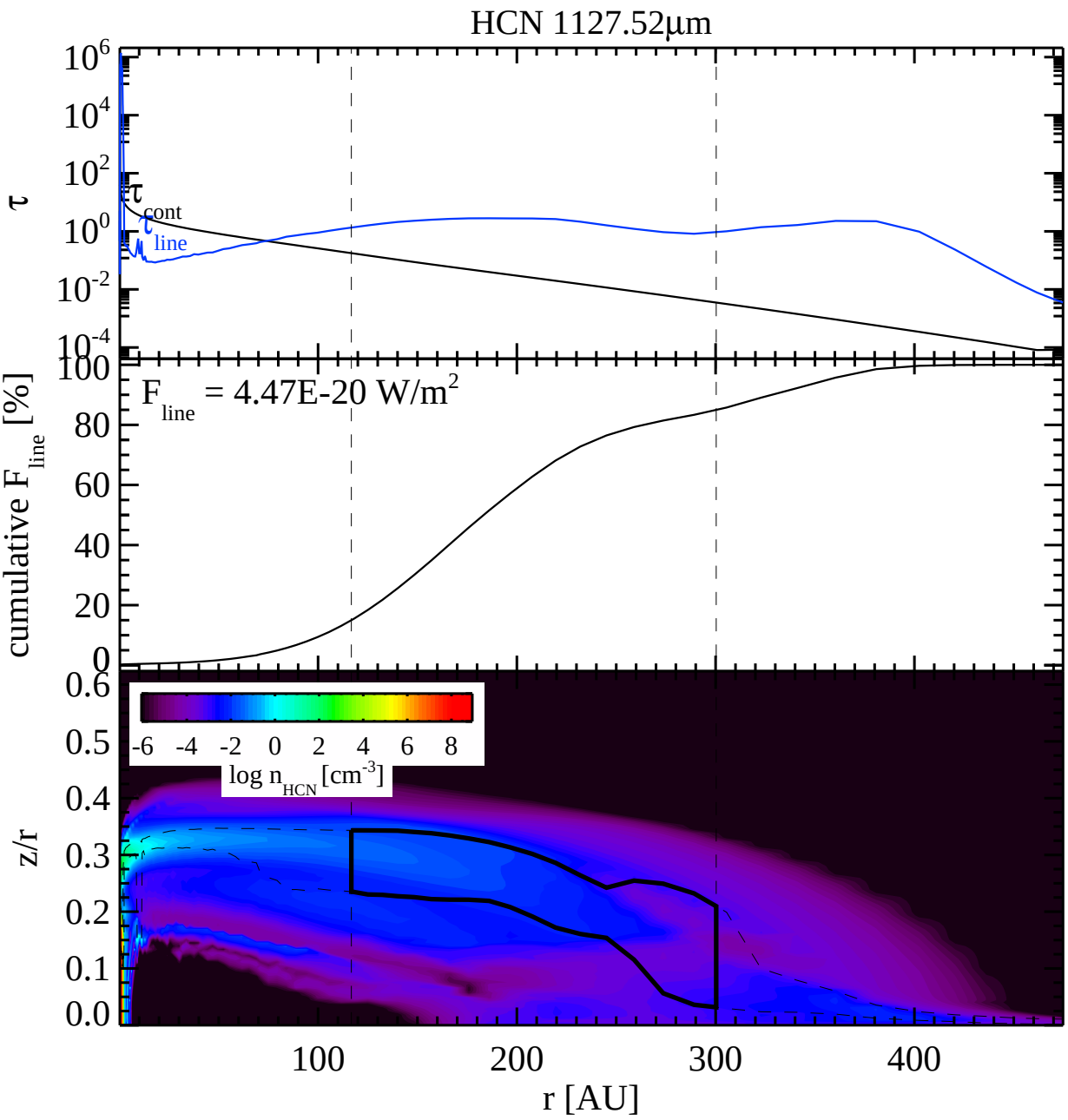

CH+ 179.59µm
τ
100.000
10.000
1.000
0.100
0.010
0.001
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 9.35E-21 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-10 -8 -6 -4 -2 0 2 4
log n CH+ [cm-3]
1
10
100
r [AU]

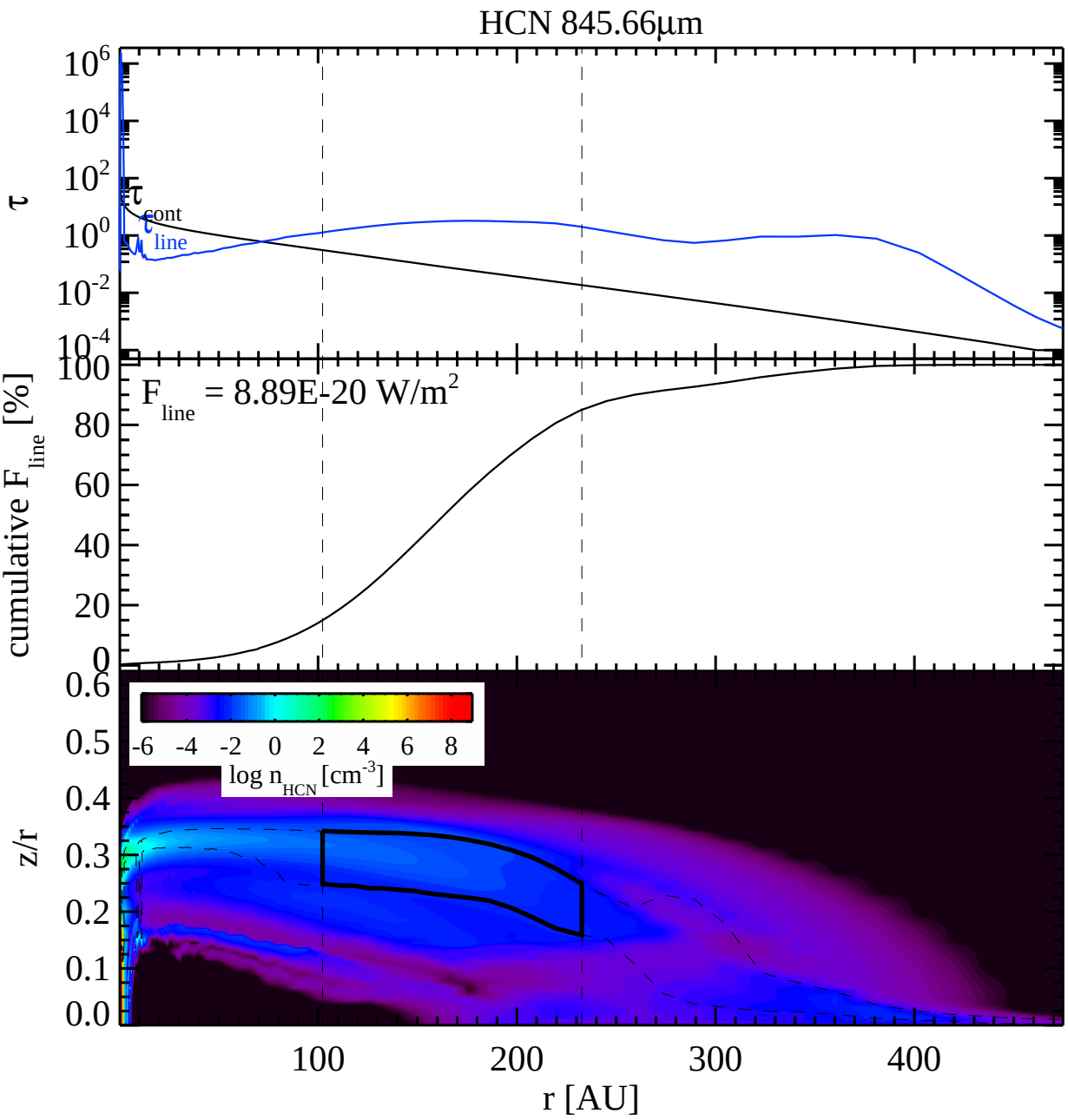

CH+ 90.01µm
τ
100.000
10.000
1.000
0.100
0.010
0.001
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 1.77E-20 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-10 -8 -6 -4 -2 0 2 4
log n CH+ [cm-3]
1
10
100
r [AU]

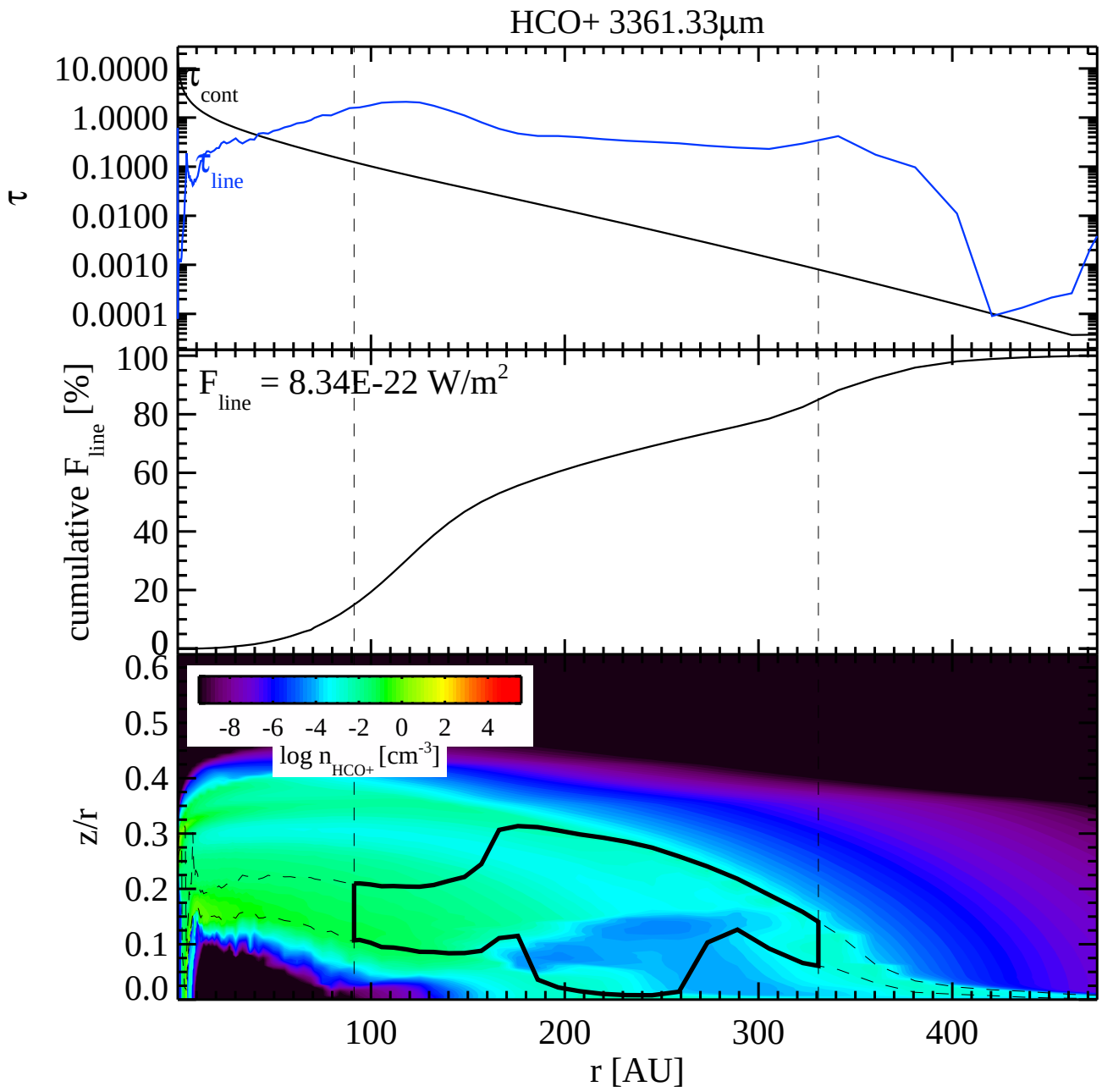

CH+ 72.14µm
τ
100.000
10.000
1.000
0.100
0.010
0.001
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 1.54E-20 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-10 -8 -6 -4 -2 0 2 4
log n CH+ [cm-3]
1
10
100
r [AU]

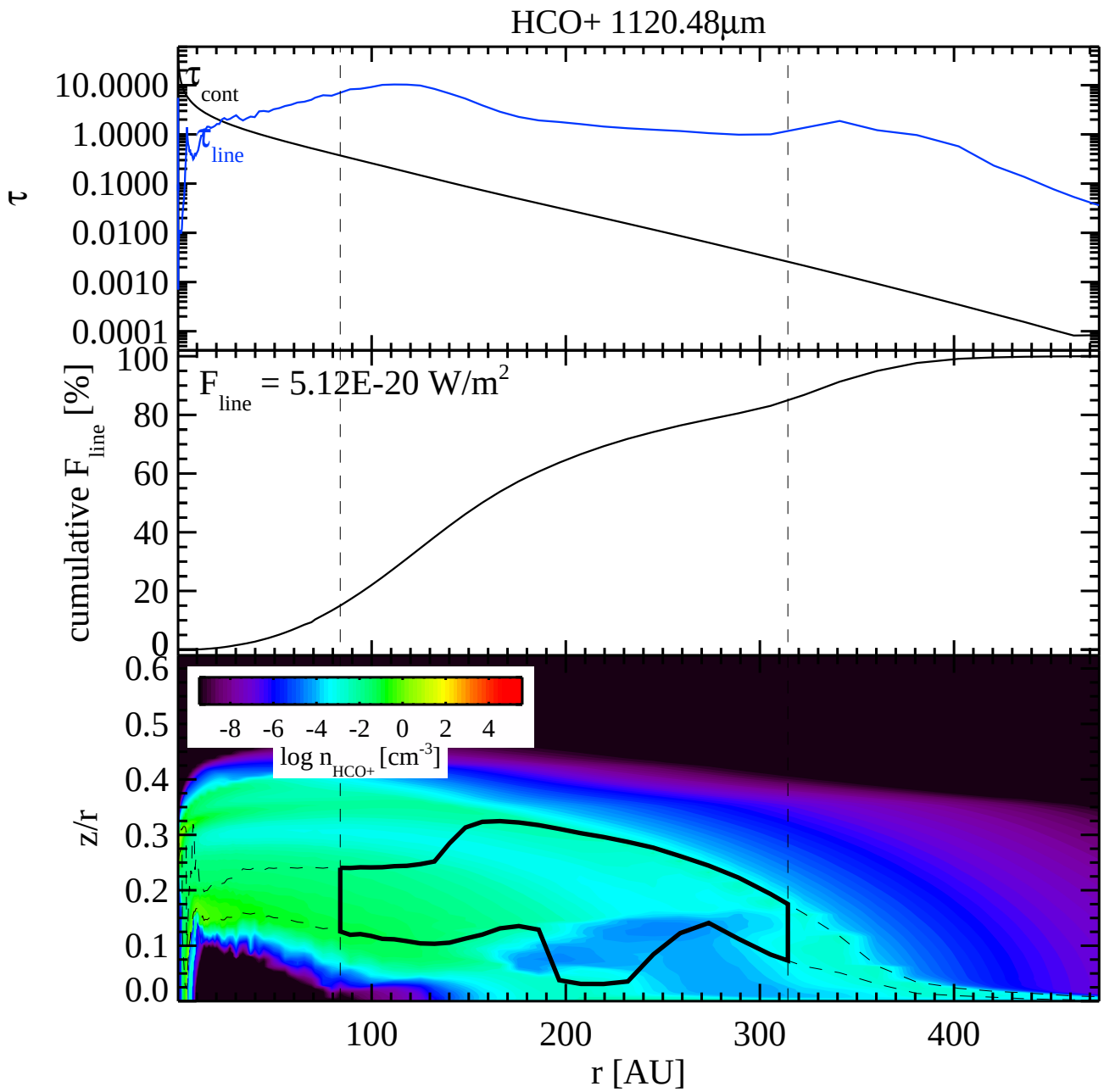

CN 1321.39µm
τ
100.0000
10.0000
1.0000
0.1000
0.0100
0.0010
0.0001
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 7.74E-21 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-6 -4 -2 0 2 4 6
log n CN [cm-3]
100
200
300
400
r [AU]

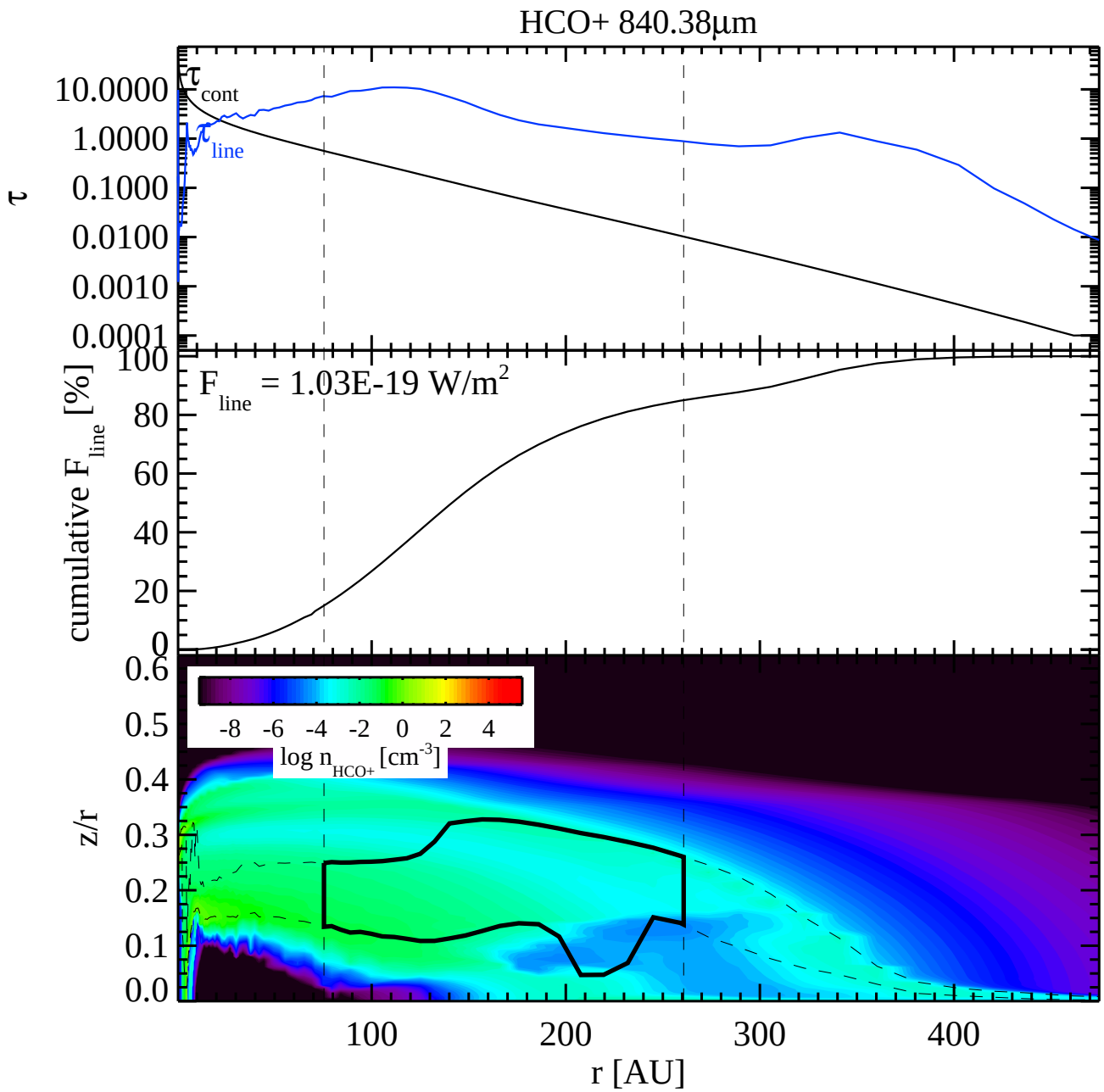

CN 528.78µm
τ
100.0000
10.0000
1.0000
0.1000
0.0100
0.0010
0.0001
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 1.40E-20 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-6 -4 -2 0 2 4 6
log n CN [cm-3]
100
200
300
400
r [AU]

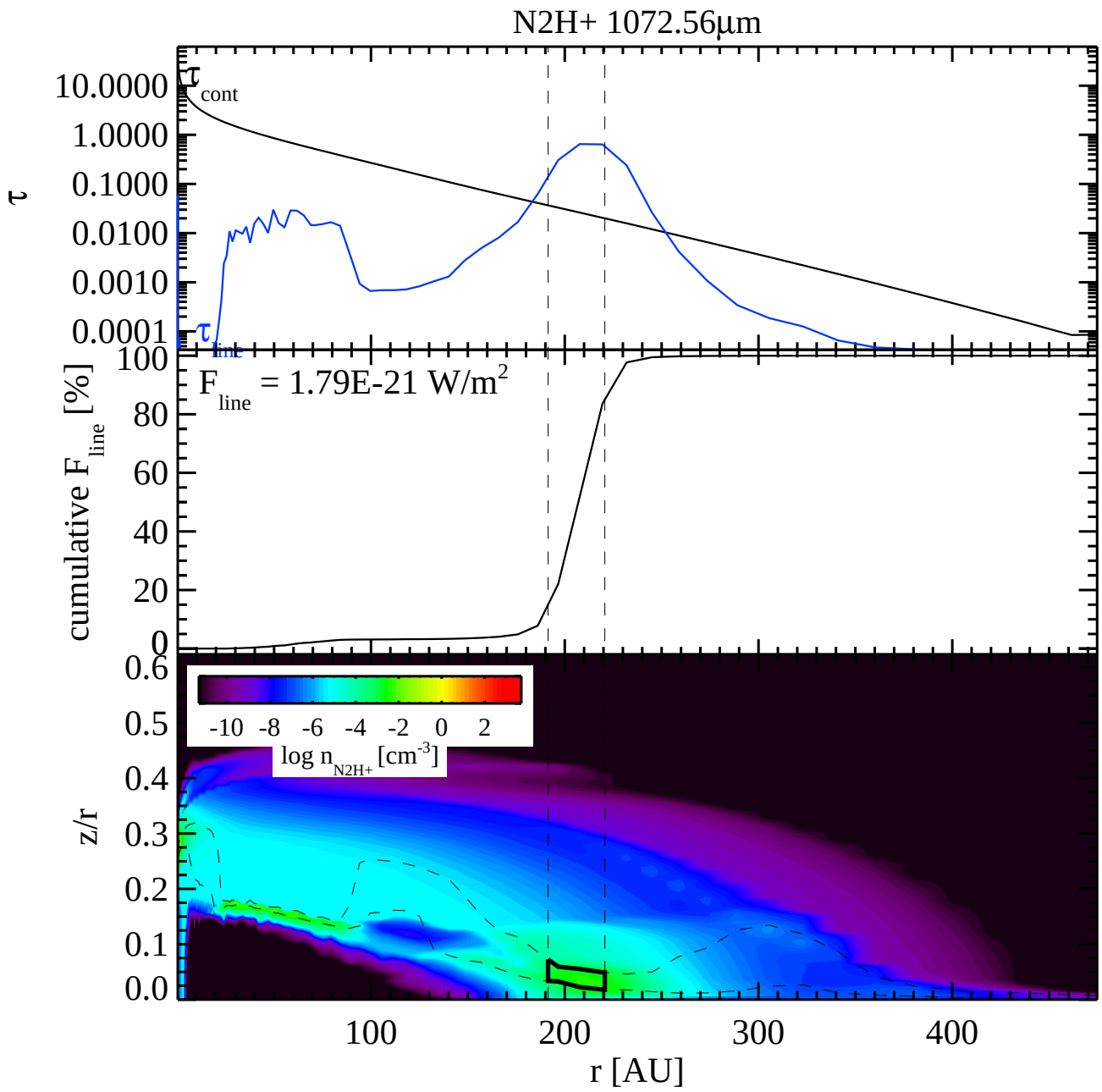

HCN 1127.52µm
τ
τ cont
τ line
cumulative F line [%]
F line = 4.47E-20 W/m2
log n HCN [cm-3]
-6 -4 -2 0 2 4 6 8
z/r
r [AU]
100
200
300
400

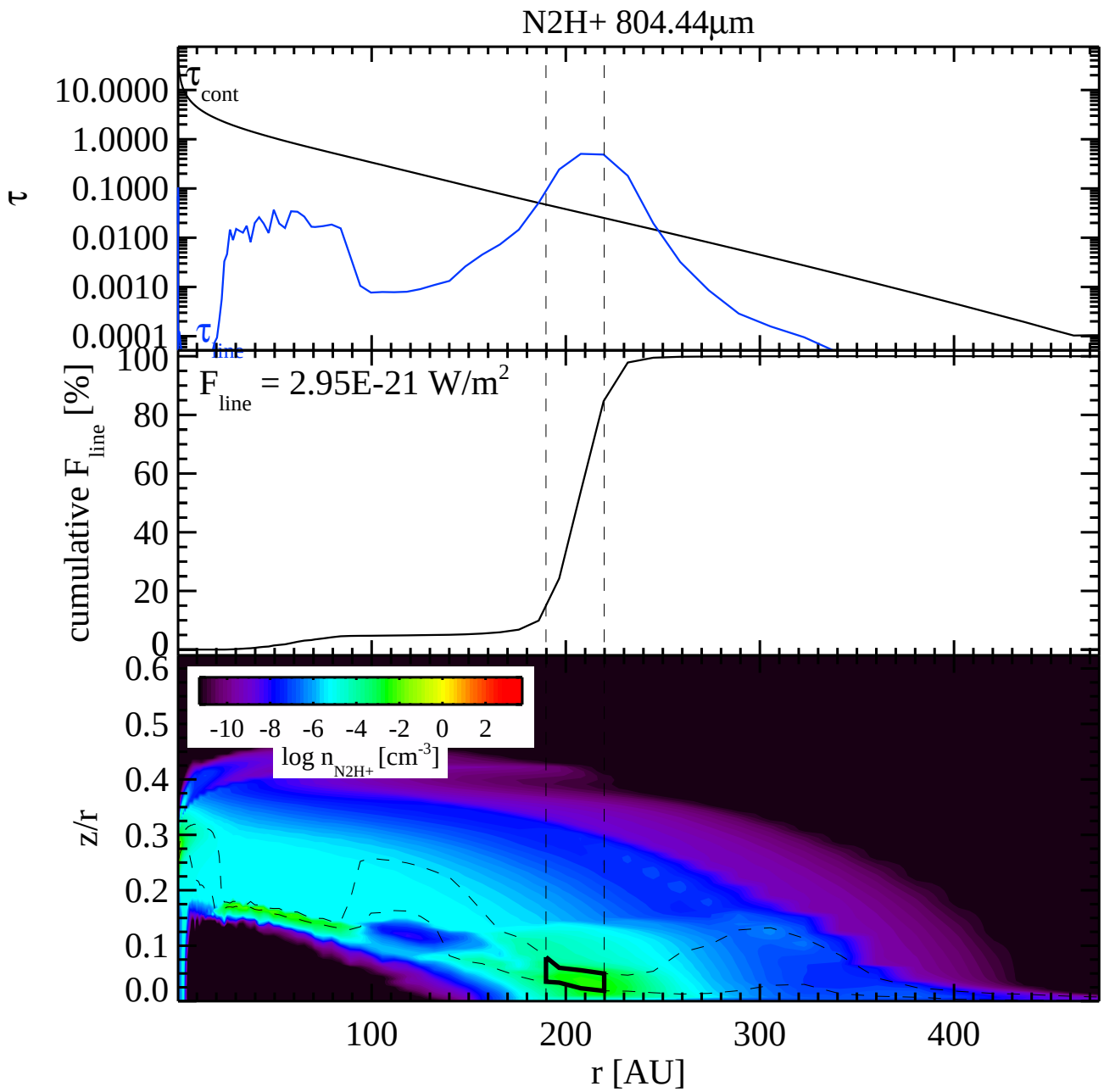

HCN 845.66µm
τ
cont
line
cumulative F line [%]
F line = 8.89E-20 W/m2
log n HCN [cm-3]
z/r
r [AU]

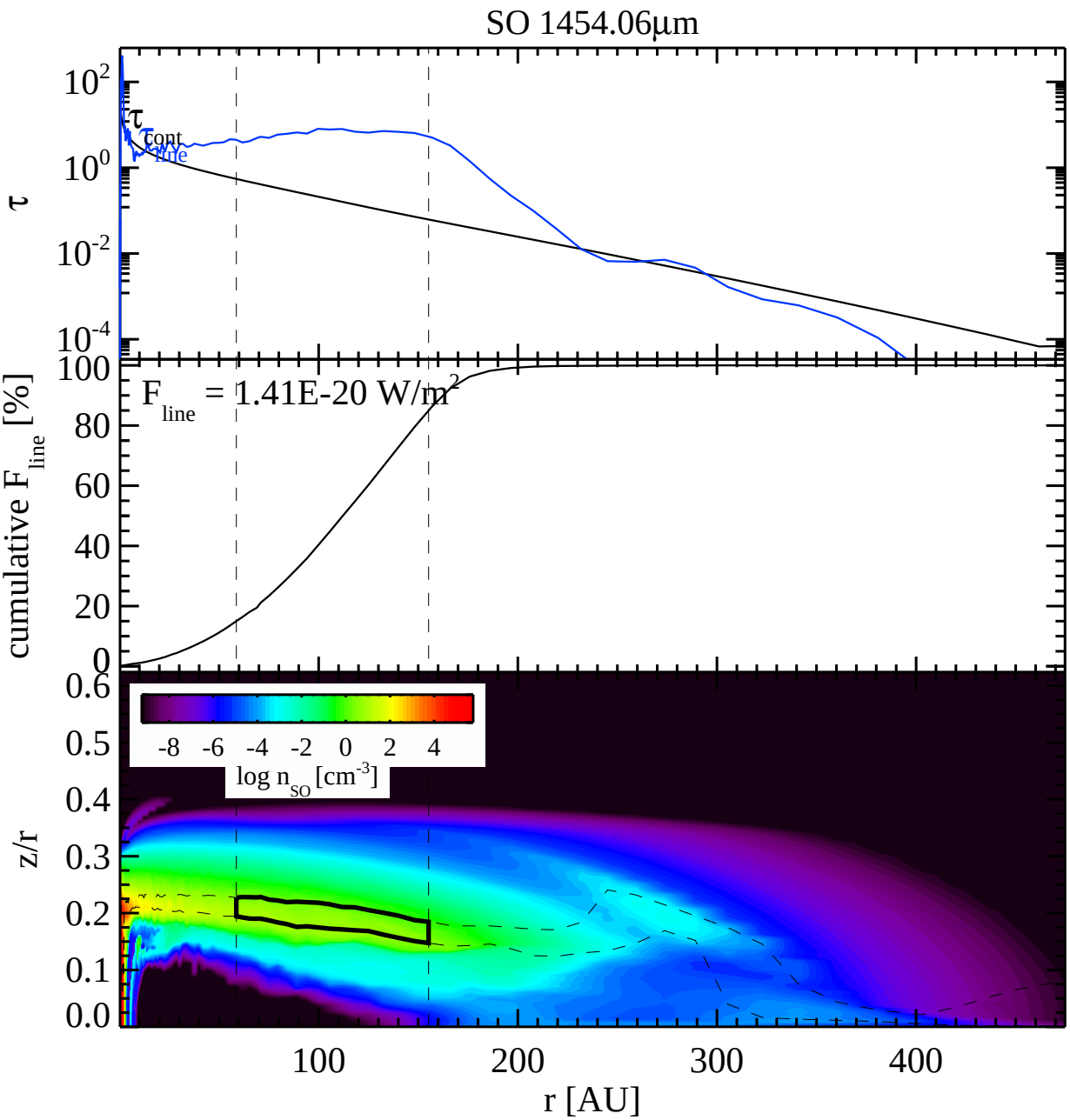

HCO+ 3361.33µm
τ
10.0000
1.0000
0.1000
0.0100
0.0010
0.0001
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 8.34E-22 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-8 -6 -4 -2 0 2 4
log n HCO+ [cm-3]
100
200
300
400
r [AU]

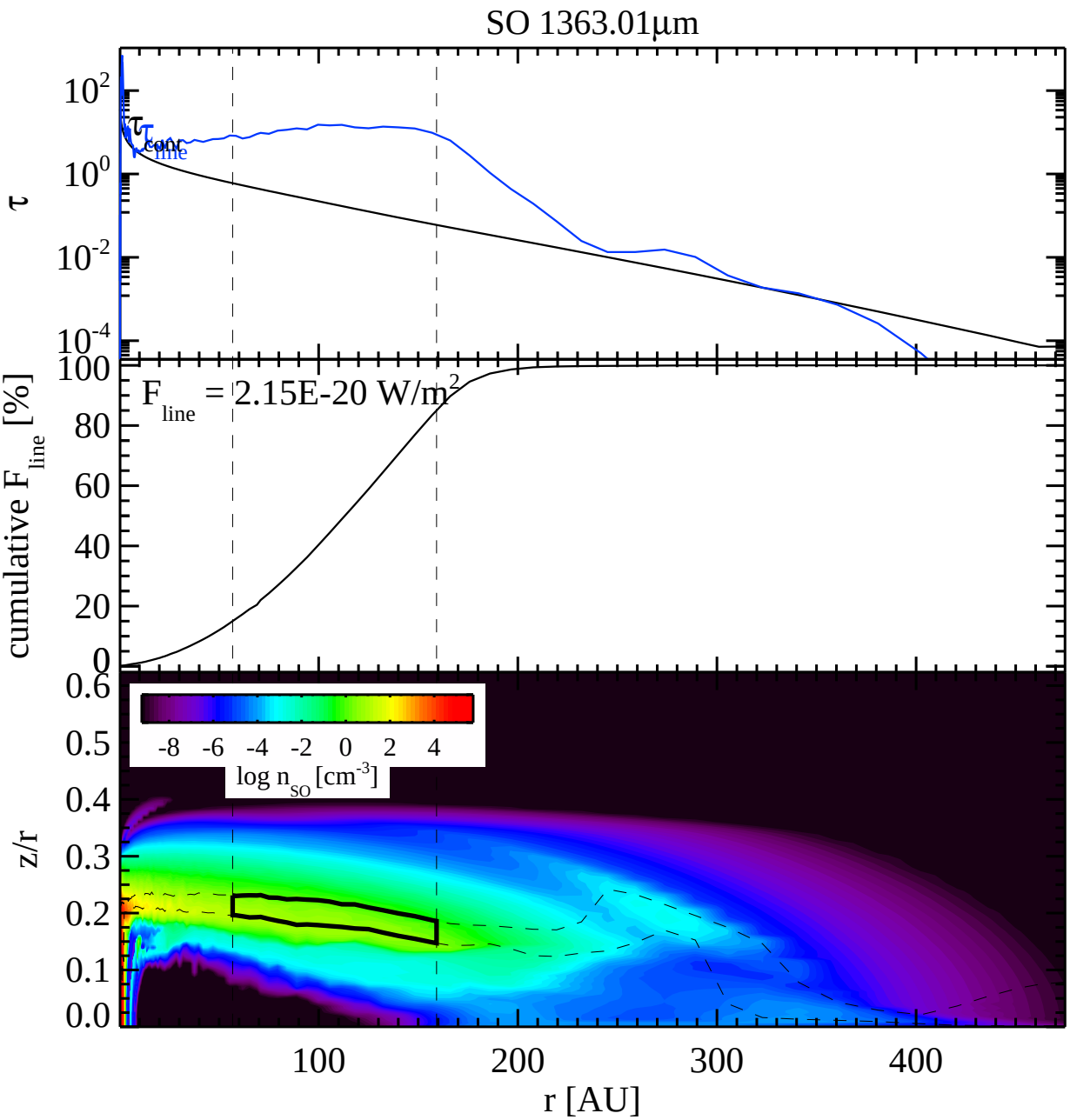

HCO+ 1120.48µm
τ
τ cont
τ line
10.0000
1.0000
0.1000
0.0100
0.0010
0.0001
cumulative F line [%]
F line = 5.12E-20 W/m2
100
80
60
40
20
0
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-8 -6 -4 -2 0 2 4
log n HCO+ [cm-3]
100
200
300
400
r [AU]

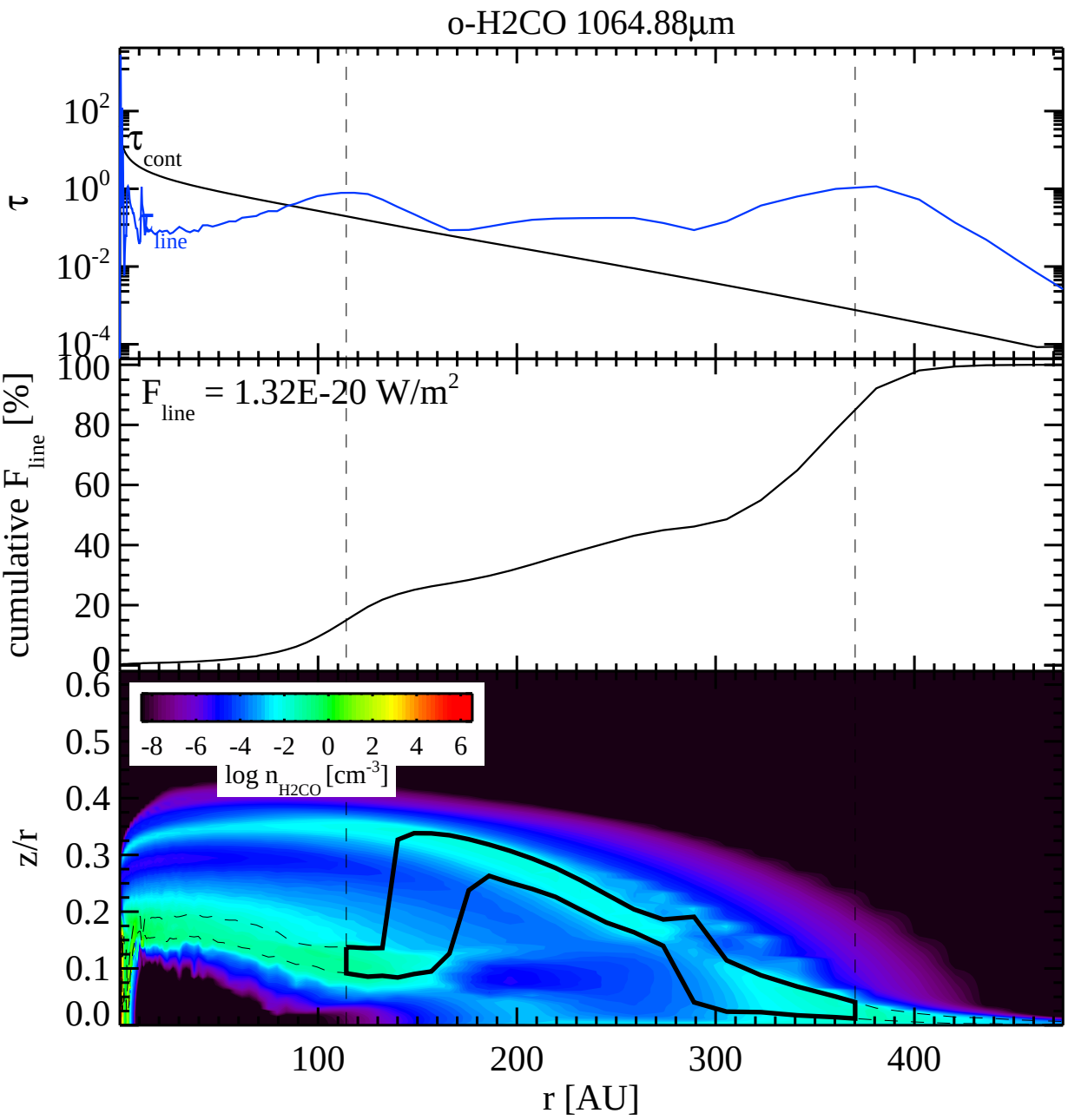

HCO+ 840.38µm
τ
τ cont
τ line
10.0000
1.0000
0.1000
0.0100
0.0010
0.0001
cumulative F line [%]
F line = 1.03E-19 W/m2
100
80
60
40
20
0
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-8 -6 -4 -2 0 2 4
log n HCO+ [cm-3]
100
200
300
400
r [AU]

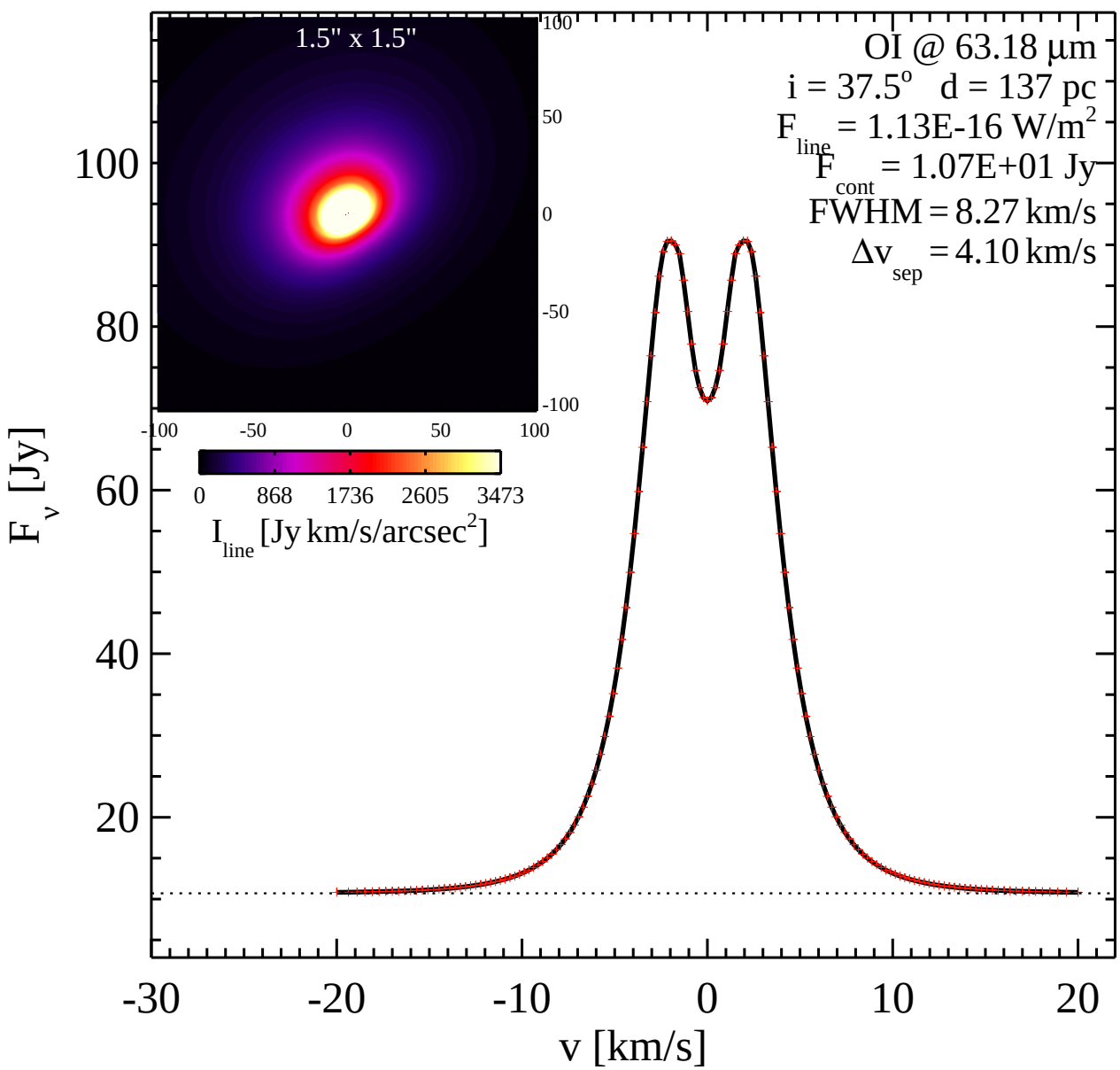

N2H+ 1072.56µm
τ
10.0000
1.0000
0.1000
0.0100
0.0010
0.0001
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 1.79E-21 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-10 -8 -6 -4 -2 0 2
log n N2H+ [cm-3]
100
200
300
400
r [AU]

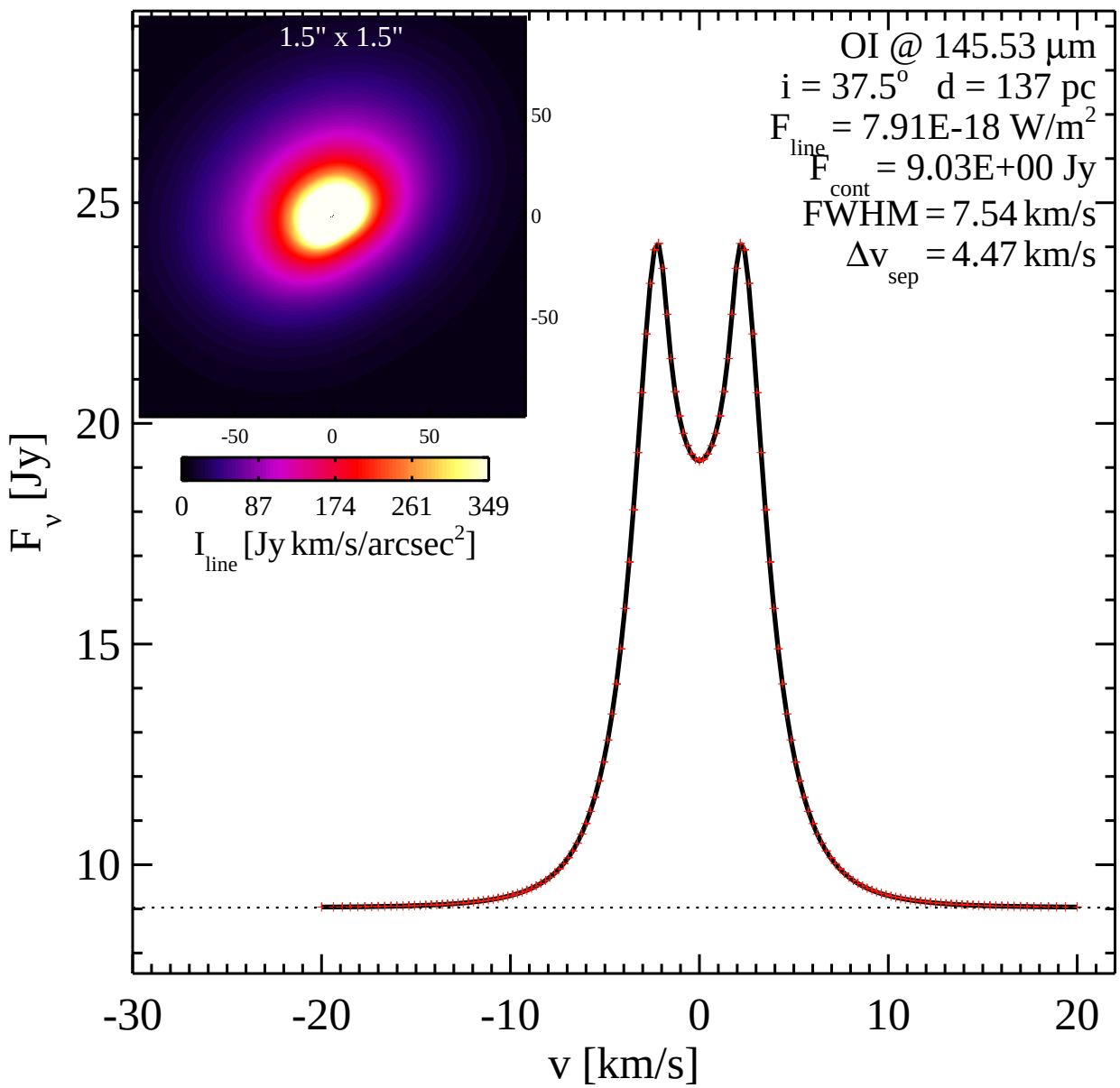

N2H+ 804.44µm
τ
10.0000
1.0000
0.1000
0.0100
0.0010
0.0001
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 2.95E-21 W/m2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-10 -8 -6 -4 -2 0 2
log n N2H+ [cm-3]
100
200
300
400
r [AU]

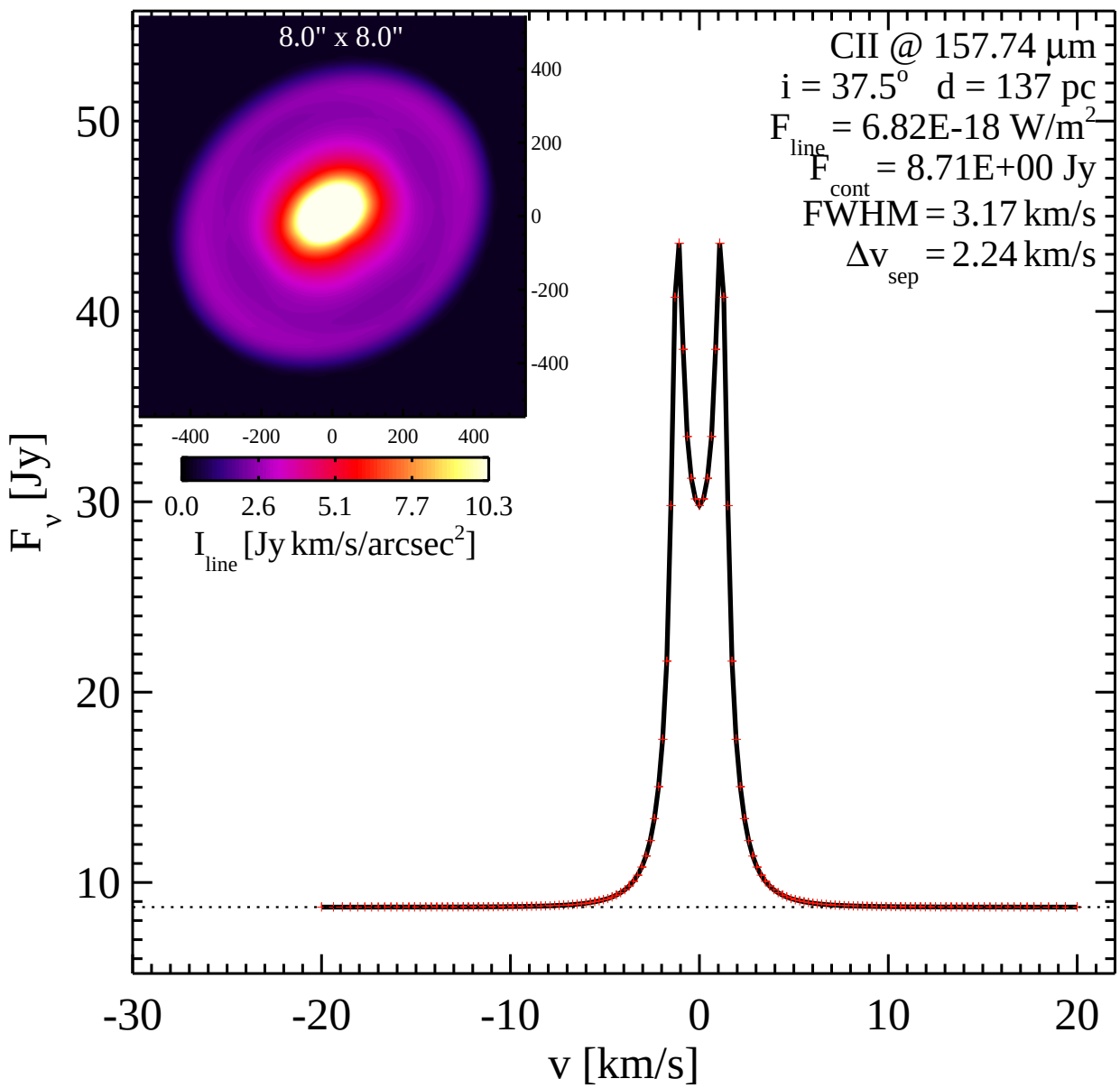

SO 1454.06µm
τ
10^2
10^0
10^{-2}
10^{-4}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 1.41E-20 W/m^2
0.6
0.5
0.4
0.3
0.2
0.1
0.0
z/r
-8 -6 -4 -2 0 2 4
log n_{SO} [cm^{-3}]
100
200
300
400
r [AU]

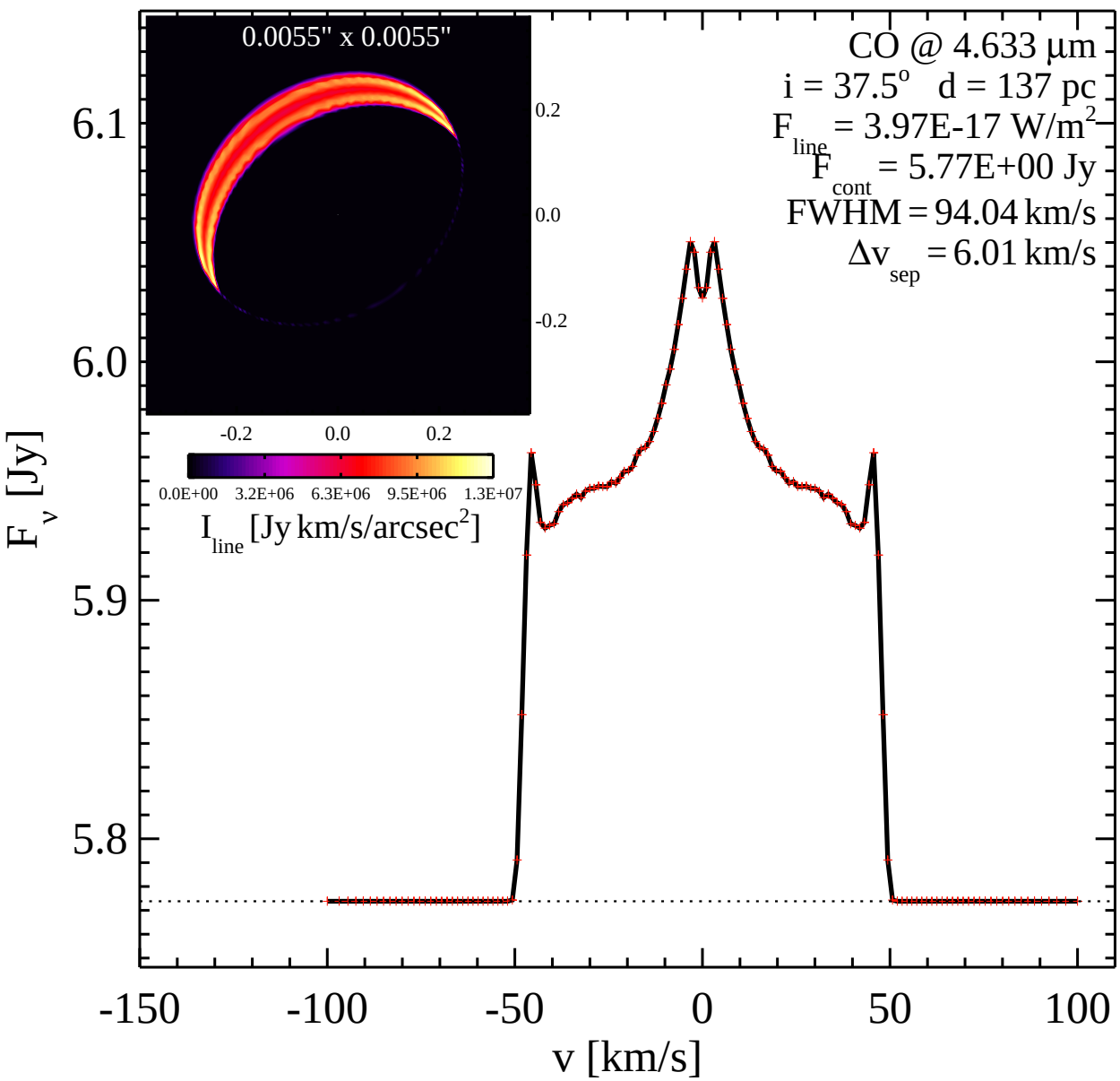

SO 1363.01µm
τ
10^2
10^0
10^{-2}
10^{-4}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 2.15E-20 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-8 -6 -4 -2 0 2 4
log n_{SO} [cm^{-3}]
100
200
300
400
r [AU]

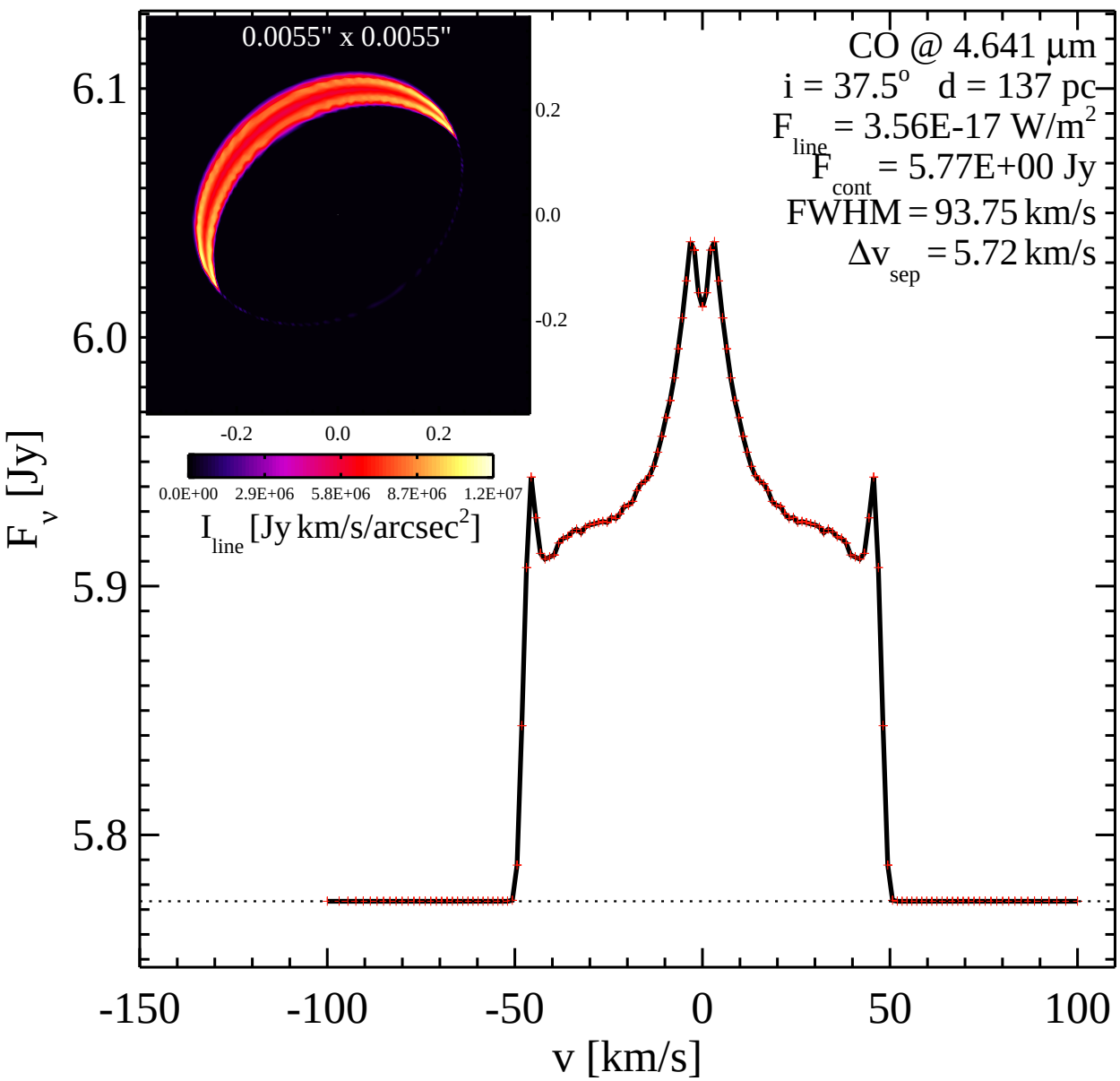

o-H2CO 1064.88µm
τ
10^2
10^0
10^{-2}
10^{-4}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 1.32E-20 W/m^2
z/r
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-8 -6 -4 -2 0 2 4 6
log n_{H2CO} [cm^{-3}]
100
200
300
400
r [AU]

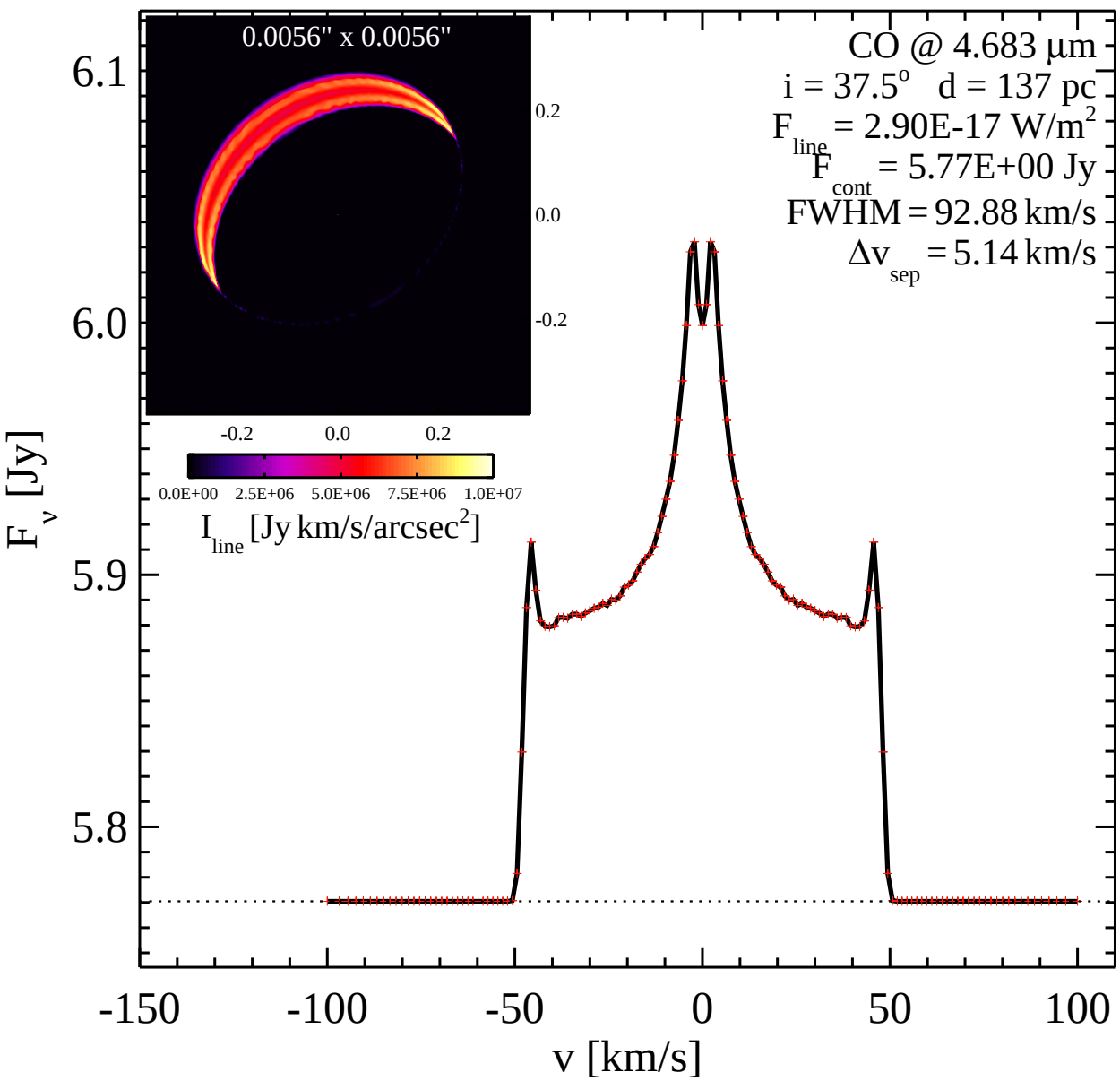

1.5" x 1.5"
OI @ 63.18 µm
i = 37.5° d = 137 pc
F line = 1.13E-16 W/m2
F cont = 1.07E+01 Jy
FWHM = 8.27 km/s
Δv sep = 4.10 km/s
F v [Jy]
v [km/s]
I line [Jy km/s/arcsec2]
0 868 1736 2605 3473
-100 -50 0 50 100
20 40 60 80 100
-30 -20 -10 0 10 20

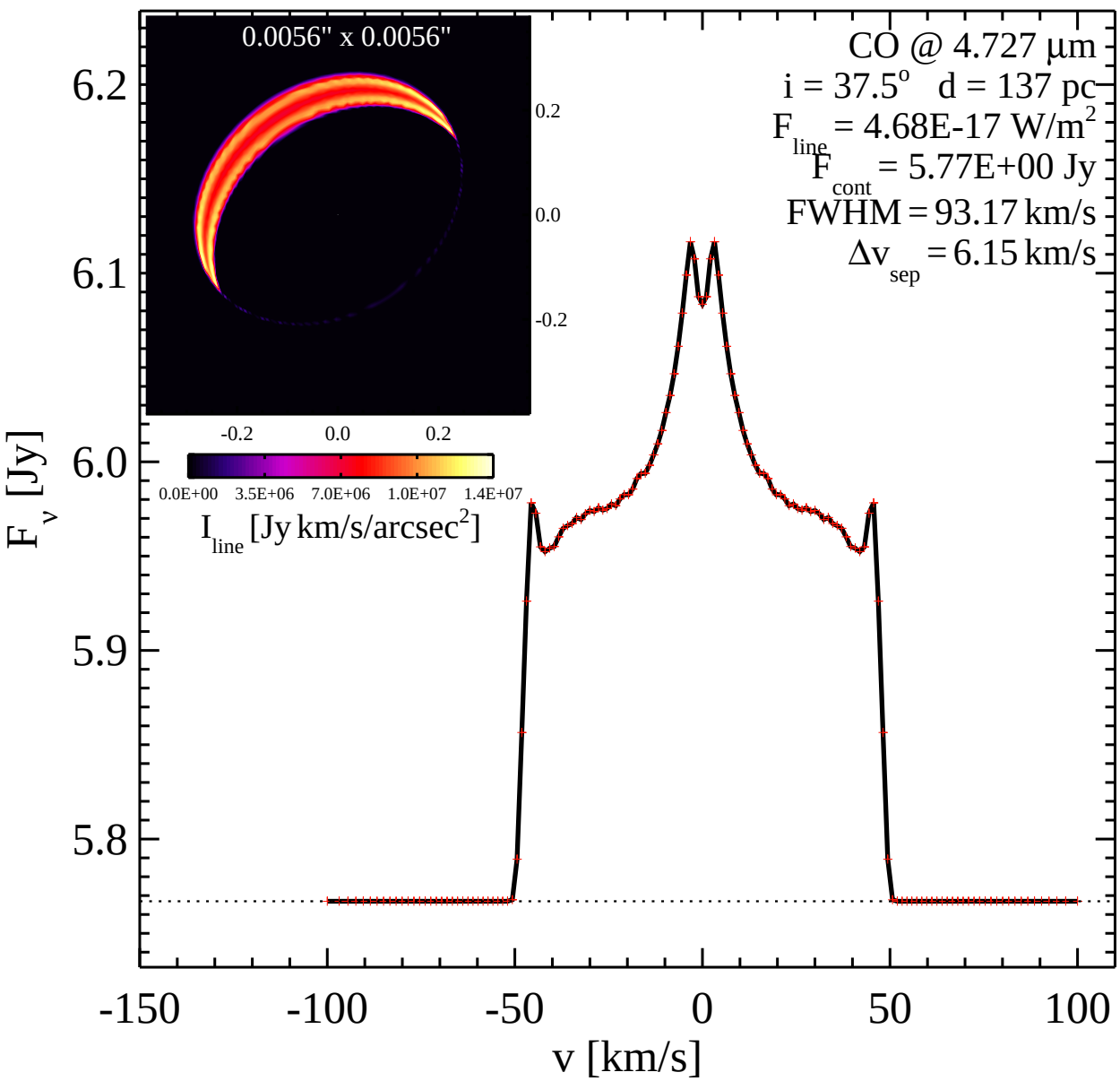

1.5" x 1.5"
50
0
-50
-50
0
50
0
87
174
261
349
I line [Jy km/s/arcsec2]
OI @ 145.53 µm
i = 37.5o d = 137 pc
F line = 7.91E-18 W/m2
F cont = 9.03E+00 Jy
FWHM = 7.54 km/s
Δv sep = 4.47 km/s
F v [Jy]
25
20
15
10
-30
-20
-10
0
10
20
v [km/s]

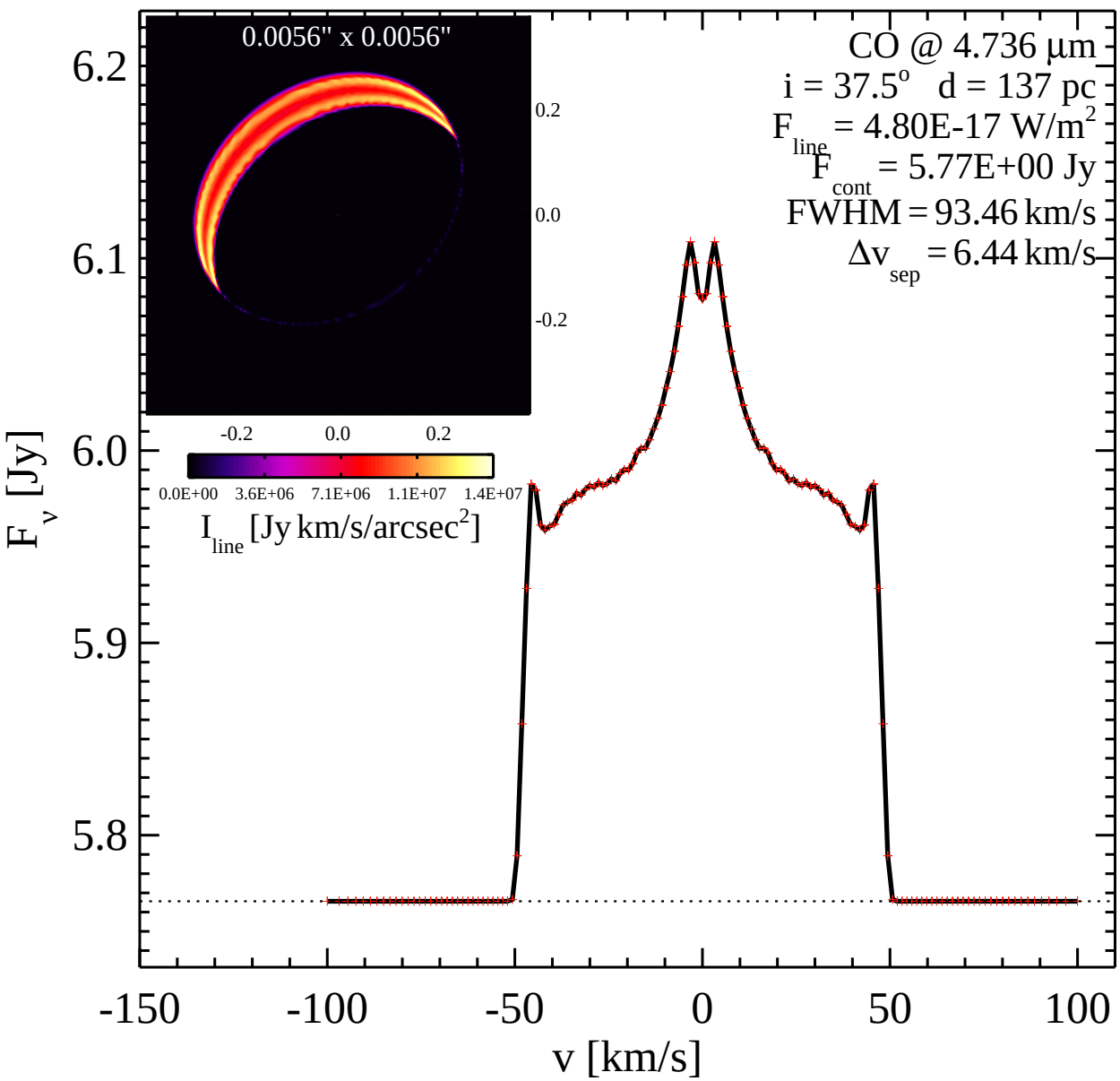

8.0" x 8.0"
400
200
0
-200
-400
-400 -200 0 200 400
0.0 2.6 5.1 7.7 10.3
I line [Jy km/s/arcsec2]
CII @ 157.74 µm
i = 37.5o d = 137 pc
F line = 6.82E-18 W/m2
F cont = 8.71E+00 Jy
FWHM = 3.17 km/s
Δv sep = 2.24 km/s
F v [Jy]
50
40
30
20
10
-30 -20 -10 0 10 20
v [km/s]

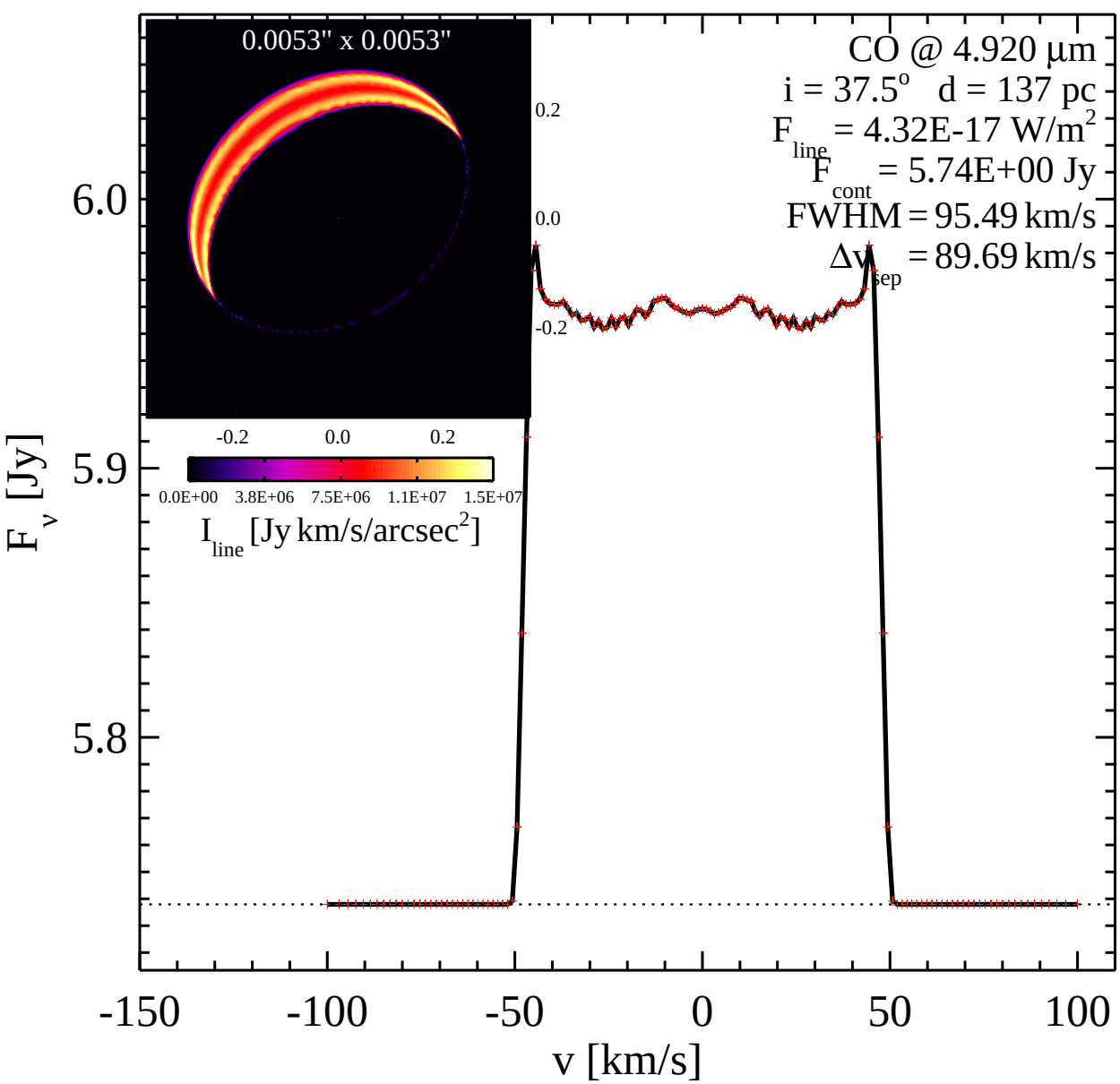

0.0055" x 0.0055"
0.2
0.0
-0.2
-0.2
0.0
0.2
0.0E+00
3.2E+06
6.3E+06
9.5E+06
1.3E+07
I line [Jy km/s/arcsec2]
CO @ 4.633 µm
i = 37.5° d = 137 pc
F line = 3.97E-17 W/m2
F cont = 5.77E+00 Jy
FWHM = 94.04 km/s
Δv sep = 6.01 km/s
F v [Jy]
6.1
6.0
5.9
5.8
-150
-100
-50
0
50
100
v [km/s]

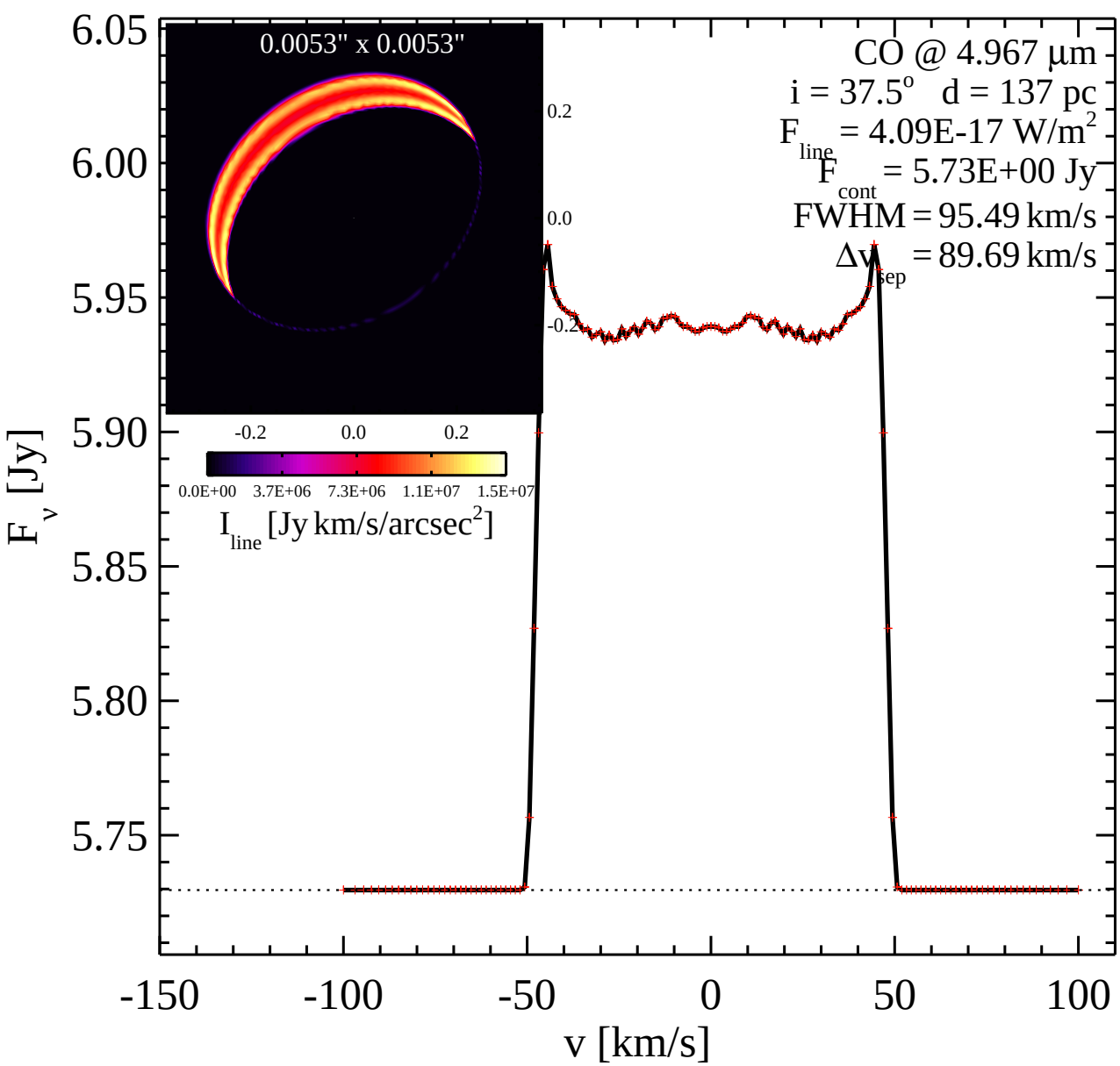

0.0055" x 0.0055"
0.2
0.0
-0.2
-0.2
0.0
0.2
0.0E+00
2.9E+06
5.8E+06
8.7E+06
1.2E+07
I line [Jy km/s/arcsec2]
CO @ 4.641 µm
i = 37.5° d = 137 pc
F line = 3.56E-17 W/m2
F cont = 5.77E+00 Jy
FWHM = 93.75 km/s
Δv sep = 5.72 km/s
F v [Jy]
6.1
6.0
5.9
5.8
-150
-100
-50
0
50
100
v [km/s]

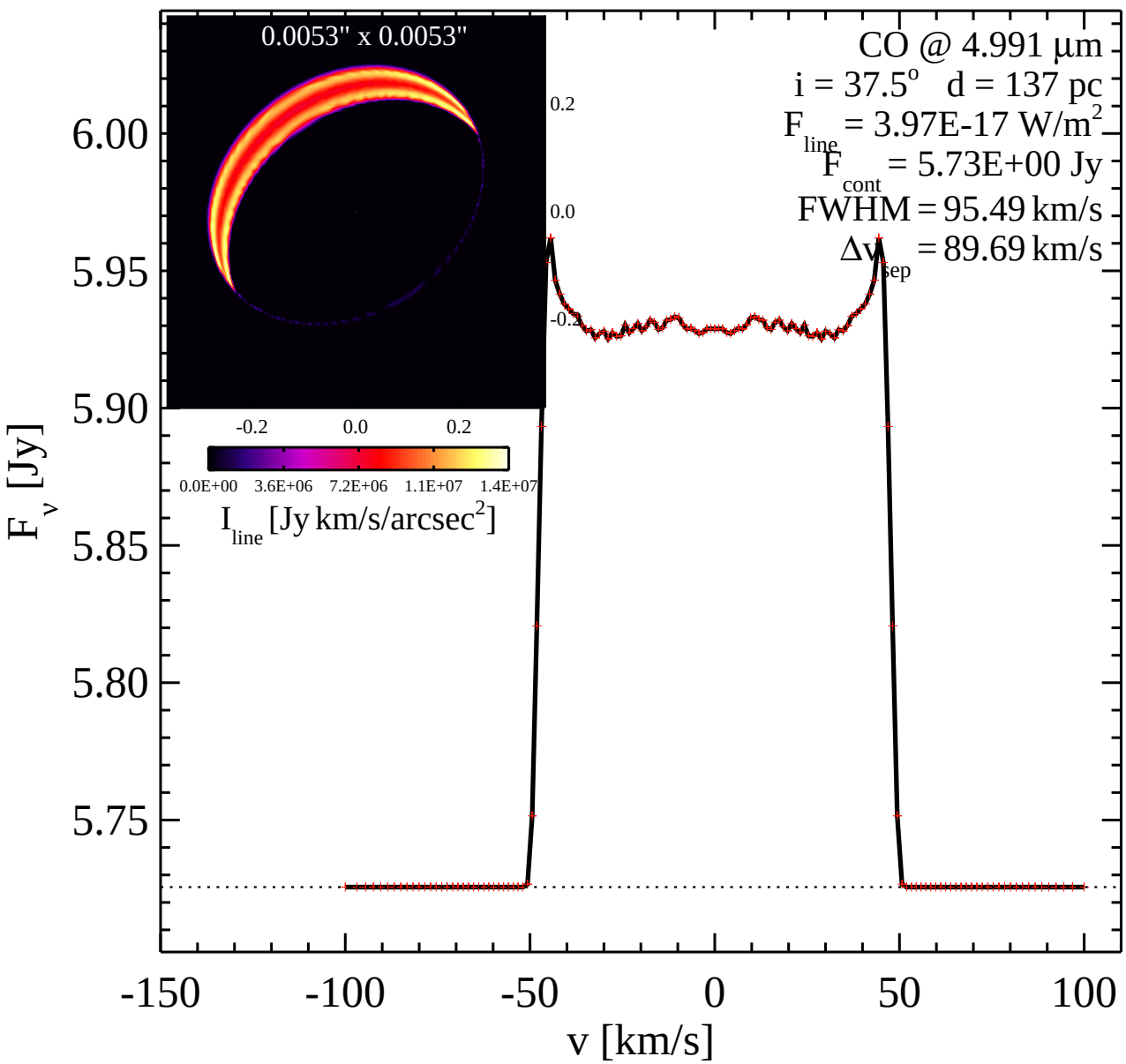

0.0056" x 0.0056"
0.2
0.0
-0.2
-0.2
0.0
0.2
0.0E+00
2.5E+06
5.0E+06
7.5E+06
1.0E+07
I line [Jy km/s/arcsec2]
CO @ 4.683 µm
i = 37.5° d = 137 pc
F line = 2.90E-17 W/m2
F cont = 5.77E+00 Jy
FWHM = 92.88 km/s
Δv sep = 5.14 km/s
F v [Jy]
6.1
6.0
5.9
5.8
-150
-100
-50
0
50
100
v [km/s]

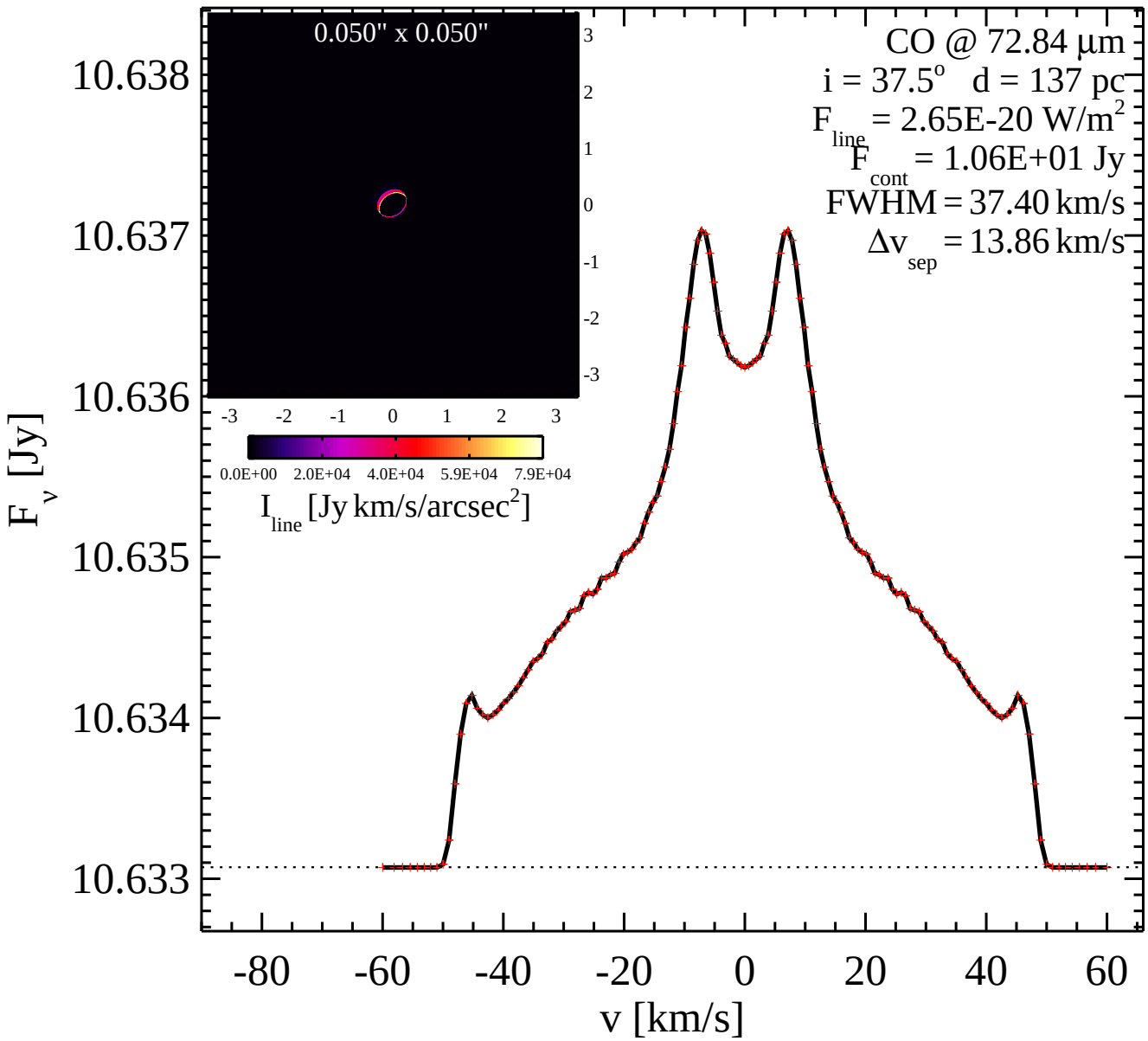

0.0056" x 0.0056"
0.2
0.0
-0.2
-0.2
0.0
0.2
0.0E+00
3.5E+06
7.0E+06
1.0E+07
1.4E+07
I line [Jy km/s/arcsec2]
CO @ 4.727 µm
i = 37.5° d = 137 pc
F line = 4.68E-17 W/m2
F cont = 5.77E+00 Jy
FWHM = 93.17 km/s
Δv sep = 6.15 km/s
F v [Jy]
6.2
6.1
6.0
5.9
5.8
-150
-100
-50
0
50
100
v [km/s]

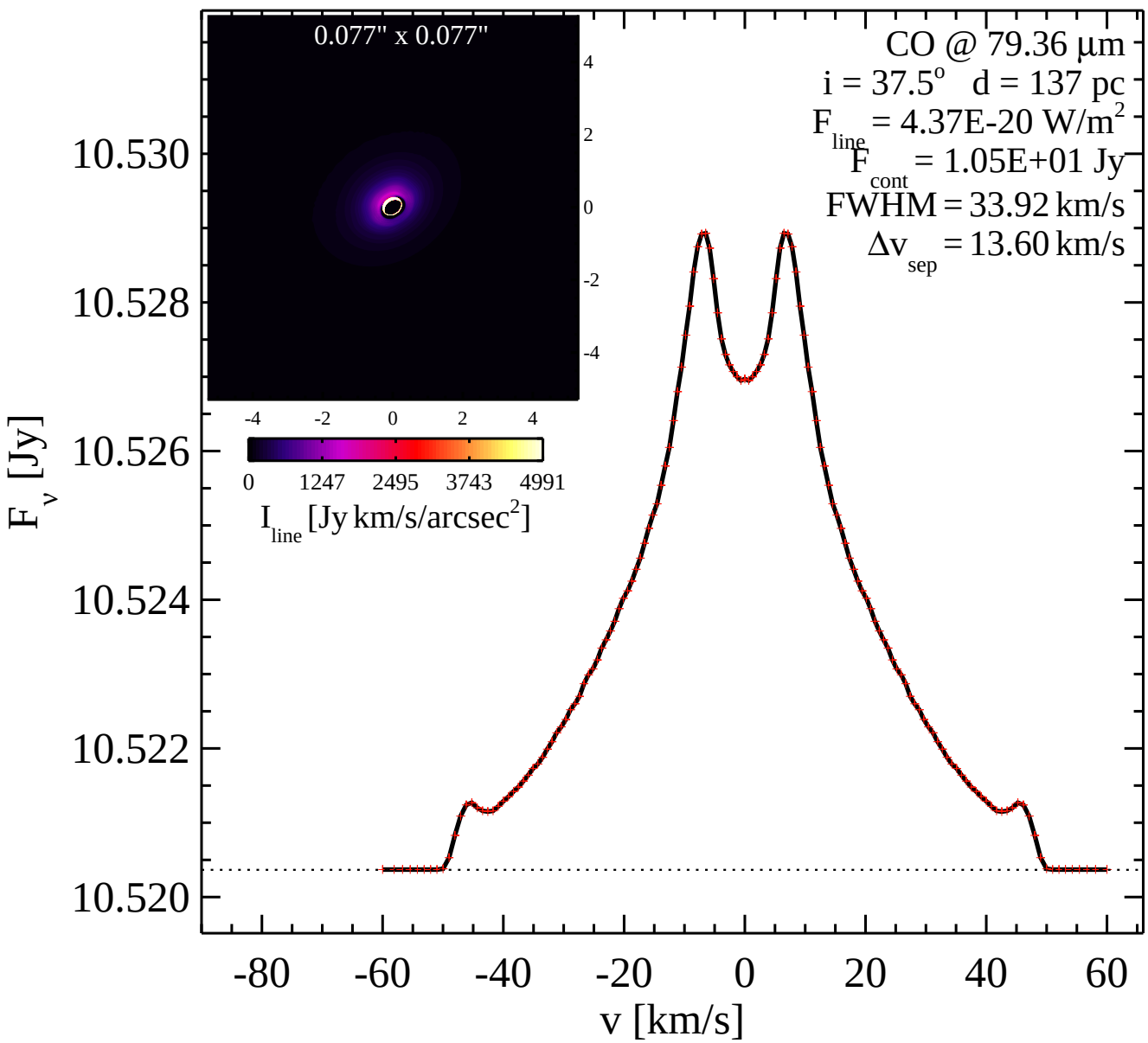

0.0056" x 0.0056"
0.2
0.0
-0.2
-0.2
0.0
0.2
0.0E+00
3.6E+06
7.1E+06
1.1E+07
1.4E+07
I line [Jy km/s/arcsec2]
CO @ 4.736 µm
i = 37.5° d = 137 pc
F line = 4.80E-17 W/m2
F cont = 5.77E+00 Jy
FWHM = 93.46 km/s
Δv sep = 6.44 km/s
F v [Jy]
6.2
6.1
6.0
5.9
5.8
-150
-100
-50
0
50
100
v [km/s]

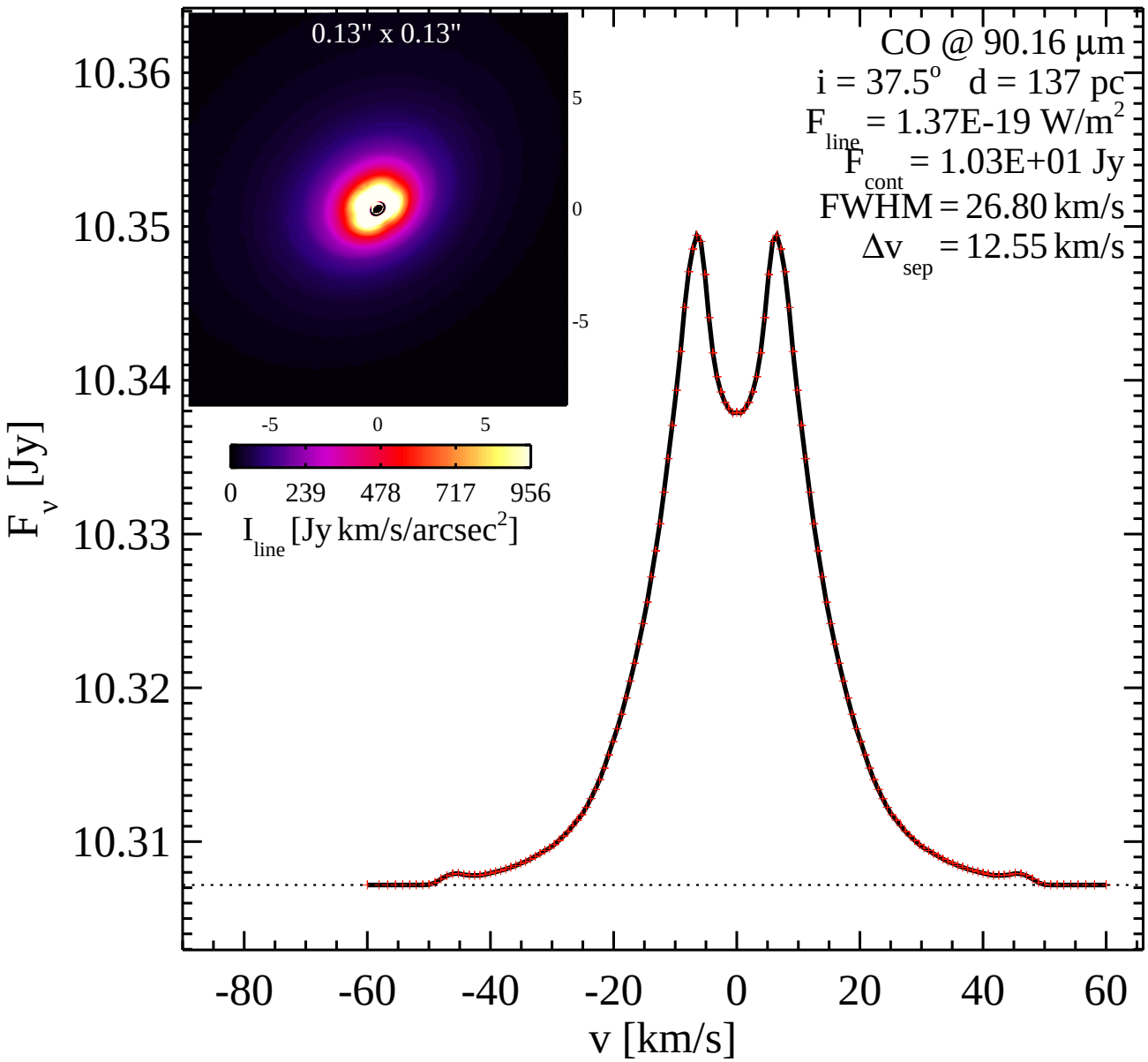

0.0053" x 0.0053"
0.2
0.0
-0.2
-0.2
0.0
0.2
0.0E+00
3.8E+06
7.5E+06
1.1E+07
1.5E+07
I line [Jy km/s/arcsec2]
CO @ 4.920 µm
i = 37.5° d = 137 pc
F line = 4.32E-17 W/m2
F cont = 5.74E+00 Jy
FWHM = 95.49 km/s
Δv sep = 89.69 km/s
6.0
5.9
5.8
F v [Jy]
-150
-100
-50
0
50
100
v [km/s]

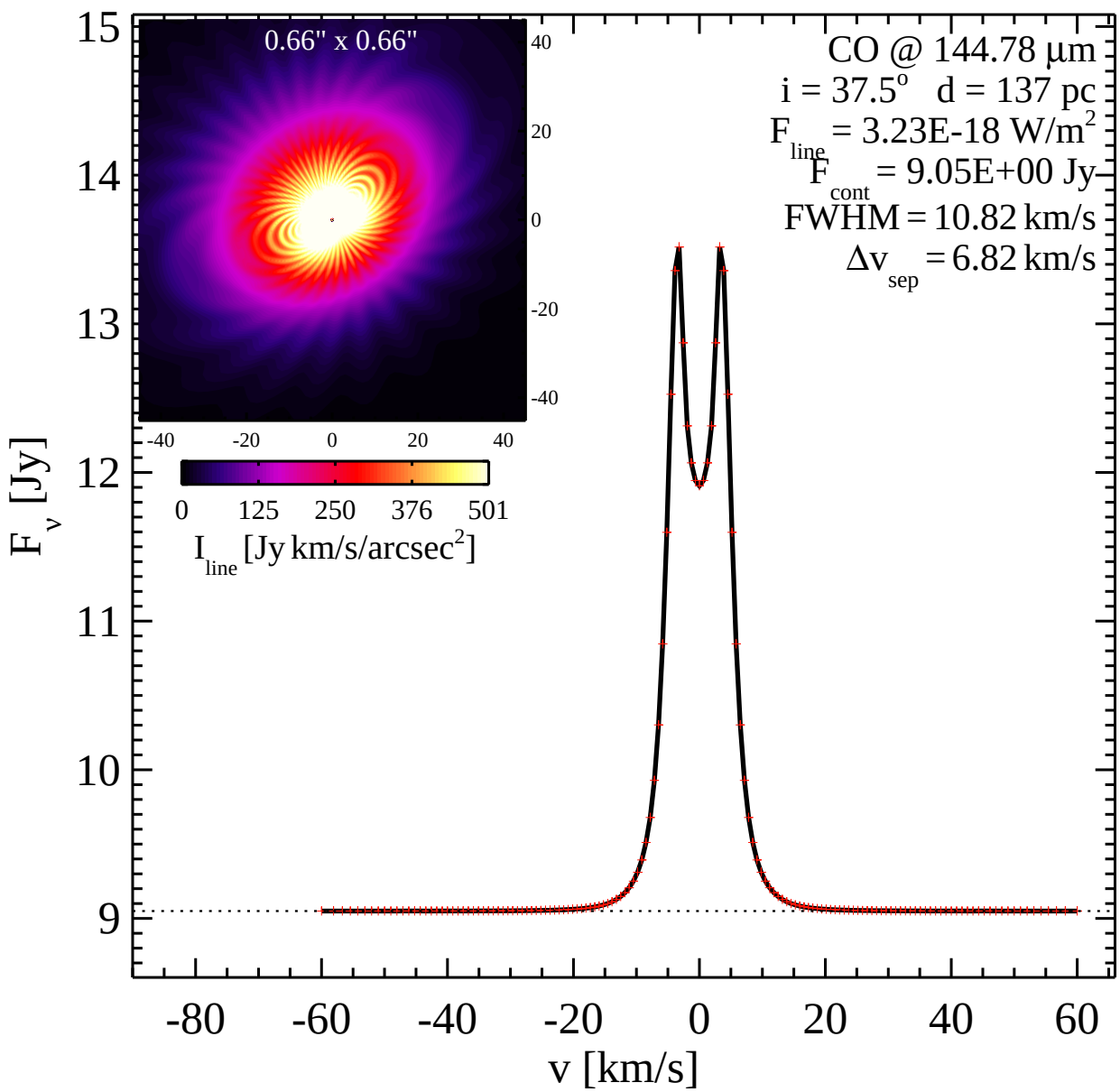

0.0053" x 0.0053"
CO @ 4.967 µm
i = 37.5° d = 137 pc
F line = 4.09E-17 W/m2
F cont = 5.73E+00 Jy
FWHM = 95.49 km/s
Δv sep = 89.69 km/s
0.2
0.0
-0.2
-0.2 0.0 0.2
0.0E+00 3.7E+06 7.3E+06 1.1E+07 1.5E+07
I line [Jy km/s/arcsec2]
6.05
6.00
5.95
5.90
5.85
5.80
5.75
F v [Jy]
-150 -100 -50 0 50 100
v [km/s]

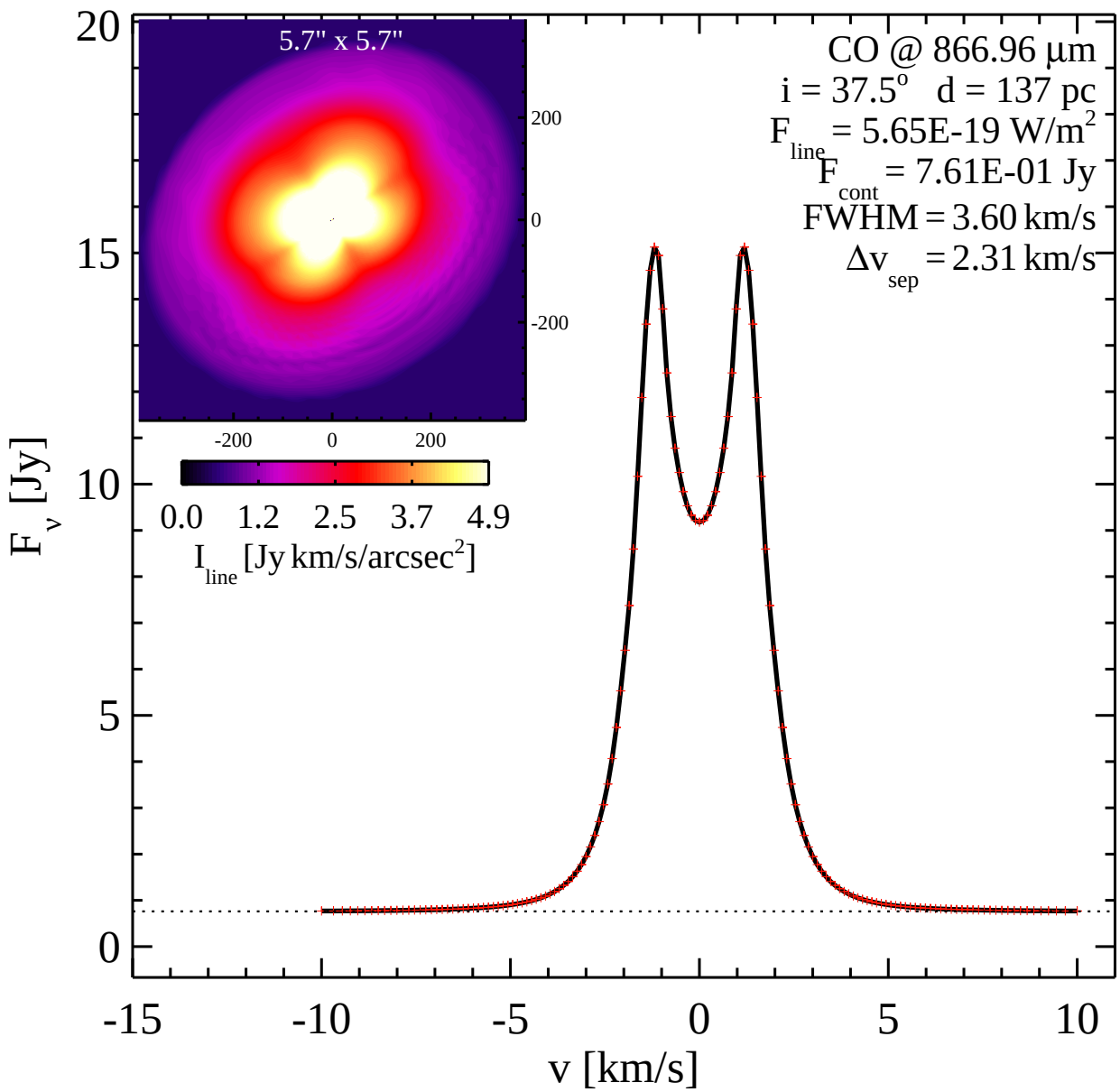

0.0053" x 0.0053"
0.2
0.0
-0.2
-0.2
0.0
0.2
0.0E+00
3.6E+06
7.2E+06
1.1E+07
1.4E+07
I line [Jy km/s/arcsec2]
CO @ 4.991 µm
i = 37.5° d = 137 pc
F line = 3.97E-17 W/m2
F cont = 5.73E+00 Jy
FWHM = 95.49 km/s
Δv sep = 89.69 km/s
F v [Jy]
6.00
5.95
5.90
5.85
5.80
5.75
-150
-100
-50
0
50
100
v [km/s]

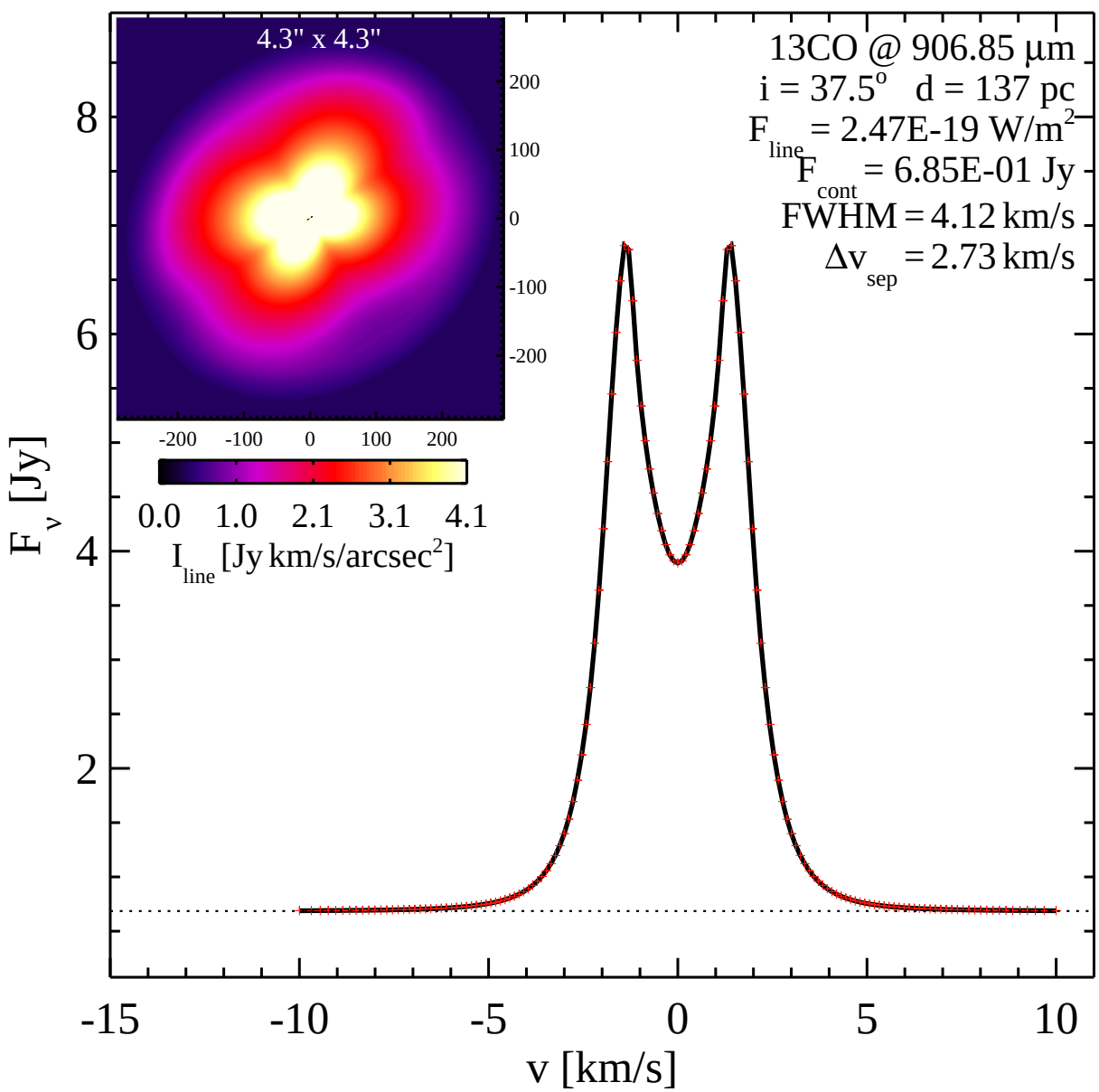

0.050" x 0.050"
CO @ 72.84 µm
i = 37.5° d = 137 pc
F line = 2.65E-20 W/m2
F cont = 1.06E+01 Jy
FWHM = 37.40 km/s
Δv sep = 13.86 km/s
I line [Jy km/s/arcsec2]
0.0E+00 2.0E+04 4.0E+04 5.9E+04 7.9E+04
F v [Jy]
v [km/s]

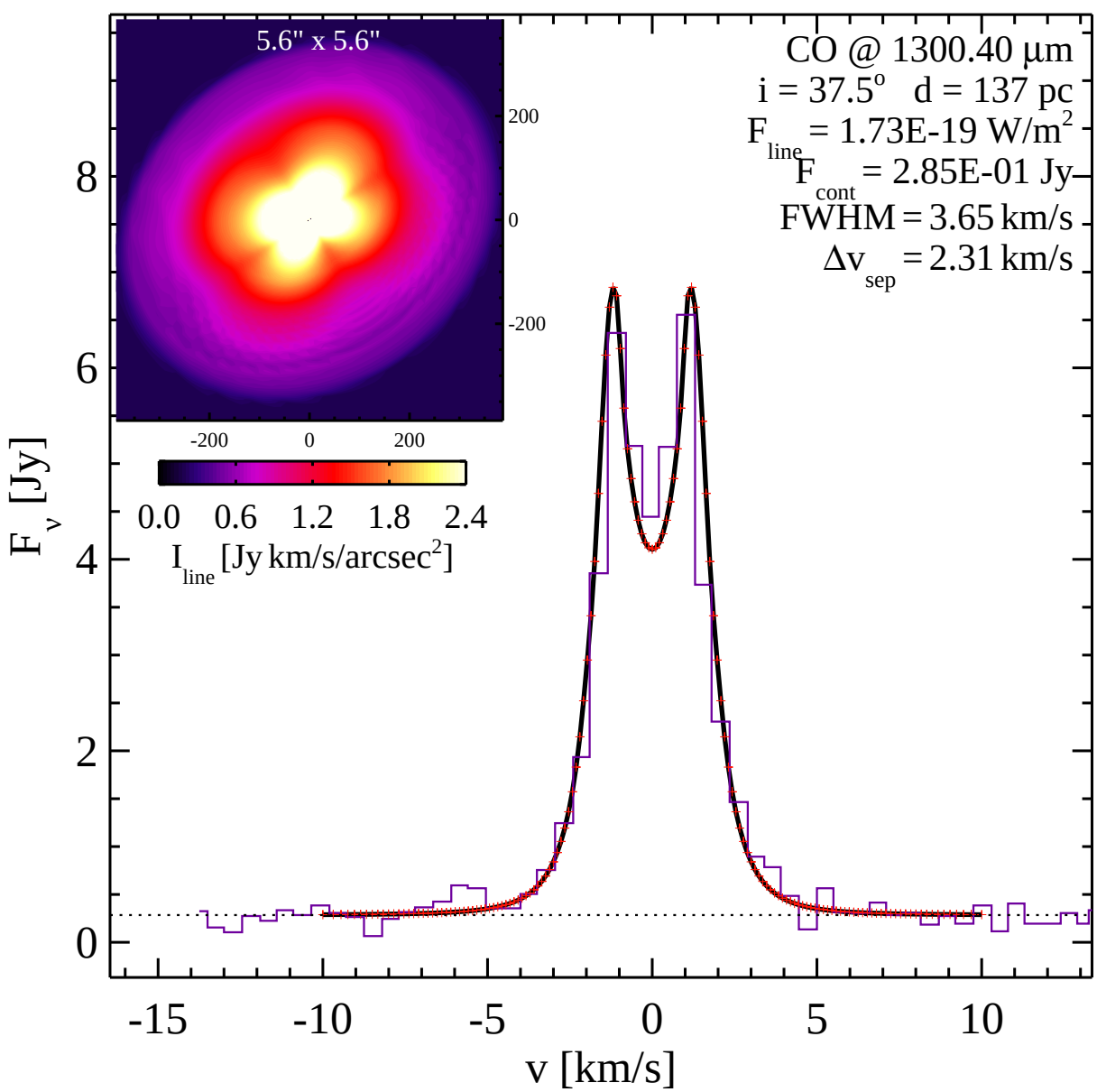

0.077" x 0.077"
CO @ 79.36 µm
i = 37.5° d = 137 pc
F line = 4.37E-20 W/m2
F cont = 1.05E+01 Jy
FWHM = 33.92 km/s
Δv sep = 13.60 km/s
I line [Jy km/s/arcsec2]
F v [Jy]
v [km/s]

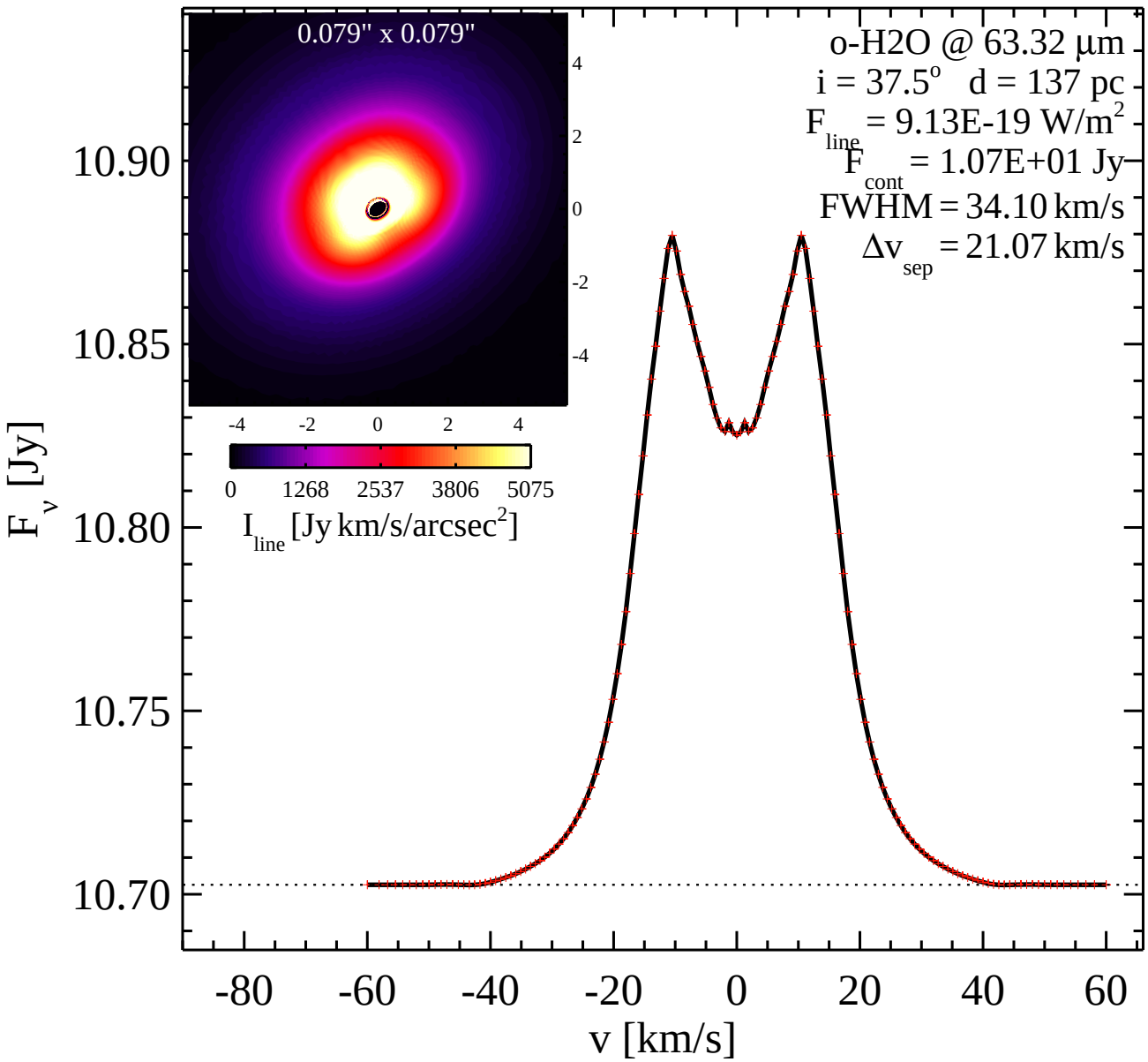

0.13" x 0.13"
5
0
-5
-5
0
5
0
239
478
717
956
I line [Jy km/s/arcsec2]
CO @ 90.16 µm
i = 37.5° d = 137 pc
F line = 1.37E-19 W/m2
F cont = 1.03E+01 Jy
FWHM = 26.80 km/s
Δv sep = 12.55 km/s
10.36
10.35
10.34
10.33
10.32
10.31
F v [Jy]
-80
-60
-40
-20
0
20
40
60
v [km/s]

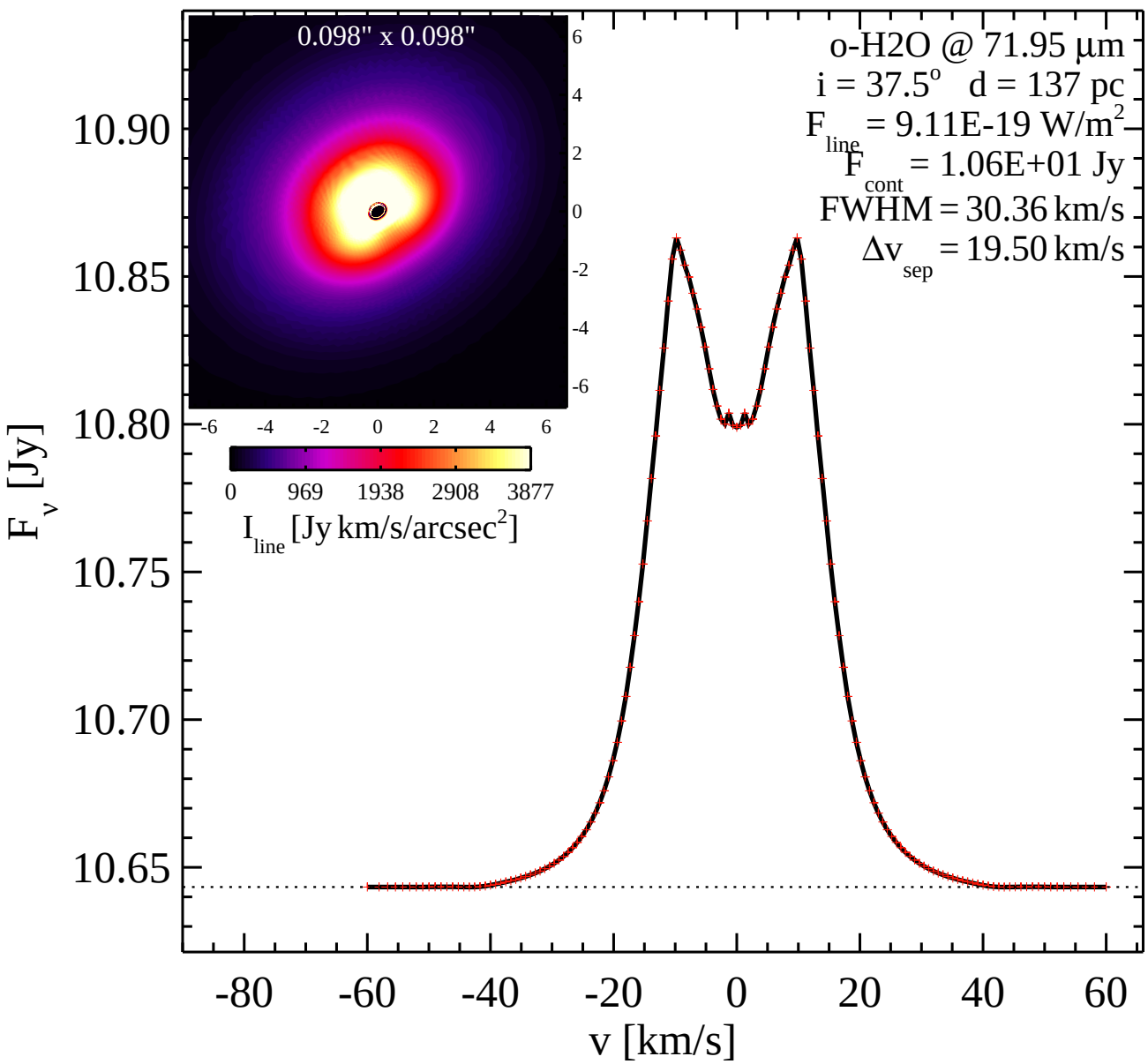

0.66" x 0.66"
CO @ 144.78 µm
i = 37.5° d = 137 pc
F line = 3.23E-18 W/m2
F cont = 9.05E+00 Jy
FWHM = 10.82 km/s
Δv sep = 6.82 km/s
I line [Jy km/s/arcsec2]
F v [Jy]
v [km/s]

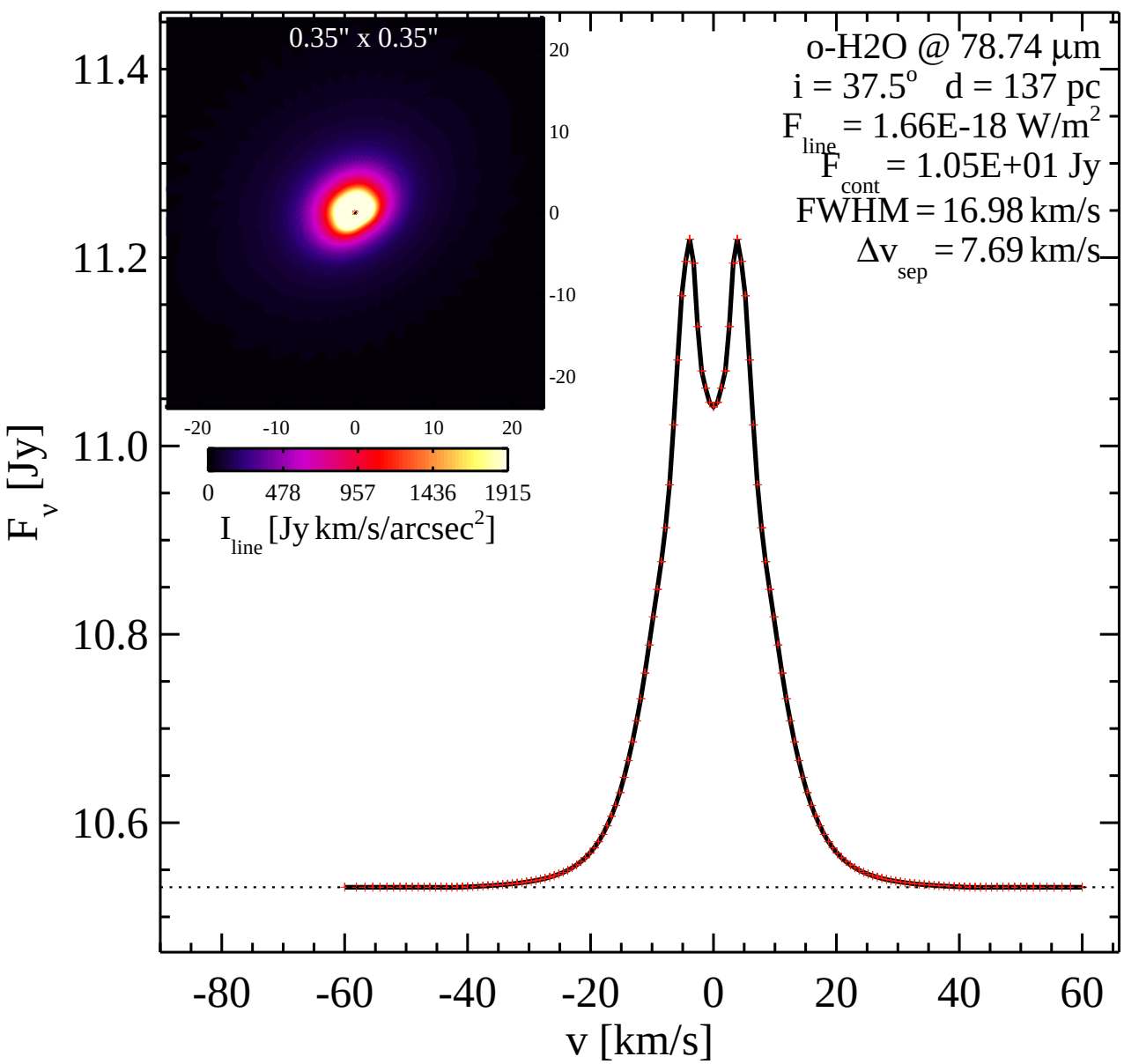

5.7" x 5.7"
200
0
-200
-200
0
200
0.0 1.2 2.5 3.7 4.9
I line [Jy km/s/arcsec2]
CO @ 866.96 µm
i = 37.5o d = 137 pc
F line = 5.65E-19 W/m2
F cont = 7.61E-01 Jy
FWHM = 3.60 km/s
Δv sep = 2.31 km/s
F v [Jy]
v [km/s]
20
15
10
5
0
-15
-10
-5
0
5
10

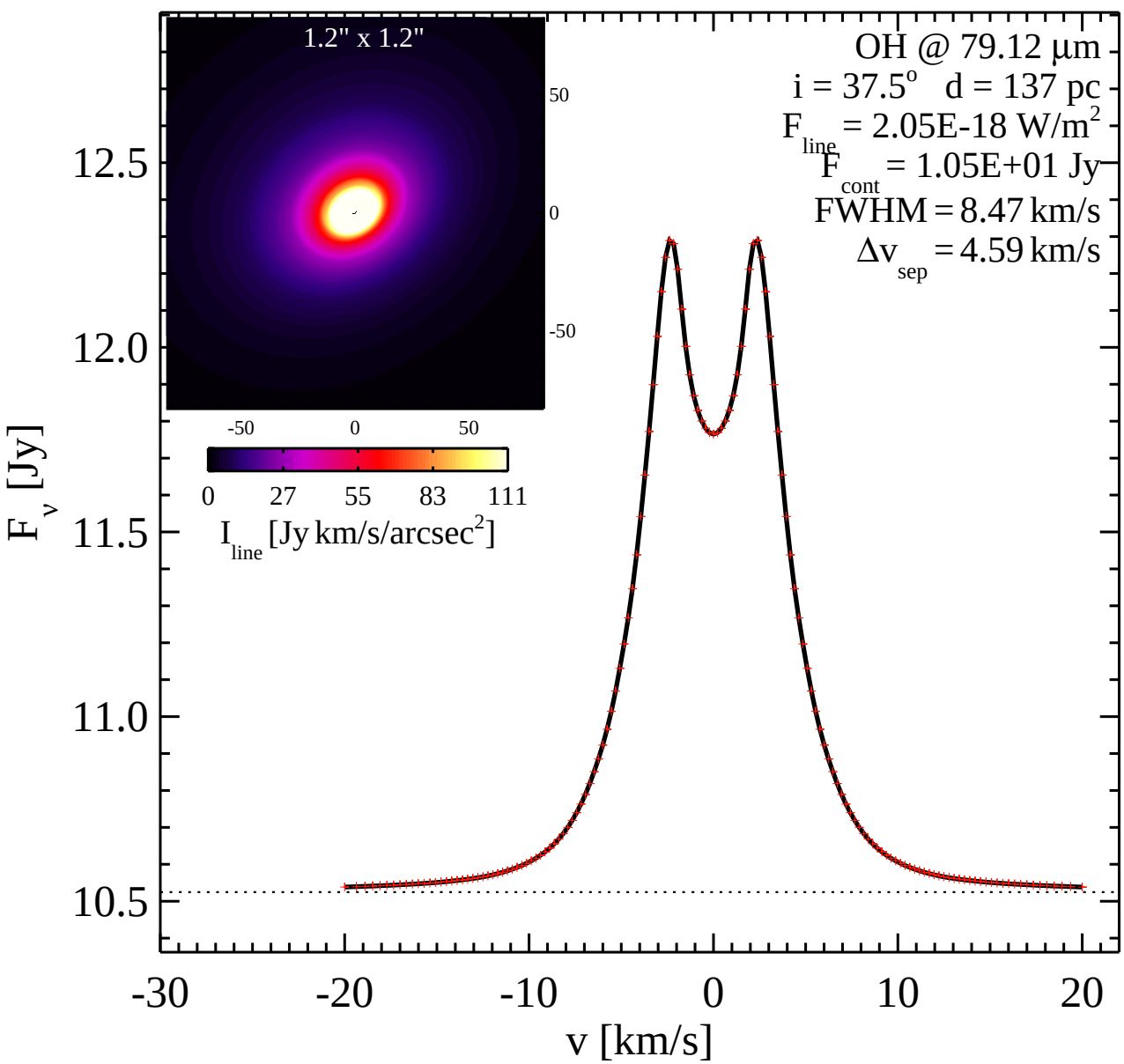

4.3" x 4.3"
200
100
0
-100
-200
-200 -100 0 100 200
0.0 1.0 2.1 3.1 4.1
I line [Jy km/s/arcsec2]
13CO @ 906.85 µm
i = 37.5o d = 137 pc
F line = 2.47E-19 W/m2
F cont = 6.85E-01 Jy
FWHM = 4.12 km/s
Δv sep = 2.73 km/s
F v [Jy]
8
6
4
2
-15 -10 -5 0 5 10
v [km/s]

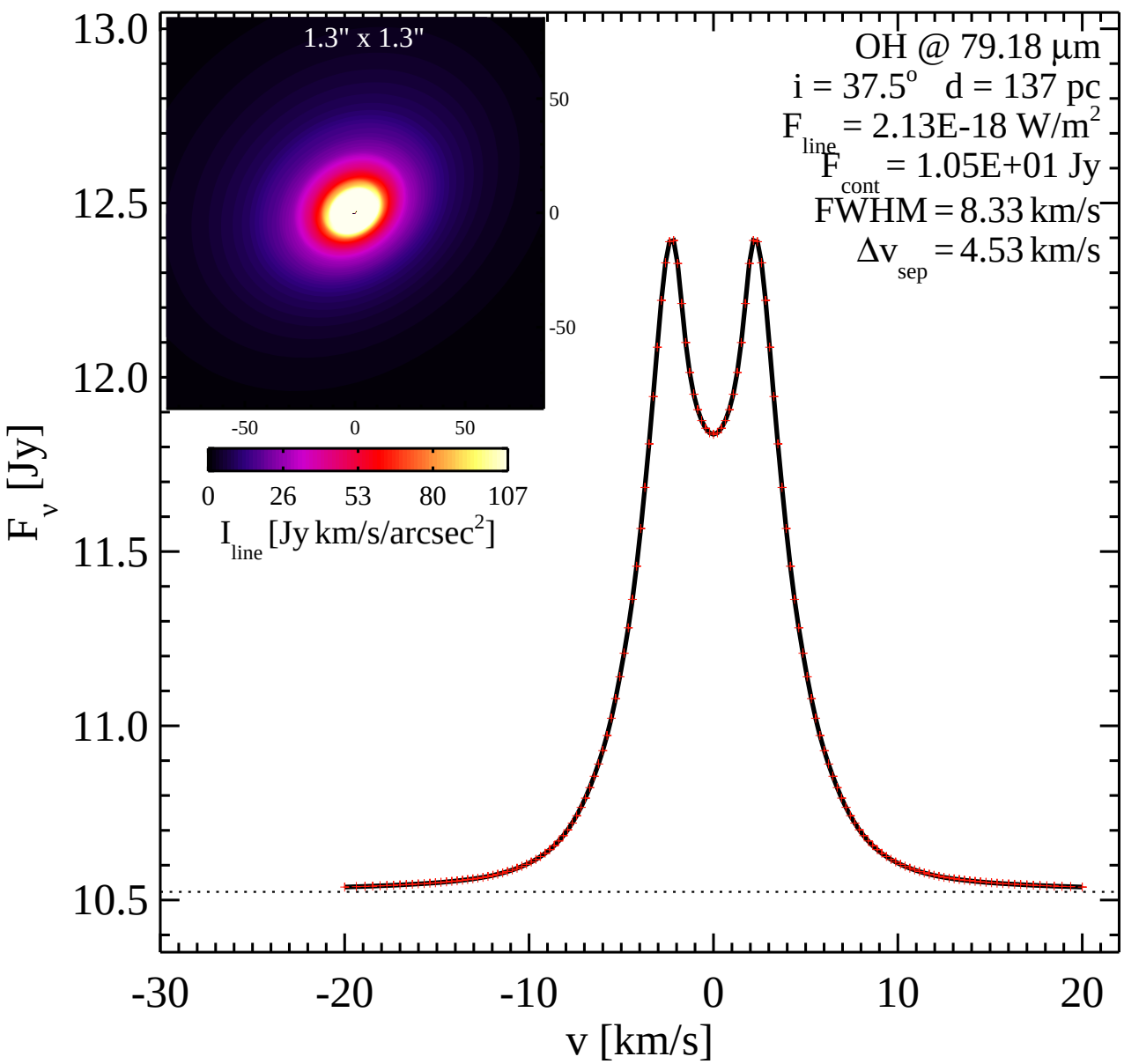

5.6" x 5.6"
200
0
-200
-200
0
200
0.0 0.6 1.2 1.8 2.4
I line [Jy km/s/arcsec2]
CO @ 1300.40 µm
i = 37.5o d = 137 pc
F line = 1.73E-19 W/m2
F cont = 2.85E-01 Jy
FWHM = 3.65 km/s
Δv sep = 2.31 km/s
F v [Jy]
0
2
4
6
8
-15
-10
-5
0
5
10
v [km/s]

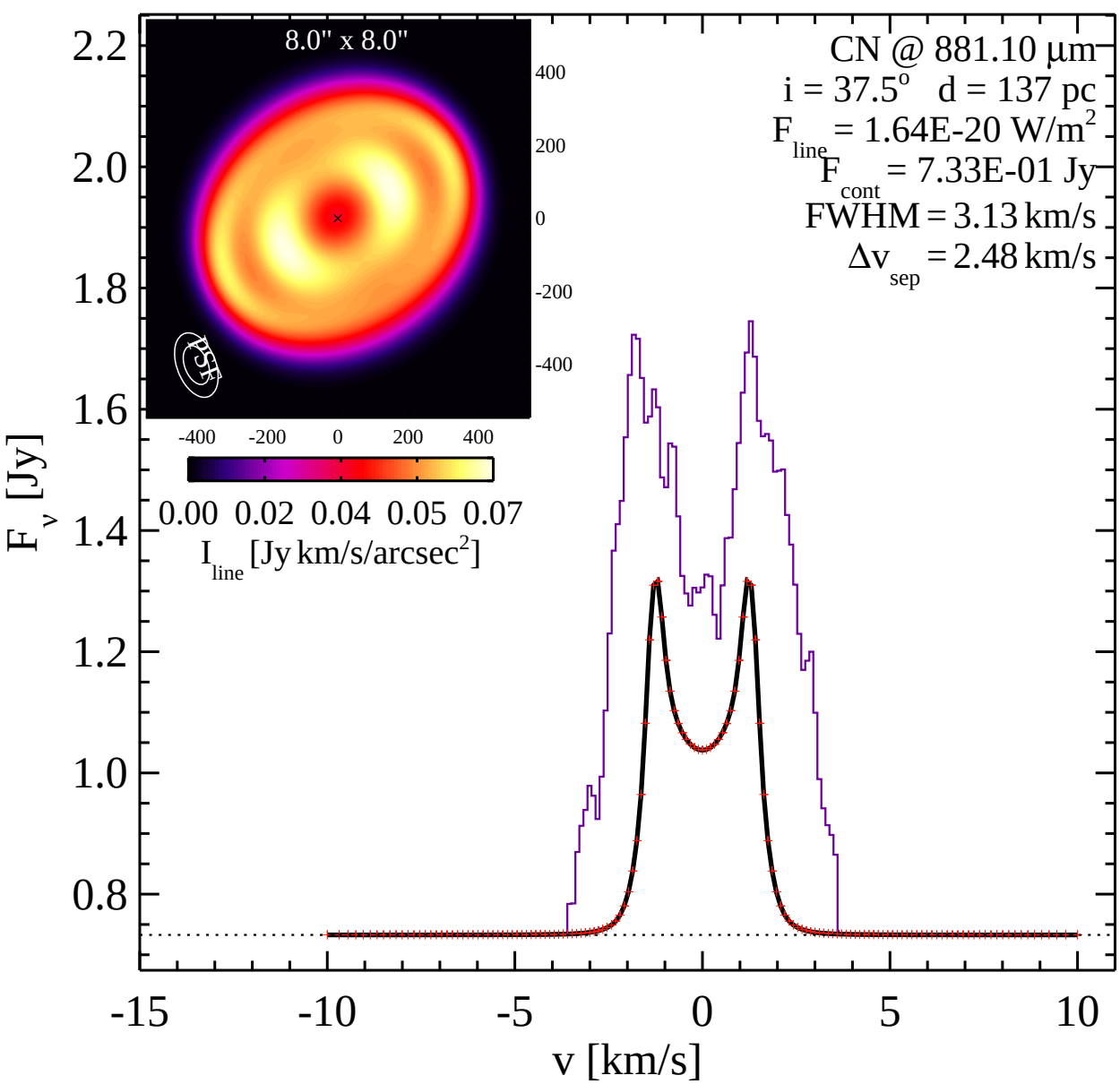

0.079" x 0.079"
o-H2O @ 63.32 µm
i = 37.5° d = 137 pc
F line = 9.13E-19 W/m2
F cont = 1.07E+01 Jy
FWHM = 34.10 km/s
Δv sep = 21.07 km/s
I line [Jy km/s/arcsec2]
F v [Jy]
v [km/s]

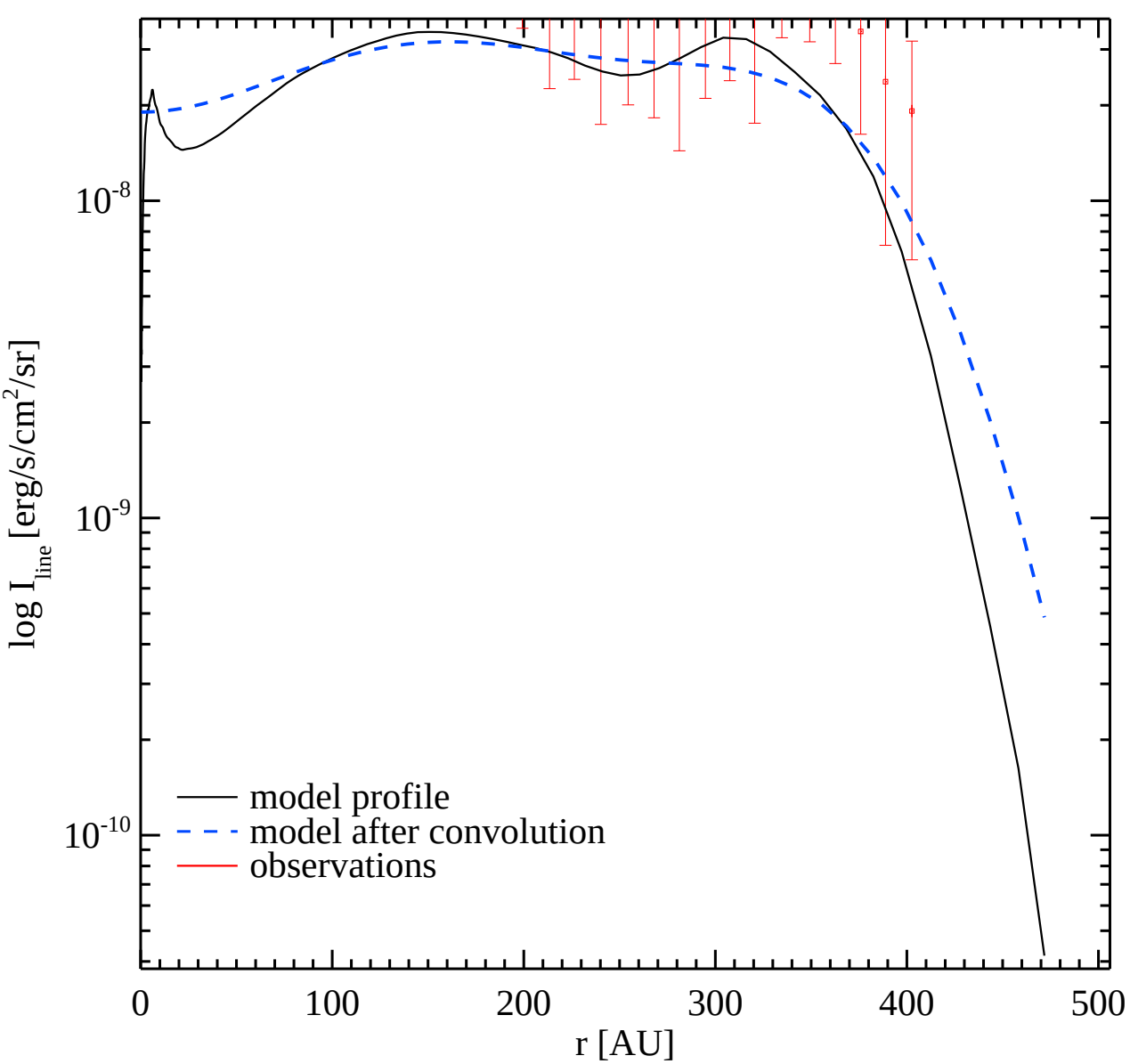

0.098" x 0.098"
o-H2O @ 71.95 µm
i = 37.5° d = 137 pc
F line = 9.11E-19 W/m2
F cont = 1.06E+01 Jy
FWHM = 30.36 km/s
Δv sep = 19.50 km/s
I line [Jy km/s/arcsec2]
F v [Jy]
v [km/s]

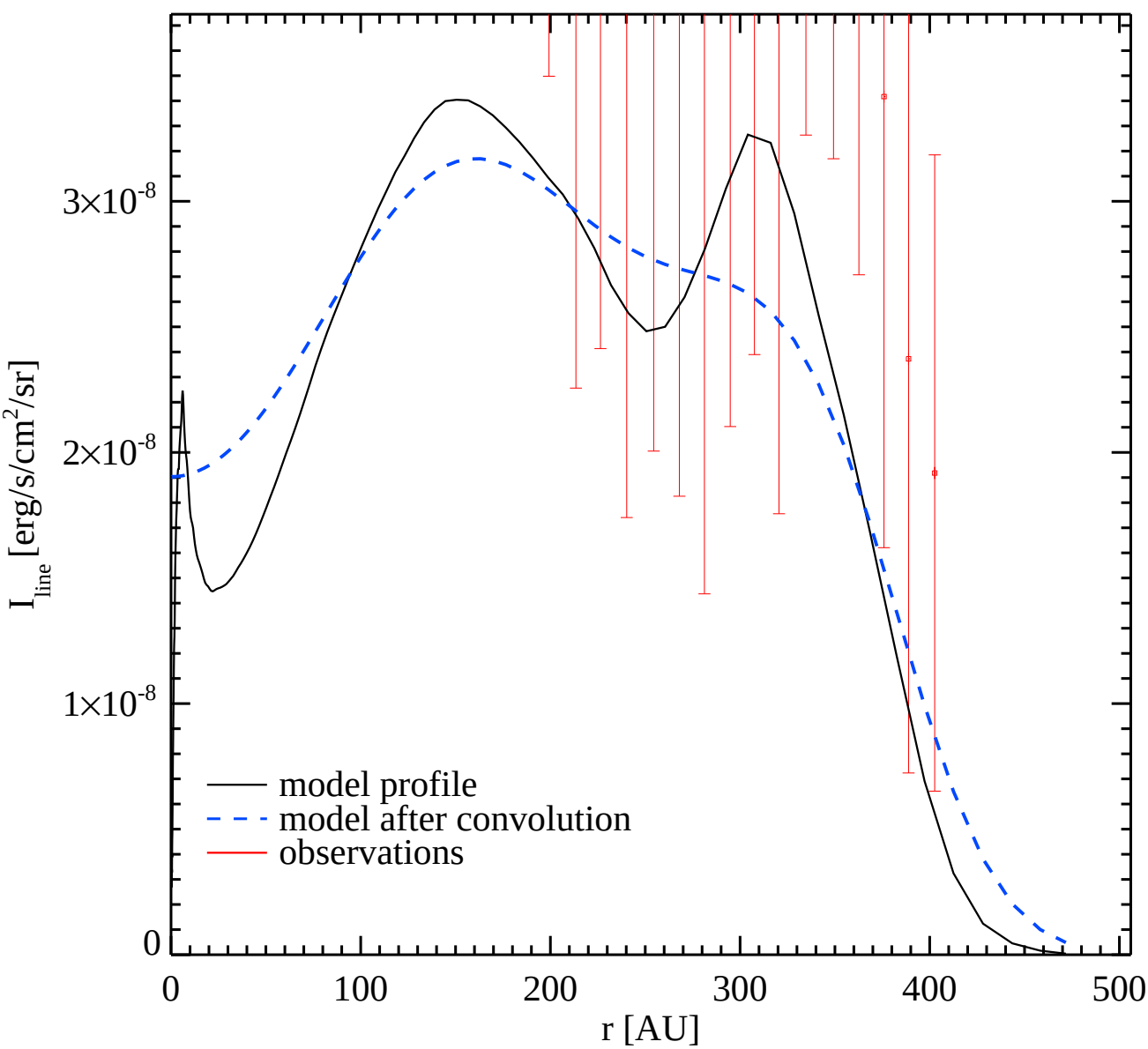

0.35" x 0.35"
20
10
0
-10
-20
-20 -10 0 10 20
0 478 957 1436 1915
I line [Jy km/s/arcsec2]
o-H2O @ 78.74 µm
i = 37.5° d = 137 pc
F line = 1.66E-18 W/m2
F cont = 1.05E+01 Jy
FWHM = 16.98 km/s
Δv sep = 7.69 km/s
F v [Jy]
11.4
11.2
11.0
10.8
10.6
-80 -60 -40 -20 0 20 40 60
v [km/s]

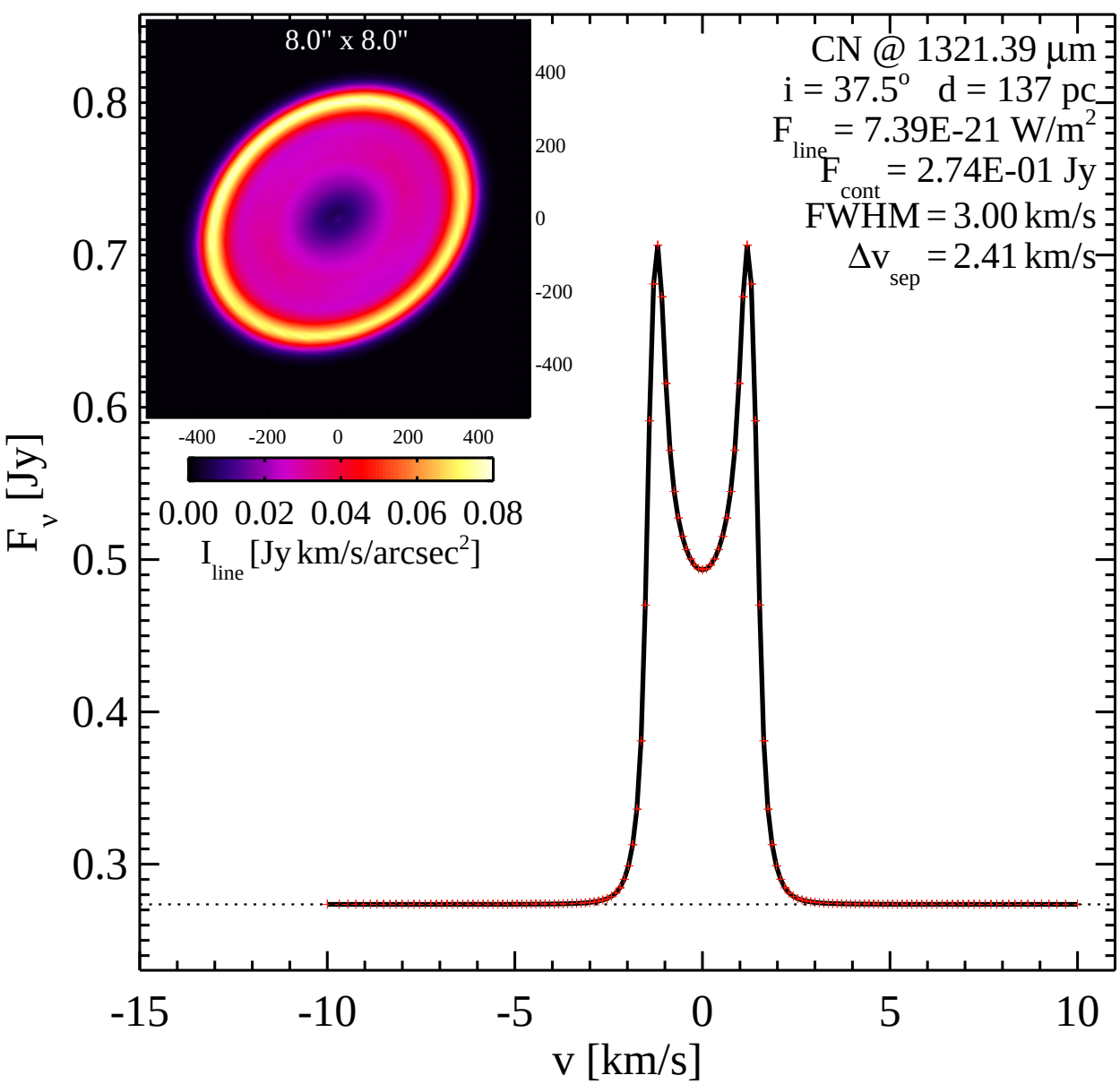

1.2" x 1.2"
50
0
-50
-50
0
50
0
27
55
83
111
I line [Jy km/s/arcsec2]
OH @ 79.12 µm
i = 37.5° d = 137 pc
F line = 2.05E-18 W/m2
F cont = 1.05E+01 Jy
FWHM = 8.47 km/s
Δv sep = 4.59 km/s
F v [Jy]
12.5
12.0
11.5
11.0
10.5
-30
-20
-10
0
10
20
v [km/s]

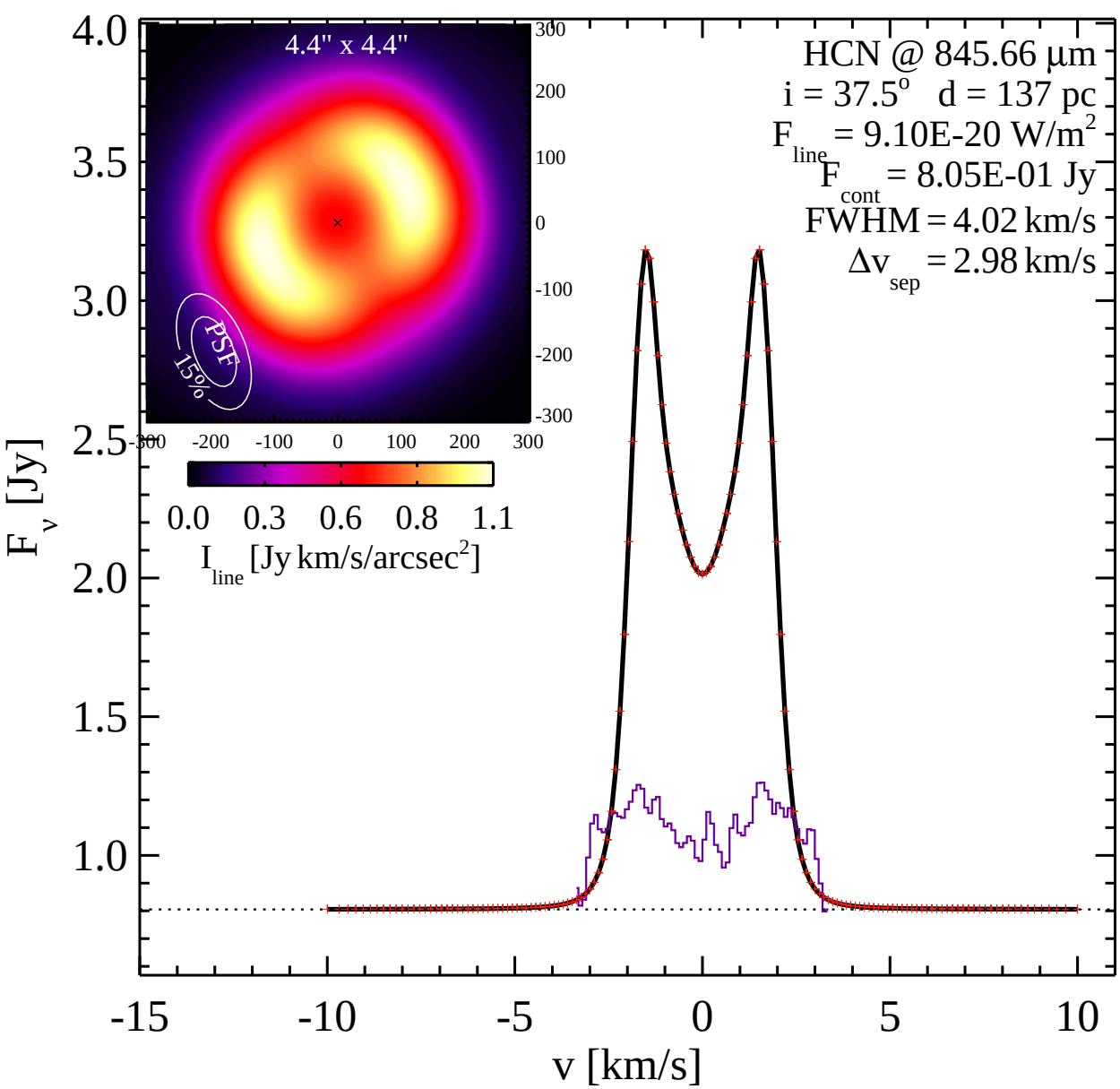

1.3" x 1.3"
50
0
-50
-50
0
50
0
26
53
80
107
I line [Jy km/s/arcsec2]
OH @ 79.18 µm
i = 37.5o d = 137 pc
F line = 2.13E-18 W/m2
F cont = 1.05E+01 Jy
FWHM = 8.33 km/s
Δv sep = 4.53 km/s
F v [Jy]
13.0
12.5
12.0
11.5
11.0
10.5
-30
-20
-10
0
10
20
v [km/s]

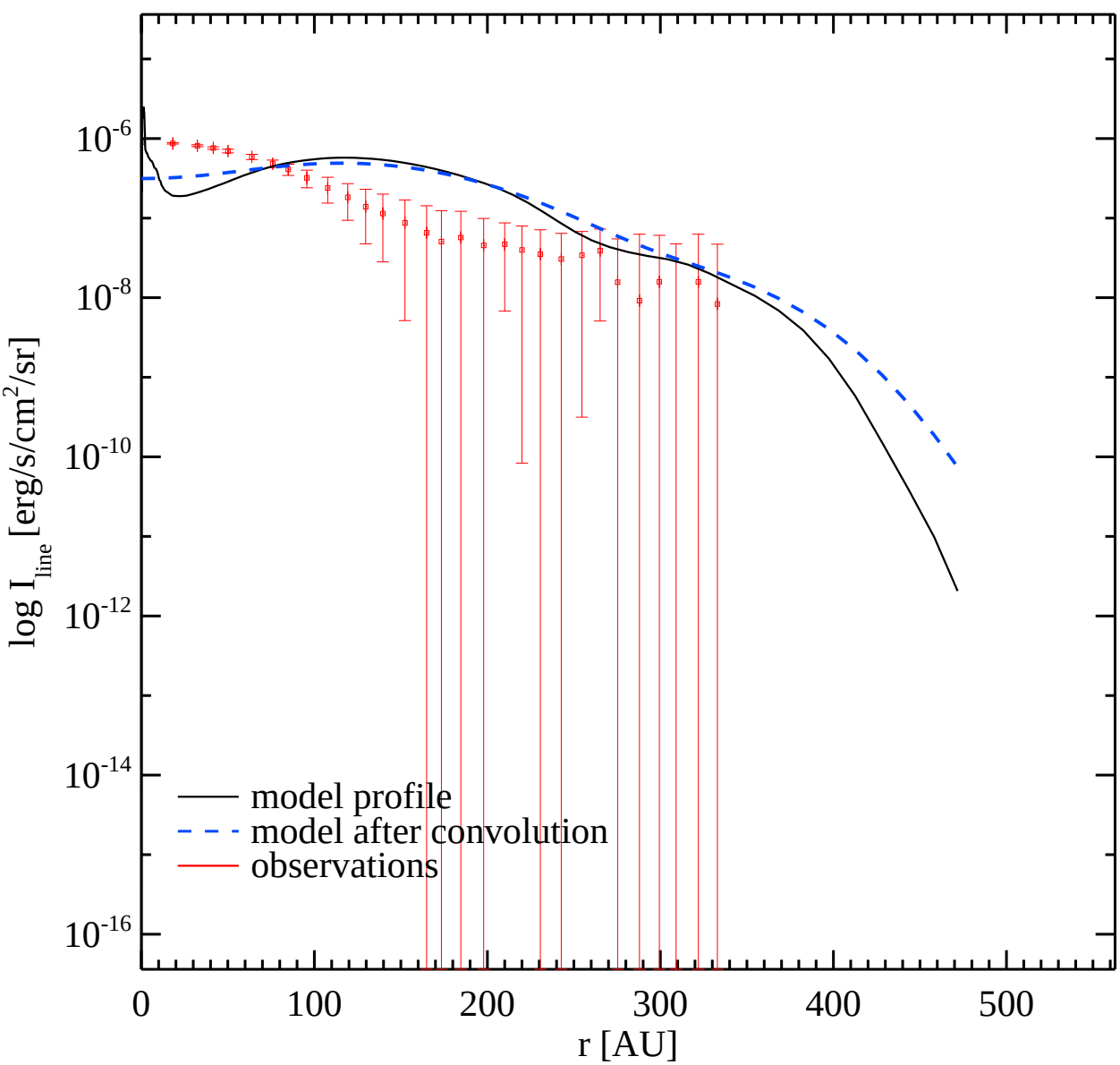

8.0" x 8.0"
400
200
0
-200
-400
-400 -200 0 200 400
0.00 0.02 0.04 0.05 0.07
I line [Jy km/s/arcsec2]
CN @ 881.10 µm
i = 37.5o d = 137 pc
F line = 1.64E-20 W/m2
F cont = 7.33E-01 Jy
FWHM = 3.13 km/s
Δv sep = 2.48 km/s
F v [Jy]
2.2
2.0
1.8
1.6
1.4
1.2
1.0
0.8
-15
-10
-5
0
5
10
v [km/s]

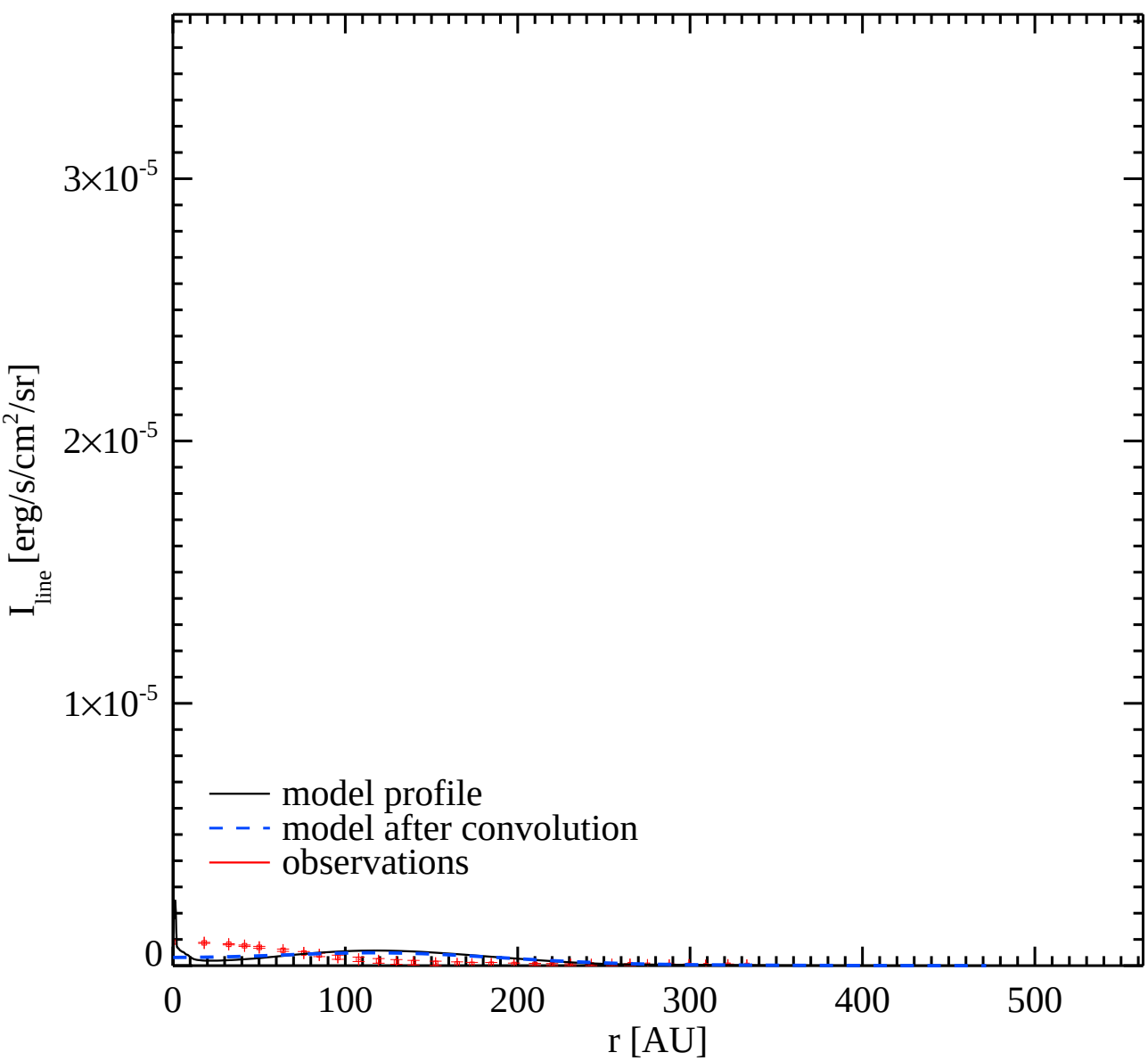

log I_line [erg/s/cm^2/sr]
10^-8
10^-9
10^-10
0
100
200
300
400
500
r [AU]
model profile
model after convolution
observations

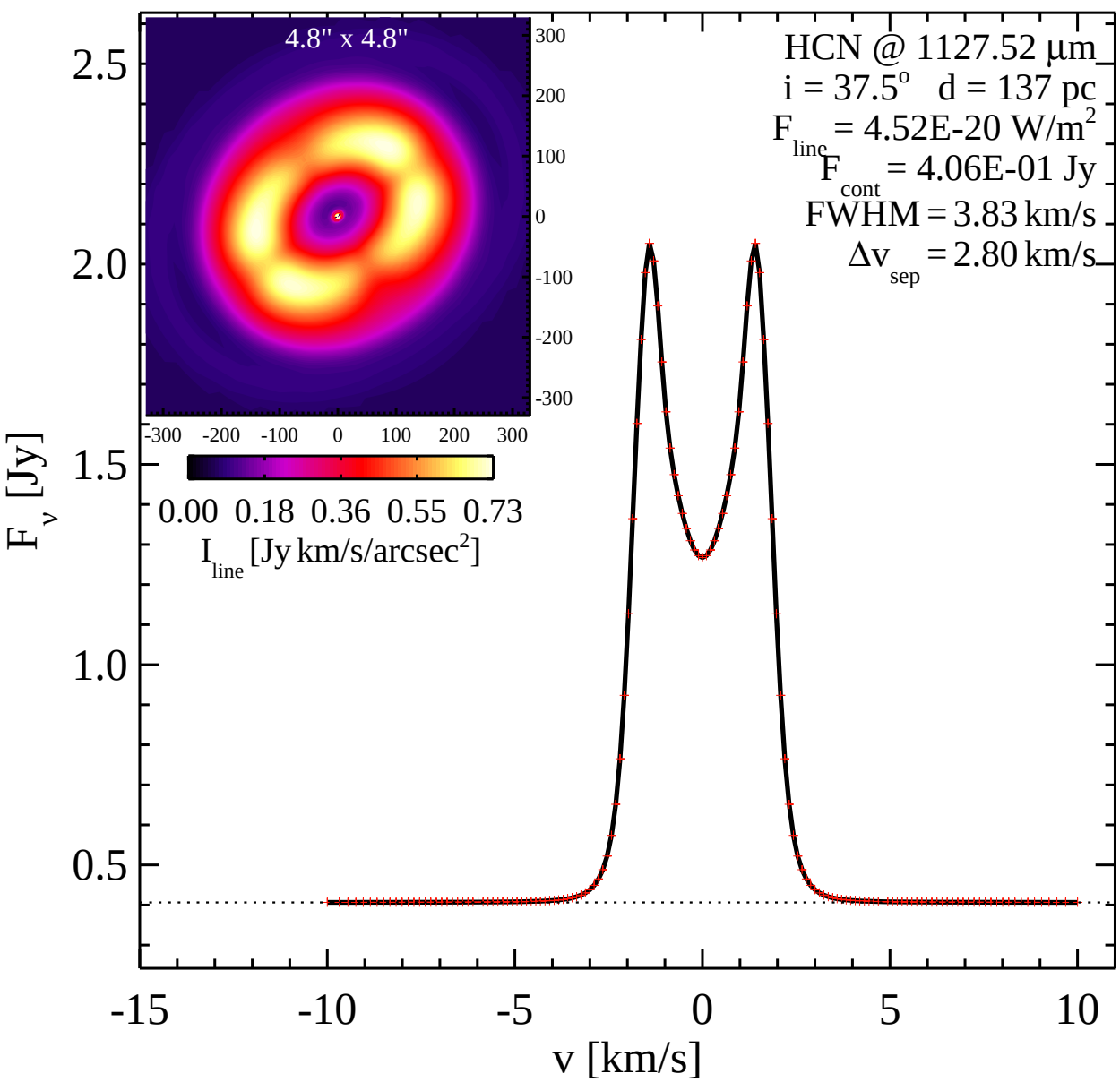

3×10-8
2×10-8
1×10-8
0
I line [erg/s/cm2/sr]
0
100
200
300
400
500
r [AU]
model profile
model after convolution
observations

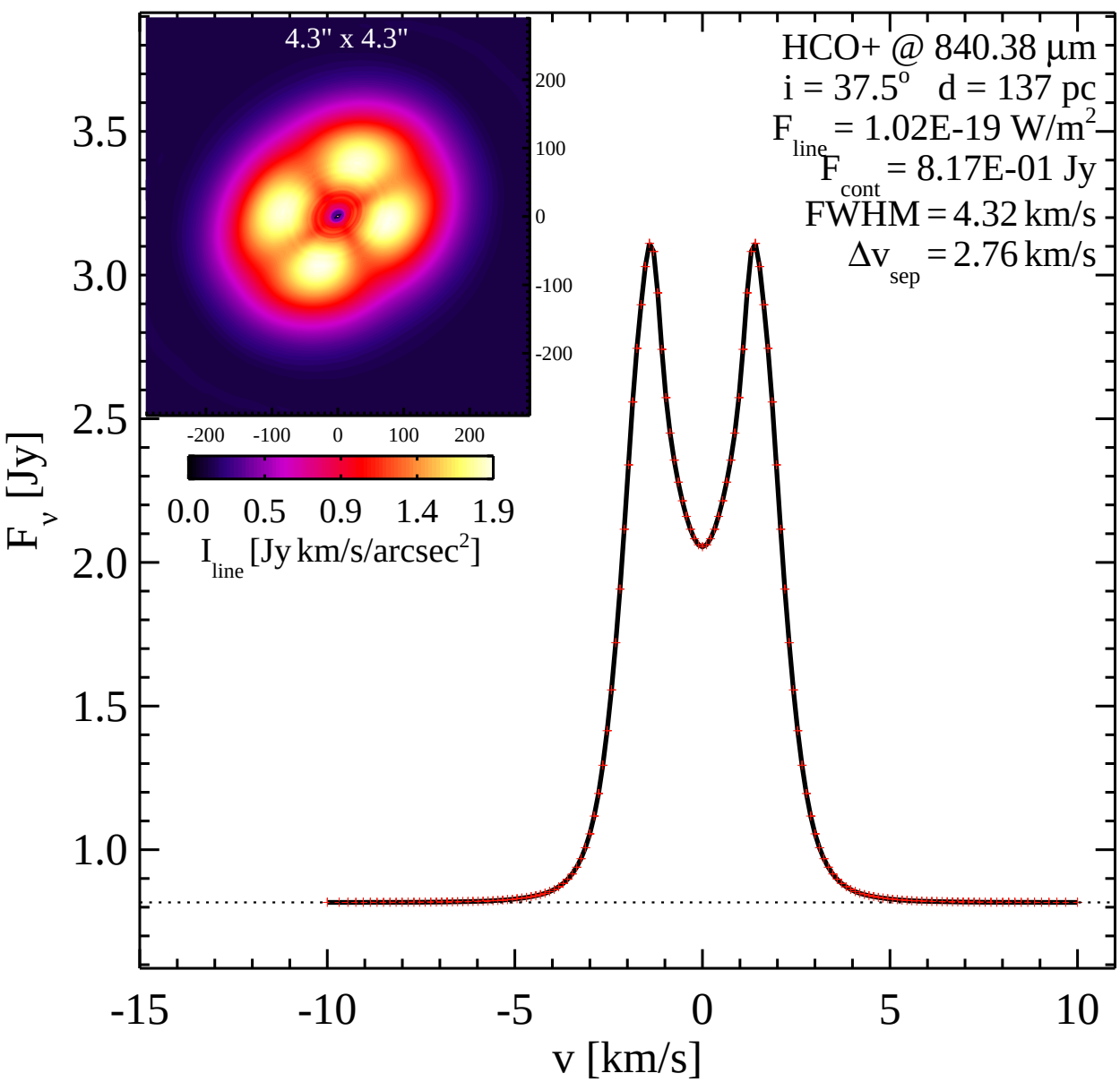

8.0" x 8.0"
400
200
0
-200
-400
-400 -200 0 200 400
0.00 0.02 0.04 0.06 0.08
I line [Jy km/s/arcsec2]
CN @ 1321.39 µm
i = 37.5o d = 137 pc
F line = 7.39E-21 W/m2
F cont = 2.74E-01 Jy
FWHM = 3.00 km/s
Δv sep = 2.41 km/s
F v [Jy]
0.8
0.7
0.6
0.5
0.4
0.3
-15 -10 -5 0 5 10
v [km/s]

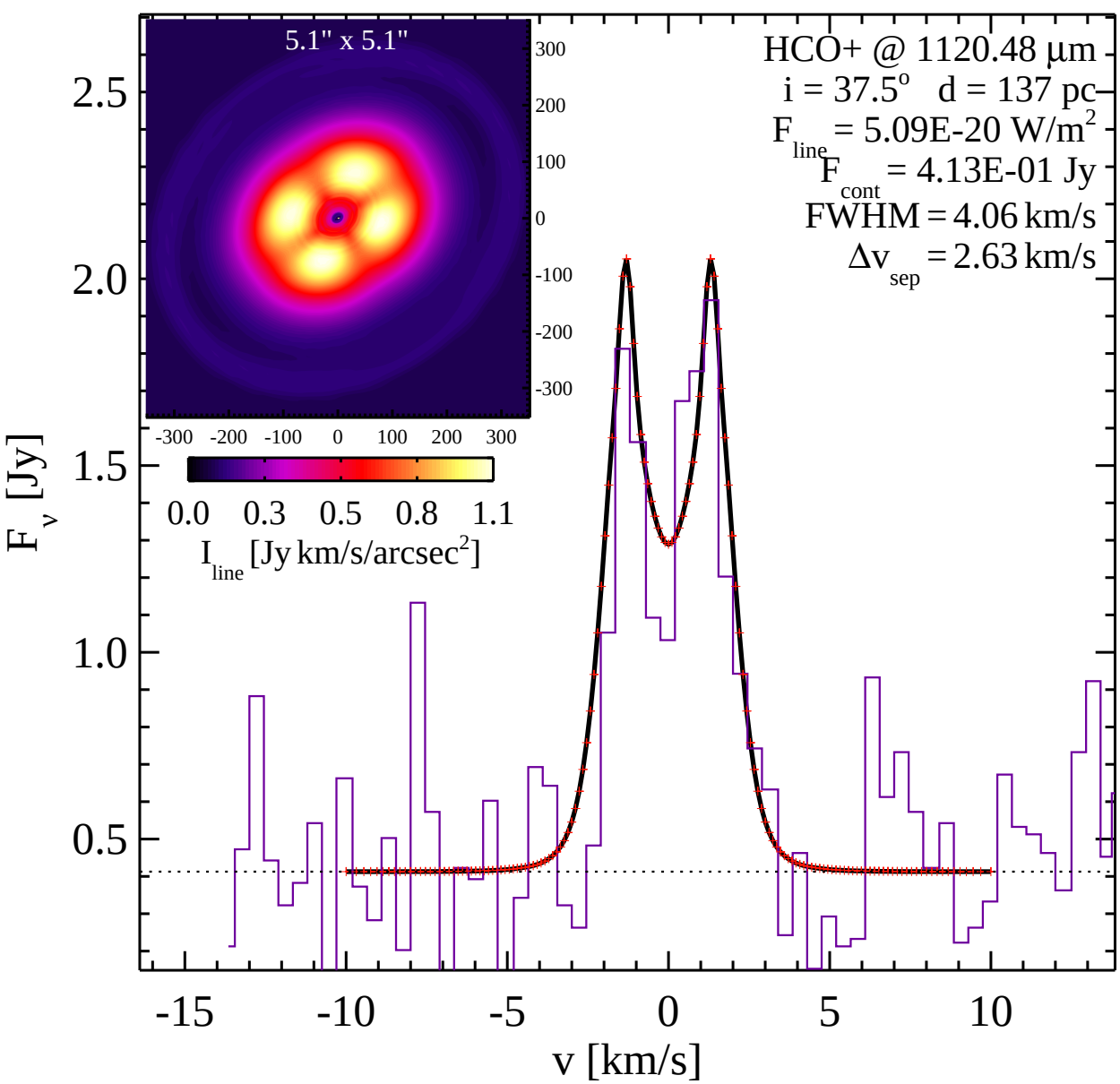

HCN @ 845.66 µm
i = 37.5° d = 137 pc
F line = 9.10E-20 W/m2
F cont = 8.05E-01 Jy
FWHM = 4.02 km/s
Δv sep = 2.98 km/s
4.4" x 4.4"
PSF
15%
I line [Jy km/s/arcsec2]
F v [Jy]
v [km/s]

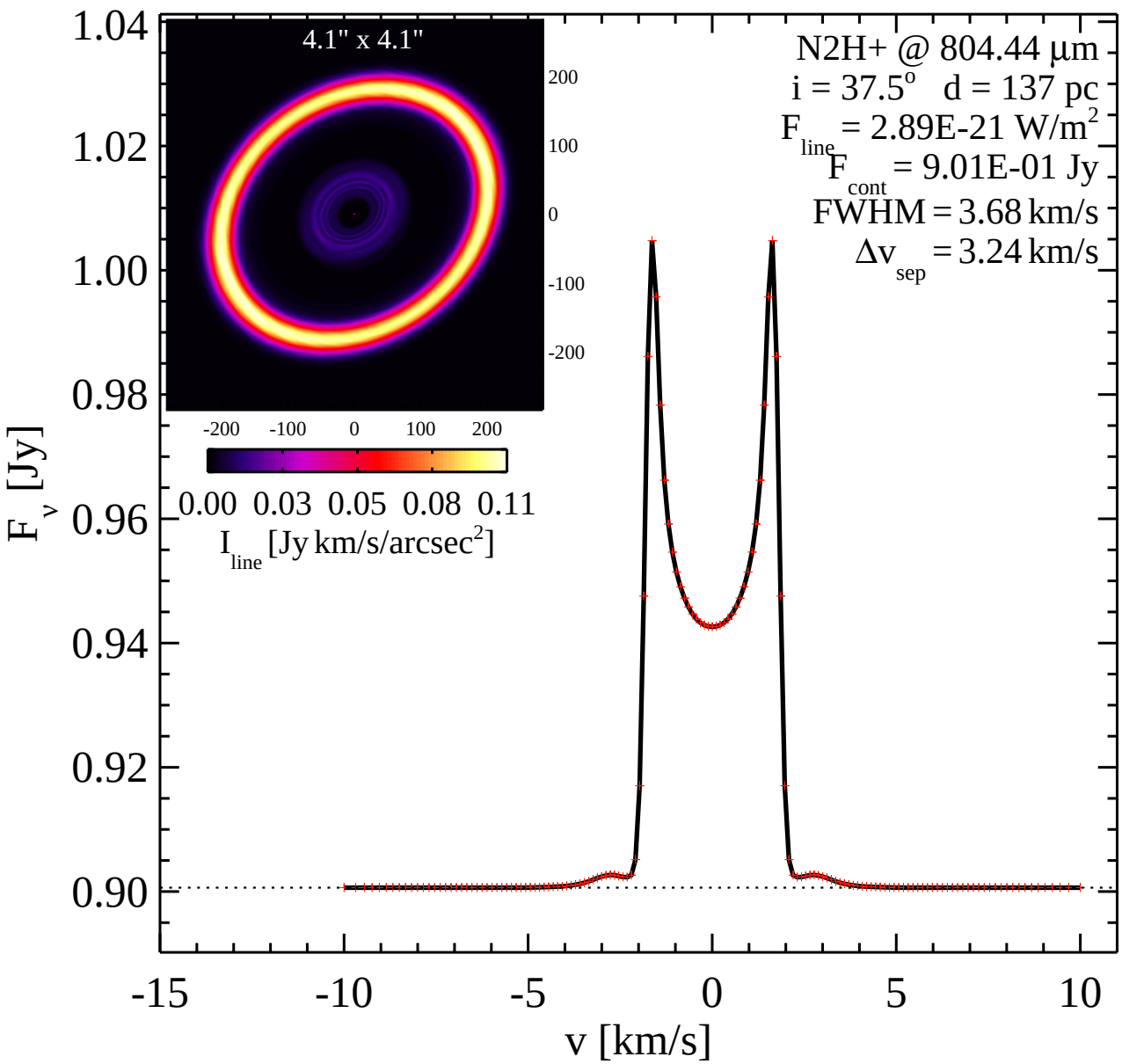

log I_line [erg/s/cm^2/sr]
10^-6
10^-8
10^-10
10^-12
10^-14
10^-16
0
100
200
300
400
500
r [AU]
model profile
model after convolution
observations

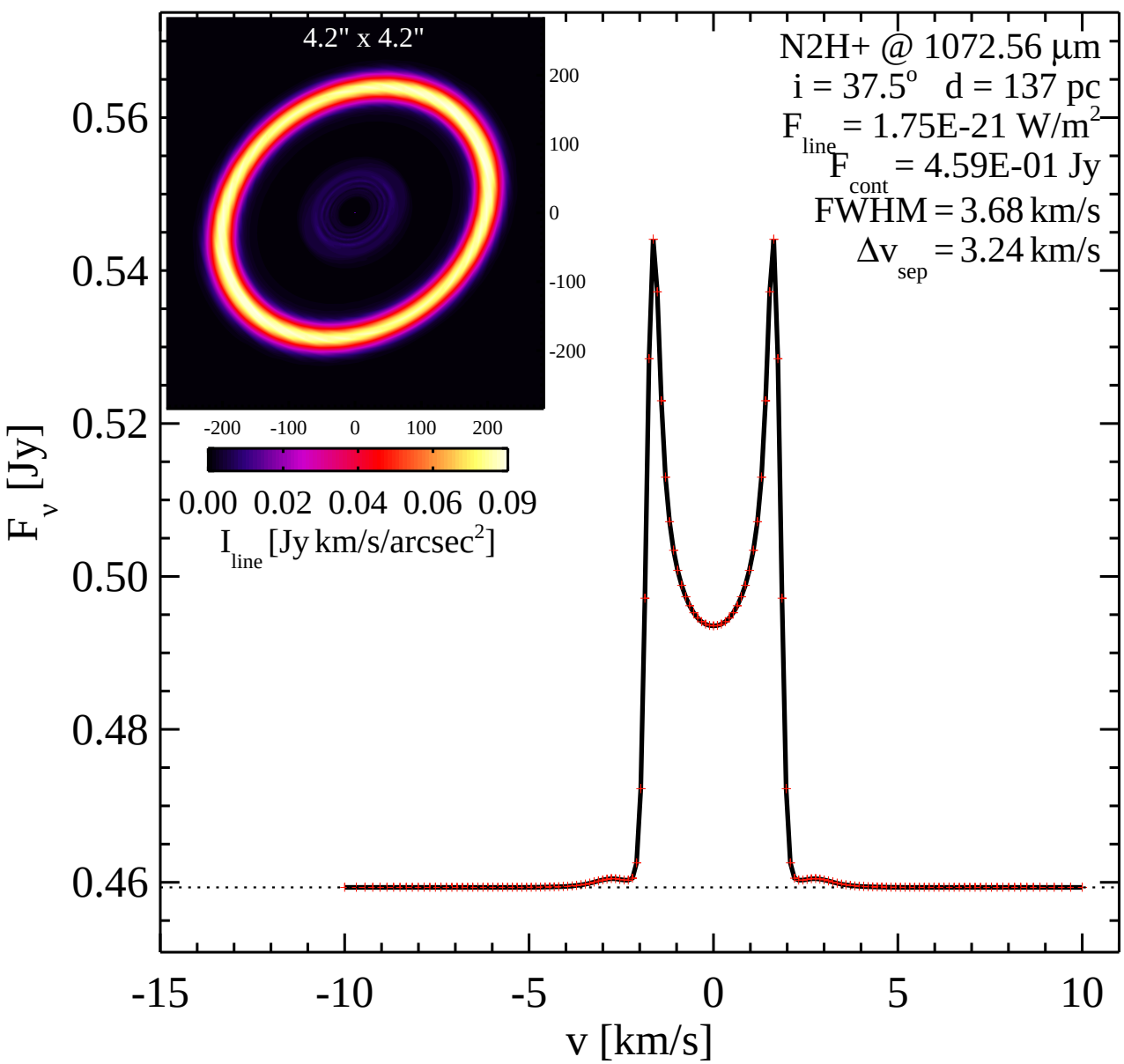

3×10-5
2×10-5
1×10-5
0
I line [erg/s/cm2/sr]
model profile
model after convolution
observations
0
100
200
300
400
500
r [AU]

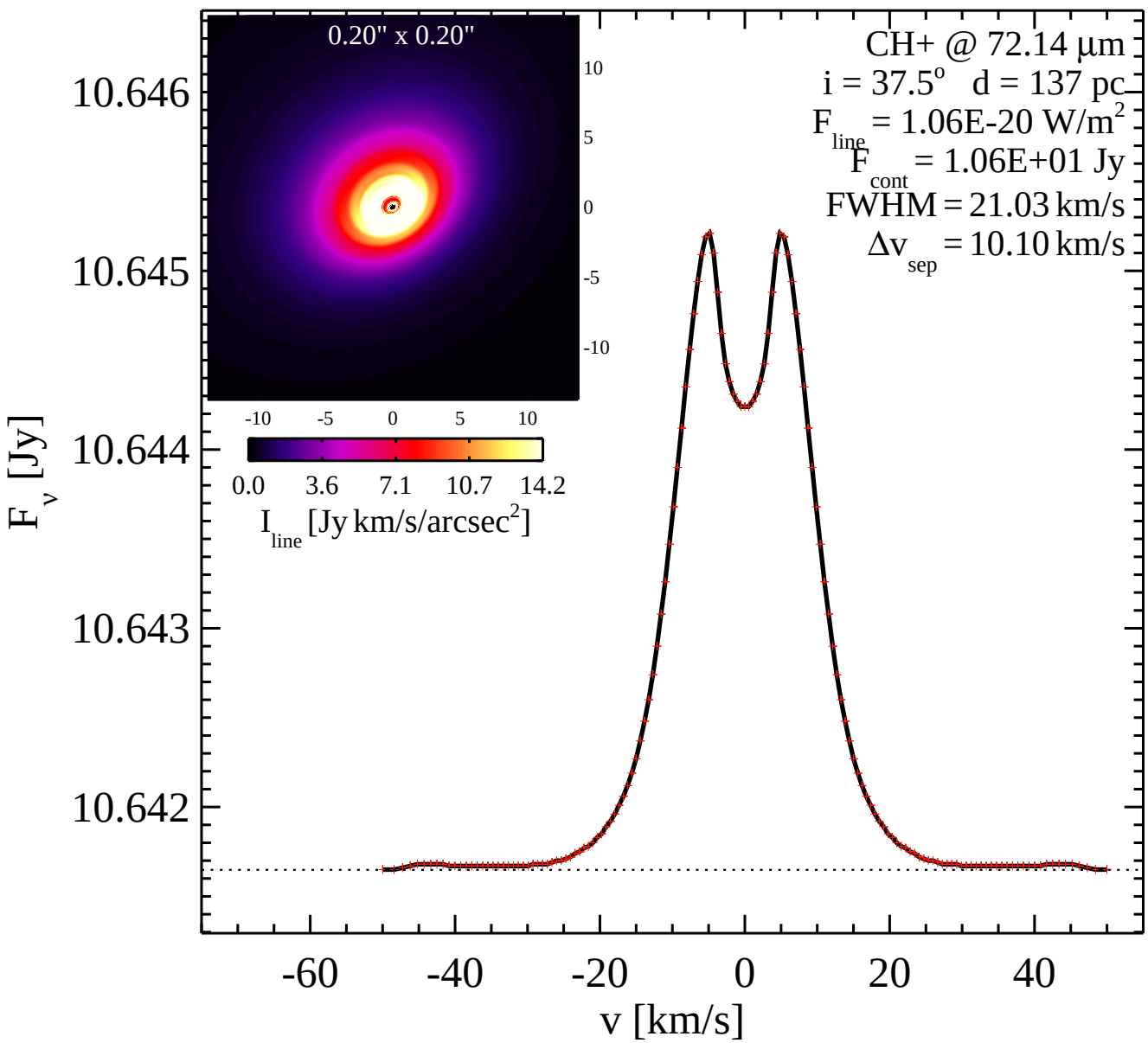

4.8" x 4.8"
HCN @ 1127.52 µm
i = 37.5° d = 137 pc
F line = 4.52E-20 W/m2
F cont = 4.06E-01 Jy
FWHM = 3.83 km/s
Δv sep = 2.80 km/s
F v [Jy]
v [km/s]
I line [Jy km/s/arcsec2]
0.00 0.18 0.36 0.55 0.73
-300 -200 -100 0 100 200 300
2.5
2.0
1.5
1.0
0.5
-15 -10 -5 0 5 10


4.3" x 4.3"
200
100
0
-100
-200
-200 -100 0 100 200
0.0 0.5 0.9 1.4 1.9
I line [Jy km/s/arcsec2]
HCO+ @ 840.38 µm
i = 37.5o d = 137 pc
F line = 1.02E-19 W/m2
F cont = 8.17E-01 Jy
FWHM = 4.32 km/s
Δv sep = 2.76 km/s
F v [Jy]
3.5
3.0
2.5
2.0
1.5
1.0
-15 -10 -5 0 5 10
v [km/s]


5.1" x 5.1"
HCO+ @ 1120.48 µm
i = 37.5° d = 137 pc
F line = 5.09E-20 W/m2
F cont = 4.13E-01 Jy
FWHM = 4.06 km/s
Δv sep = 2.63 km/s
F v [Jy]
v [km/s]
I line [Jy km/s/arcsec2]


4.1" x 4.1"
200
100
0
-100
-200
-200 -100 0 100 200
0.00 0.03 0.05 0.08 0.11
I line [Jy km/s/arcsec2]
N2H+ @ 804.44 µm
i = 37.5o d = 137 pc
F line = 2.89E-21 W/m2
F cont = 9.01E-01 Jy
FWHM = 3.68 km/s
Δv sep = 3.24 km/s
F v [Jy]
1.04
1.02
1.00
0.98
0.96
0.94
0.92
0.90
-15
-10
-5
0
5
10
v [km/s]


4.2" x 4.2"
200
100
0
-100
-200
-200 -100 0 100 200
0.00 0.02 0.04 0.06 0.09
I line [Jy km/s/arcsec2]
N2H+ @ 1072.56 µm
i = 37.5o d = 137 pc
F line = 1.75E-21 W/m2
F cont = 4.59E-01 Jy
FWHM = 3.68 km/s
Δv sep = 3.24 km/s
F v [Jy]
0.56
0.54
0.52
0.50
0.48
0.46
-15 -10 -5 0 5 10
v [km/s]


0.20" x 0.20"
10
5
0
-5
-10
-10 -5 0 5 10
0.0 3.6 7.1 10.7 14.2
I line [Jy km/s/arcsec2]
CH+ @ 72.14 µm
i = 37.5° d = 137 pc
F line = 1.06E-20 W/m2
F cont = 1.06E+01 Jy
FWHM = 21.03 km/s
Δv sep = 10.10 km/s
10.646
10.645
10.644
10.643
10.642
F v [Jy]
-60 -40 -20 0 20 40
v [km/s]