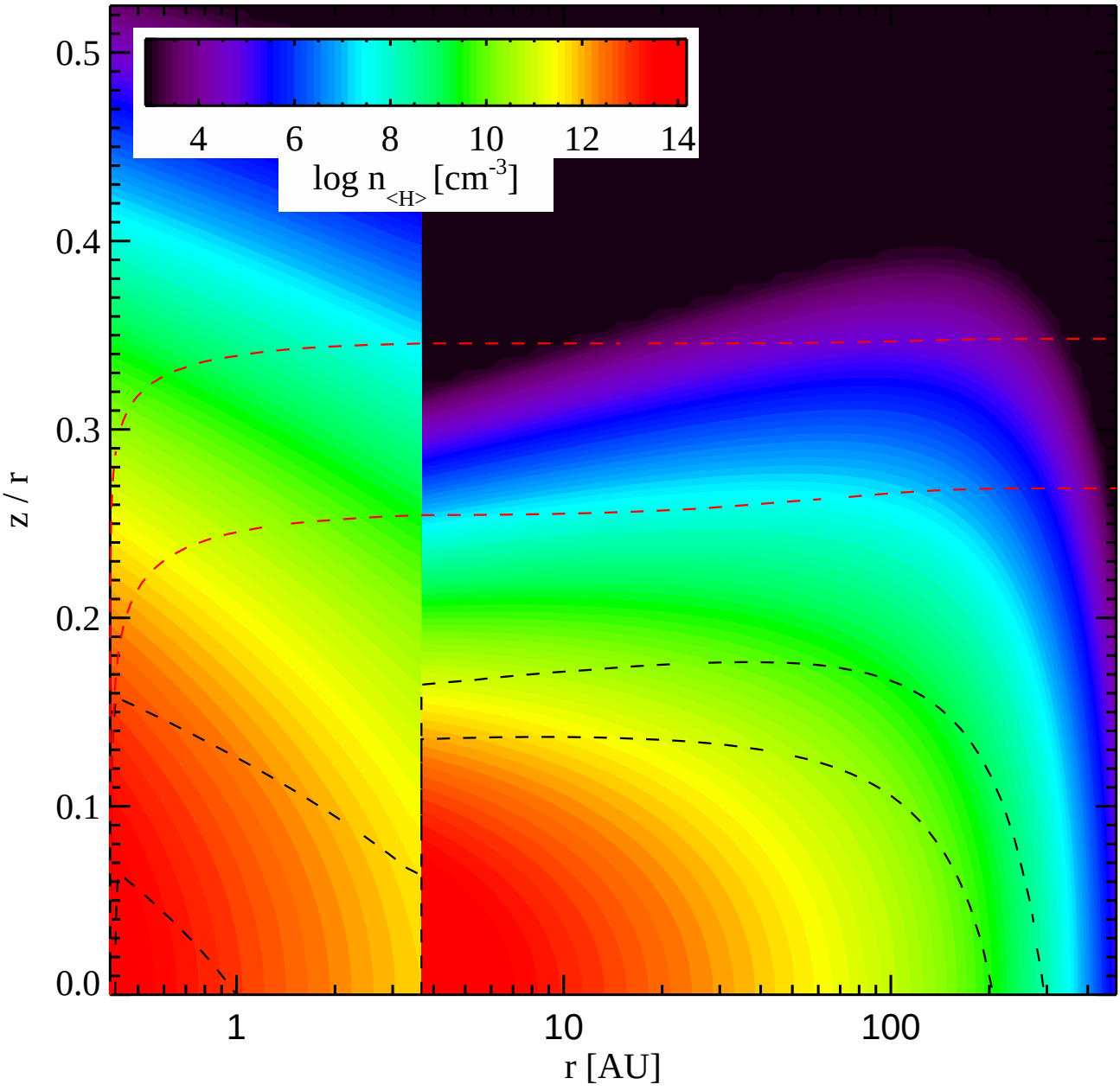
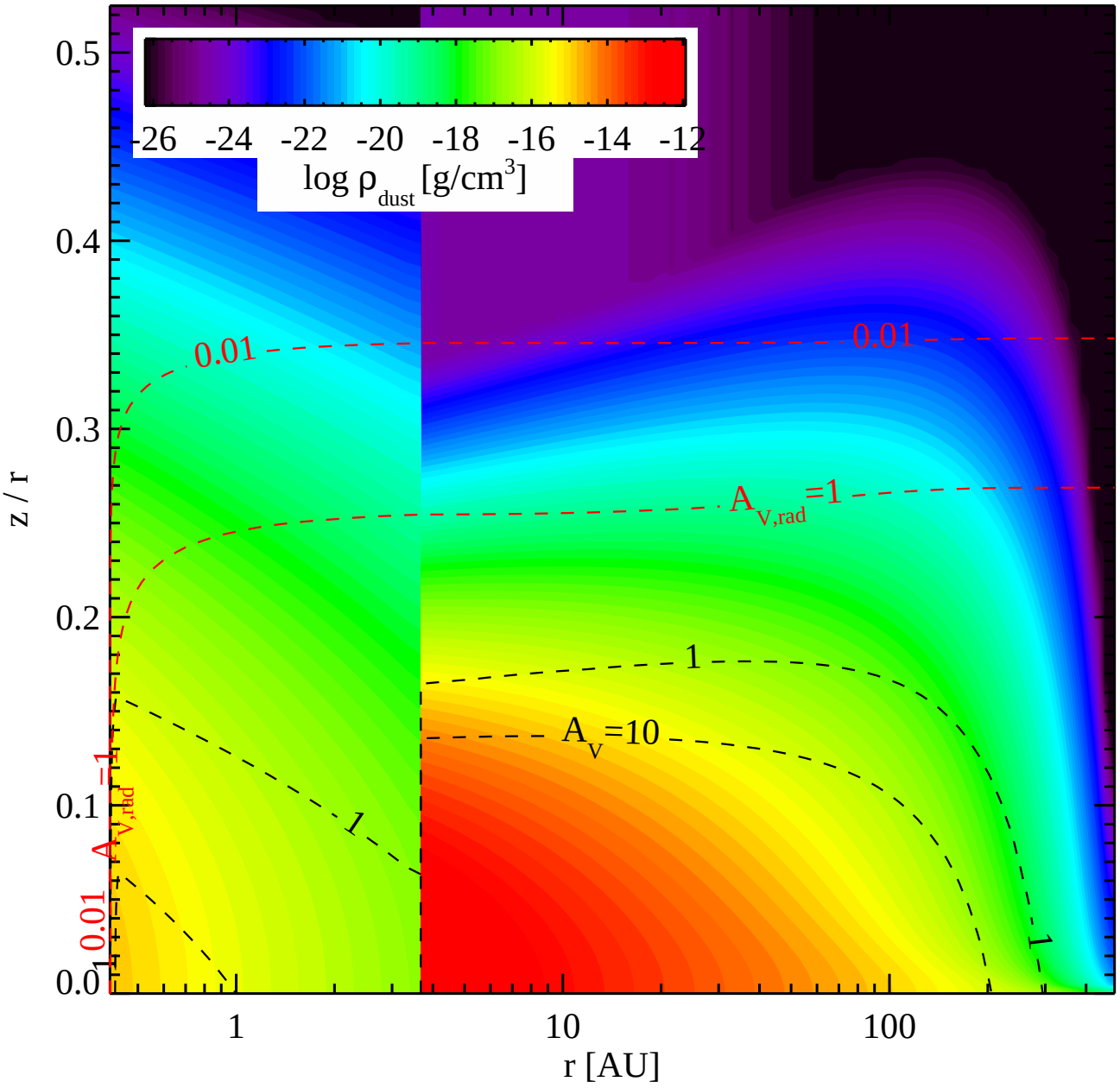
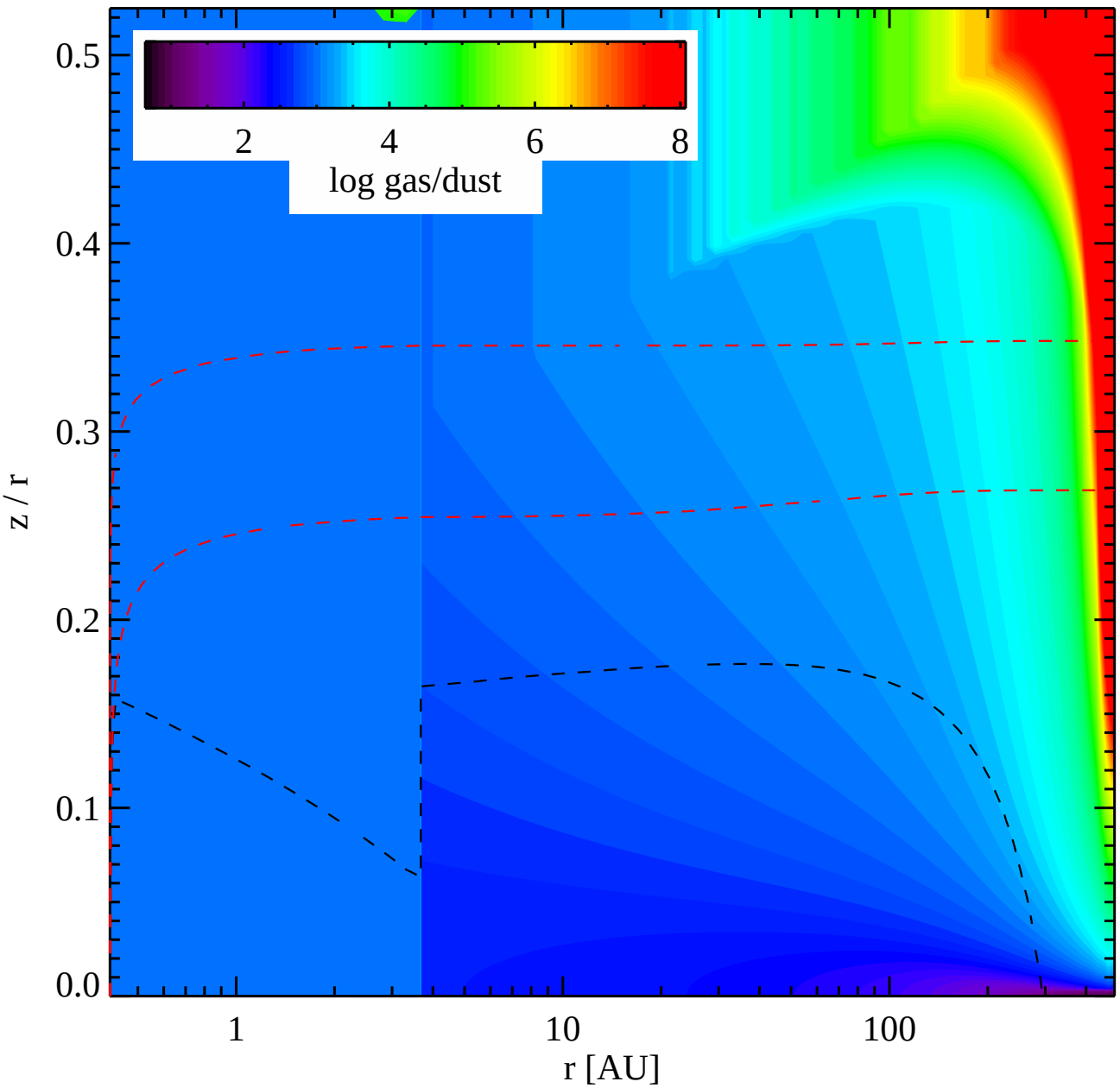
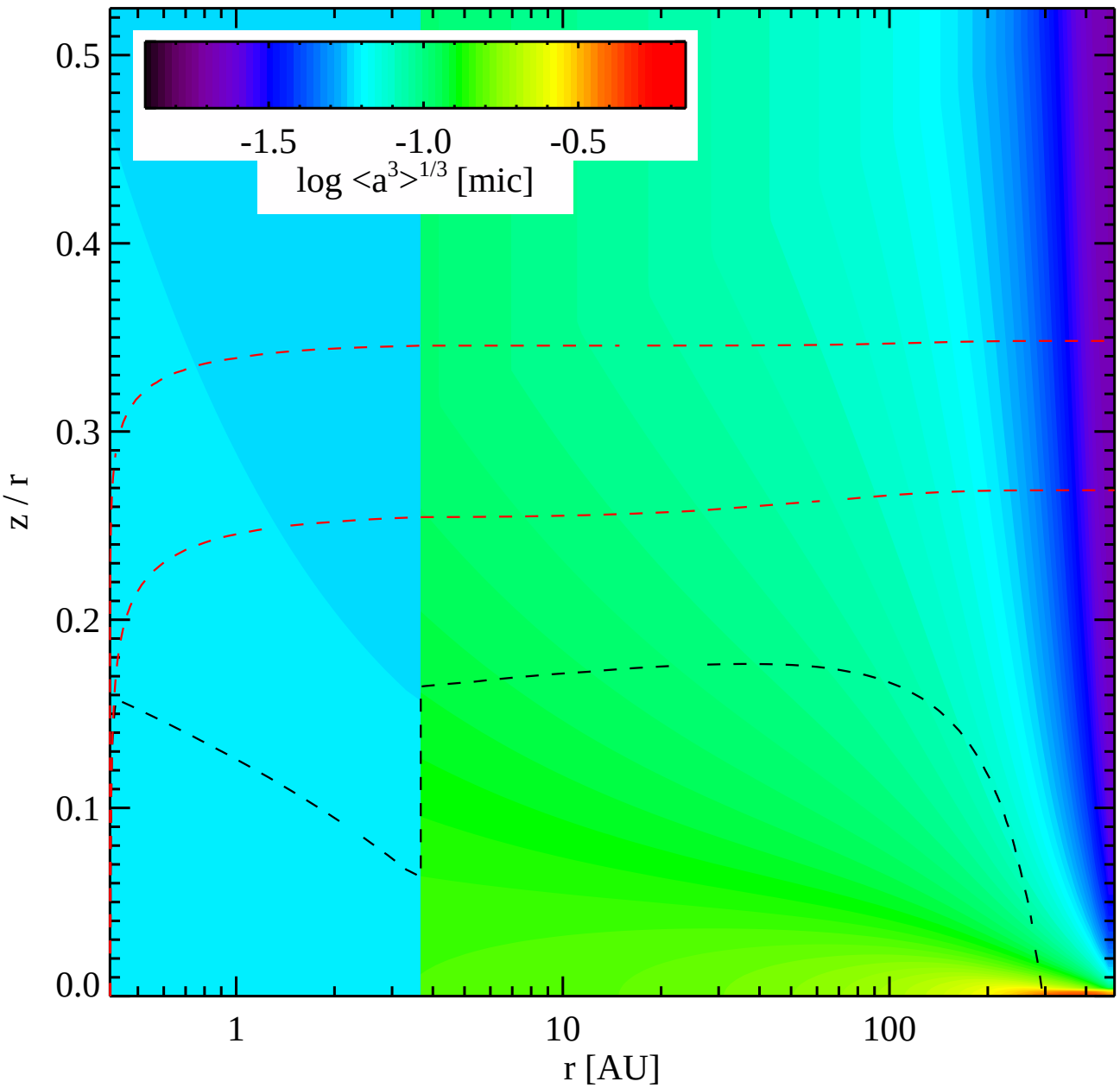
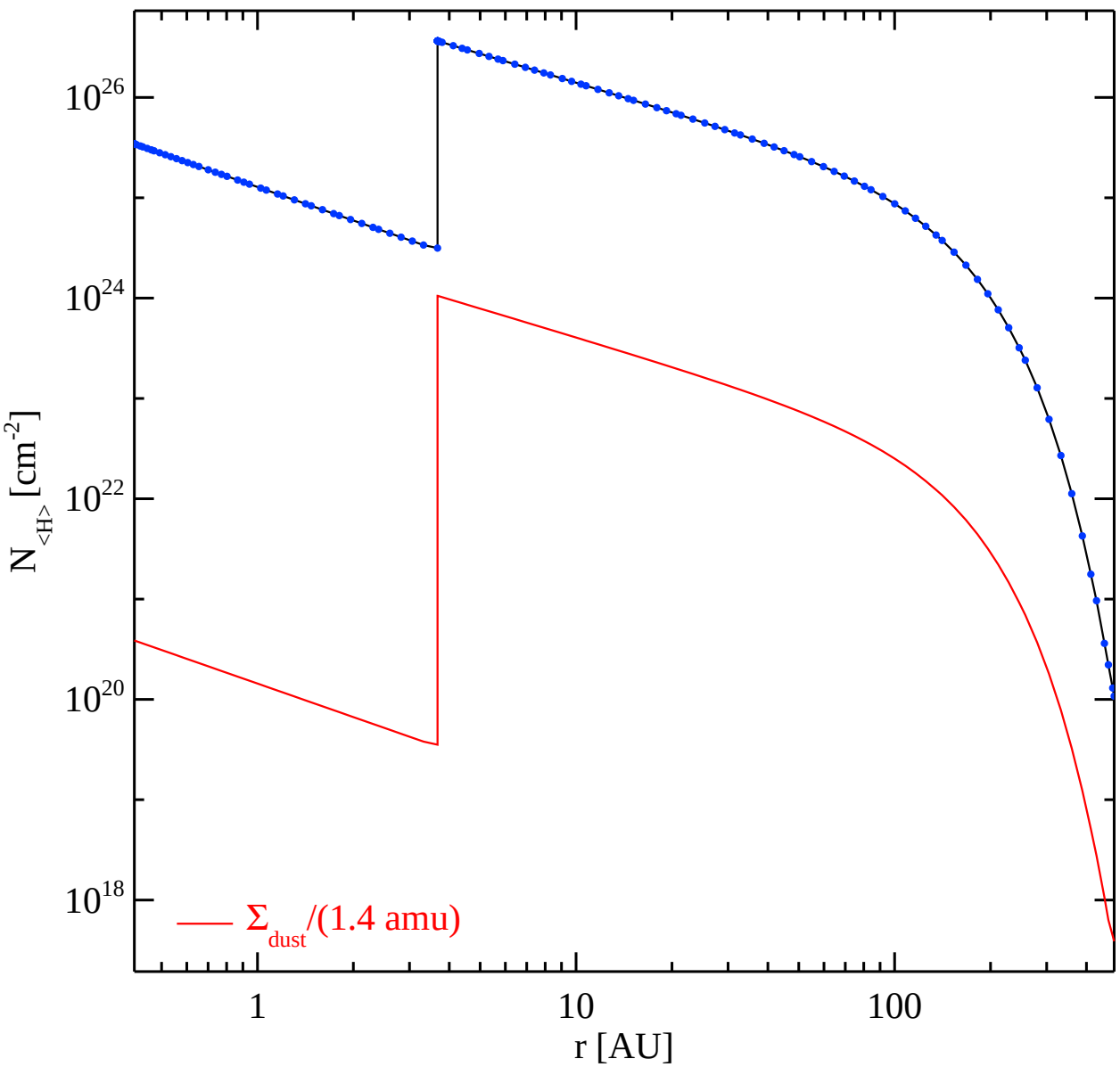
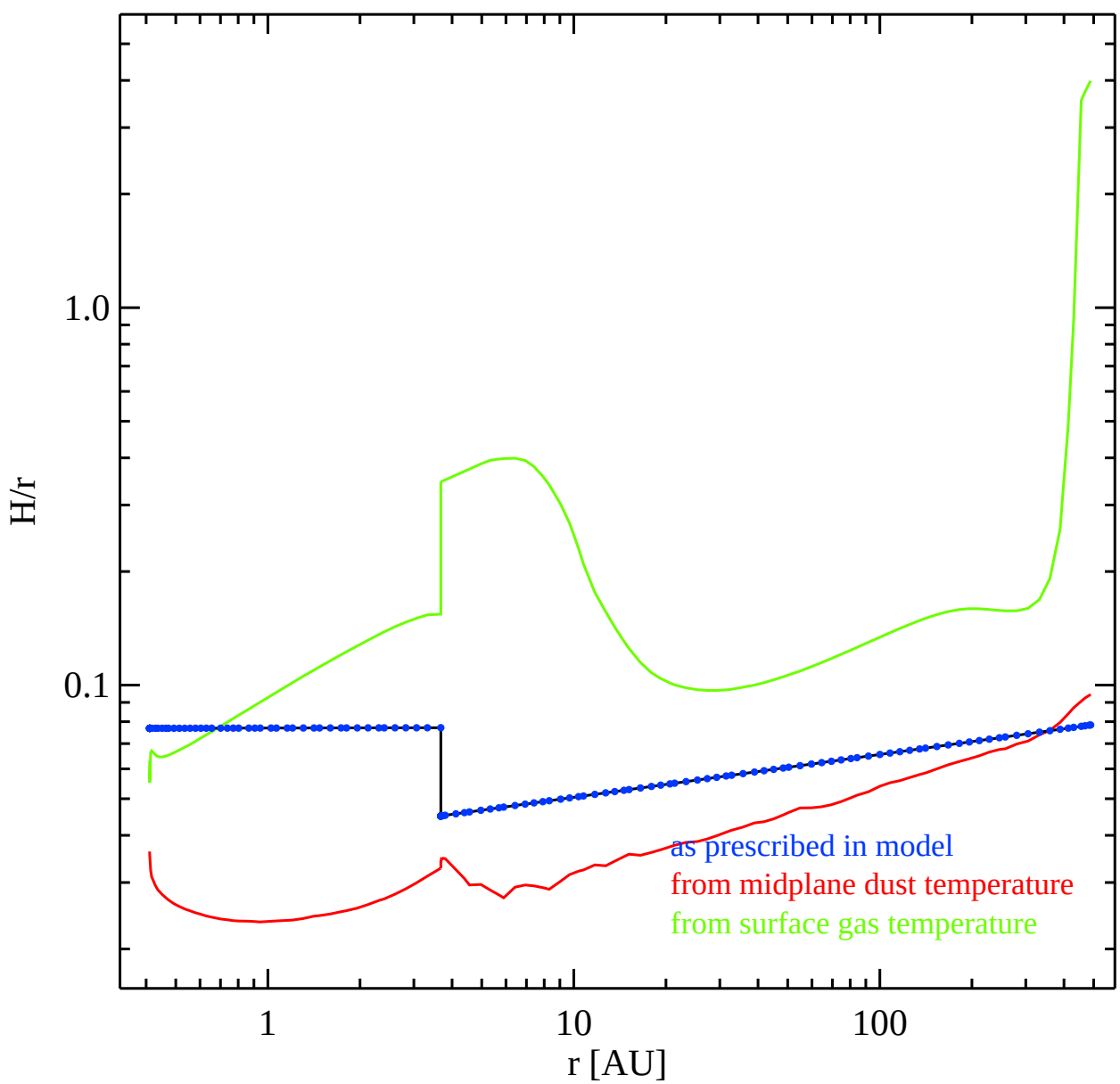

4
6
8
10
12
14
log n<H> [cm-3]
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

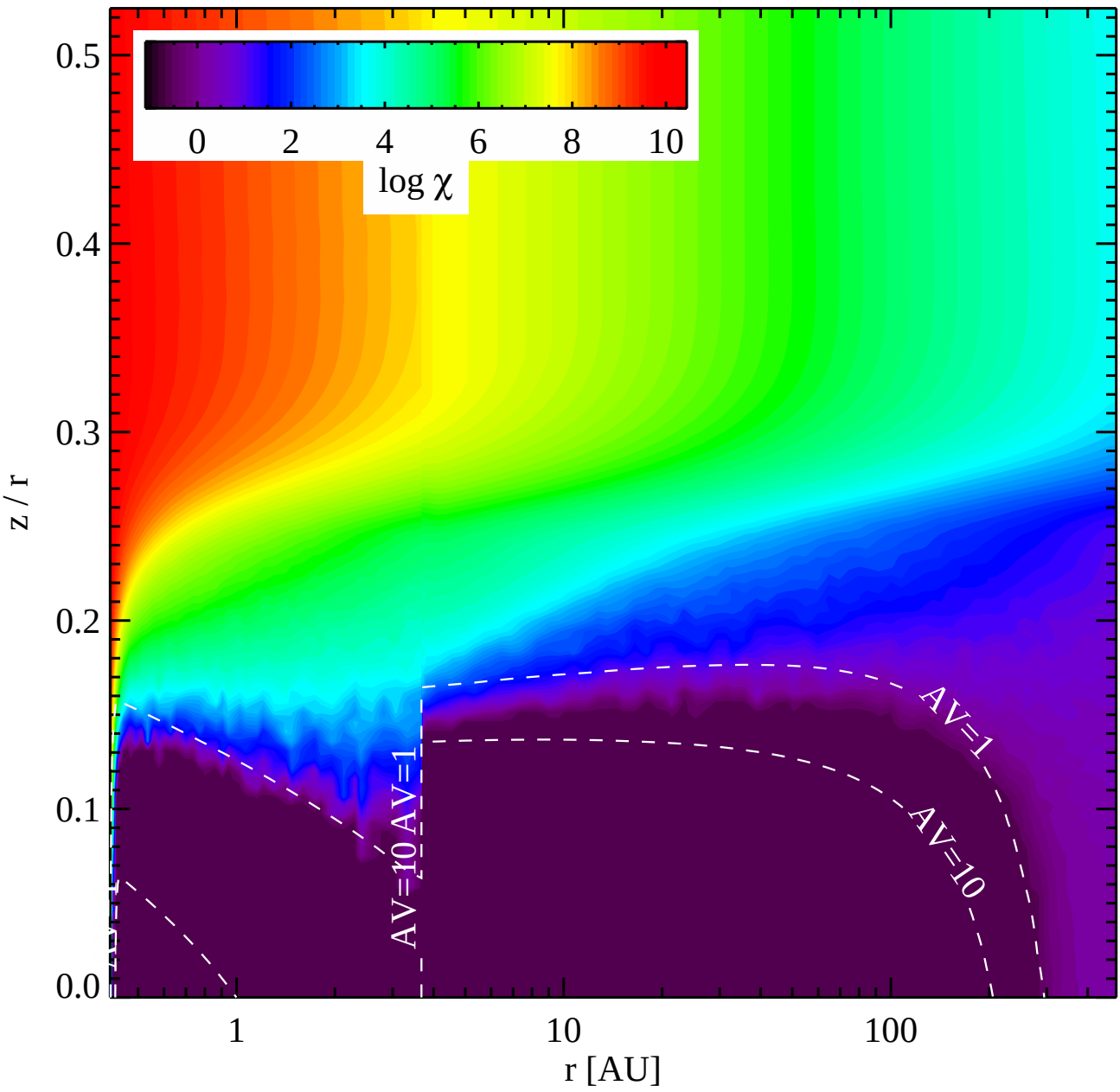

-26 -24 -22 -20 -18 -16 -14 -12
log ρ dust [g/cm3]
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]
0.01
0.01
A V,rad =1
1
A V =10
1
0.01
A V,rad =1

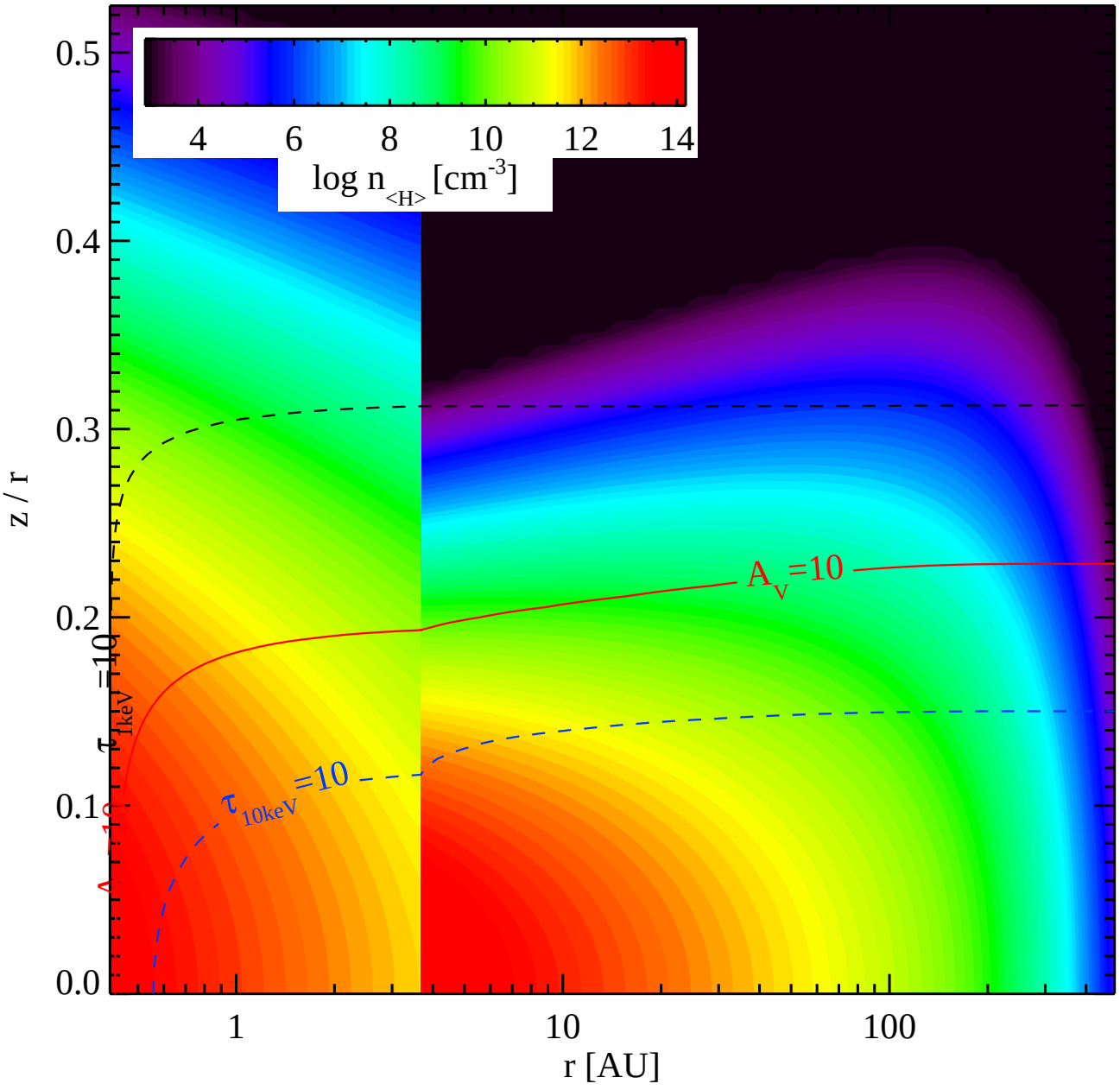

2
4
6
8
log gas/dust
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

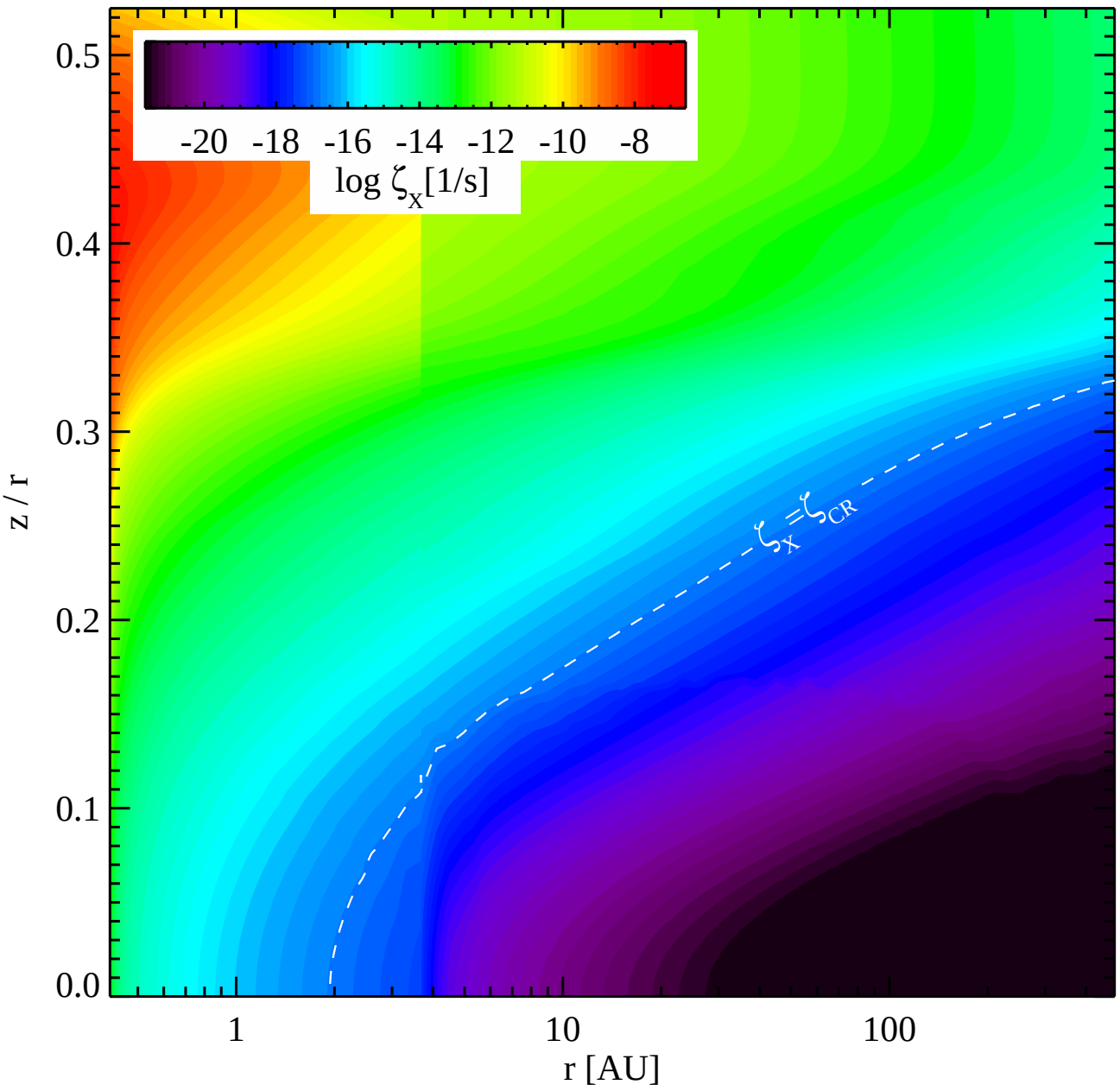

-1.5
-1.0
-0.5
log <a^3>^1/3 [mic]
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

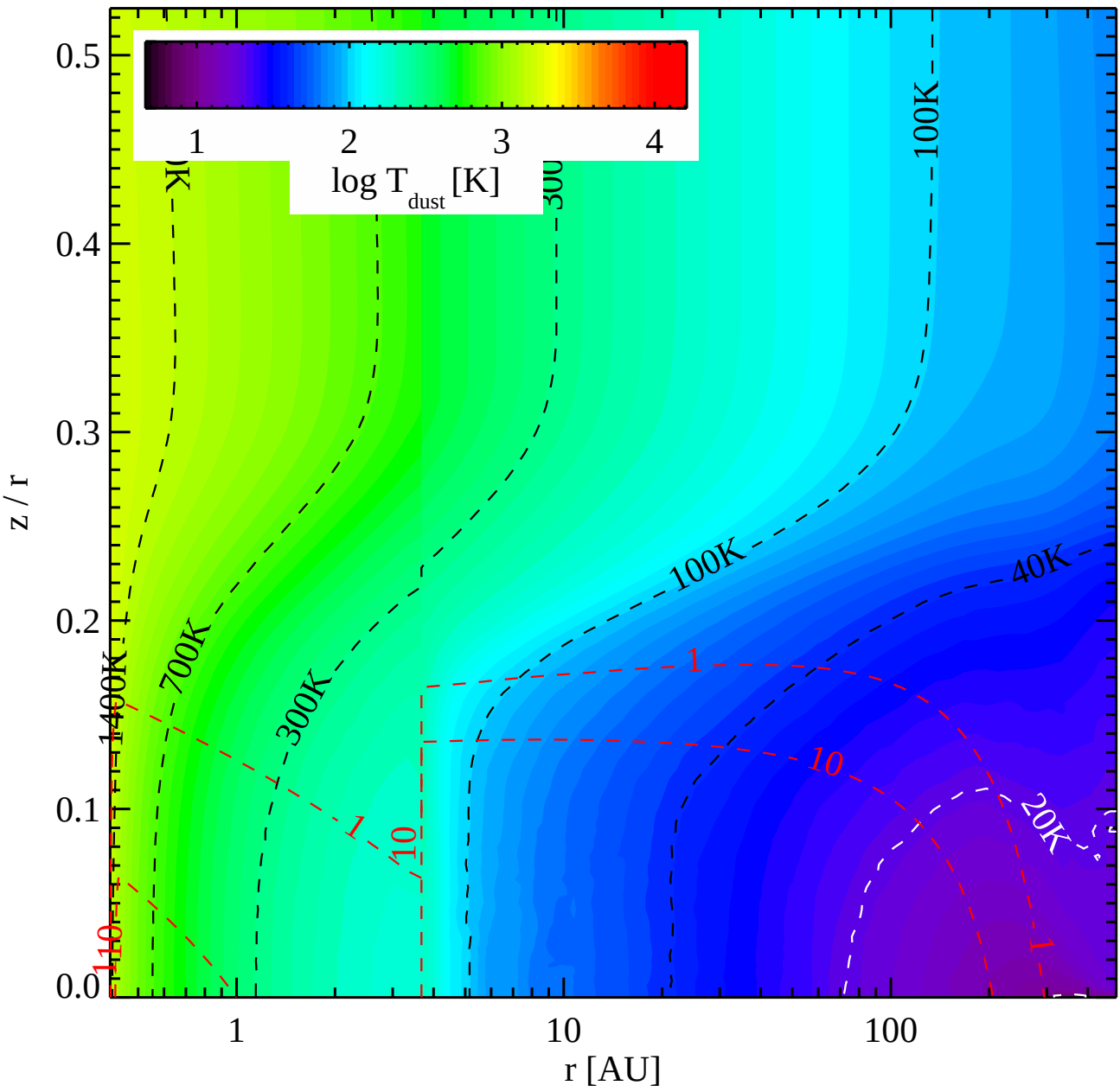

10^{26}
10^{24}
10^{22}
10^{20}
10^{18}
$N_{<H>}$ [cm^{-2}]
1
10
100
r [AU]
Σ_{dust}/(1.4 amu)

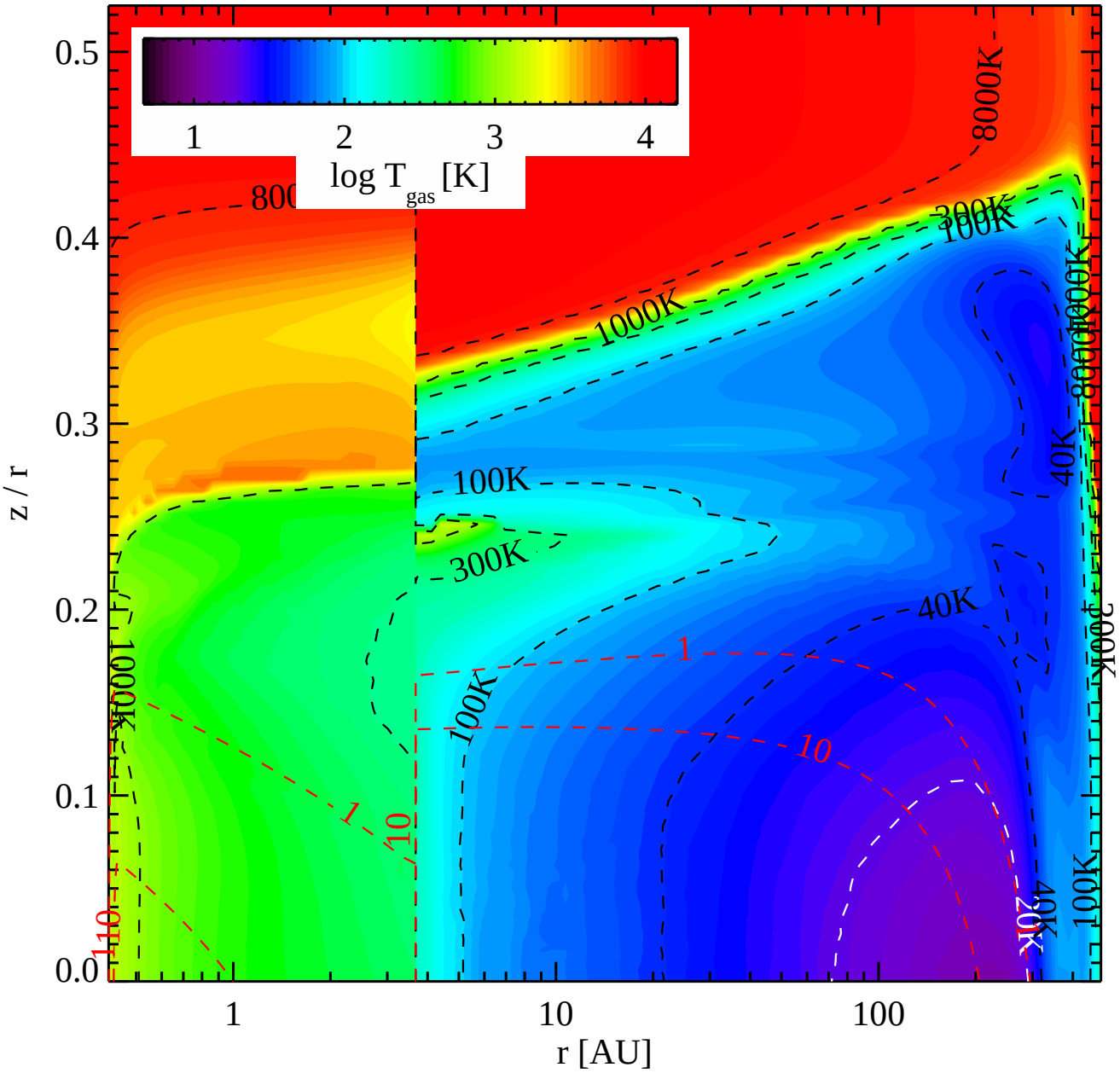

1.0
0.1
H/r
1
10
100
r [AU]
as prescribed in model
from midplane dust temperature
from surface gas temperature

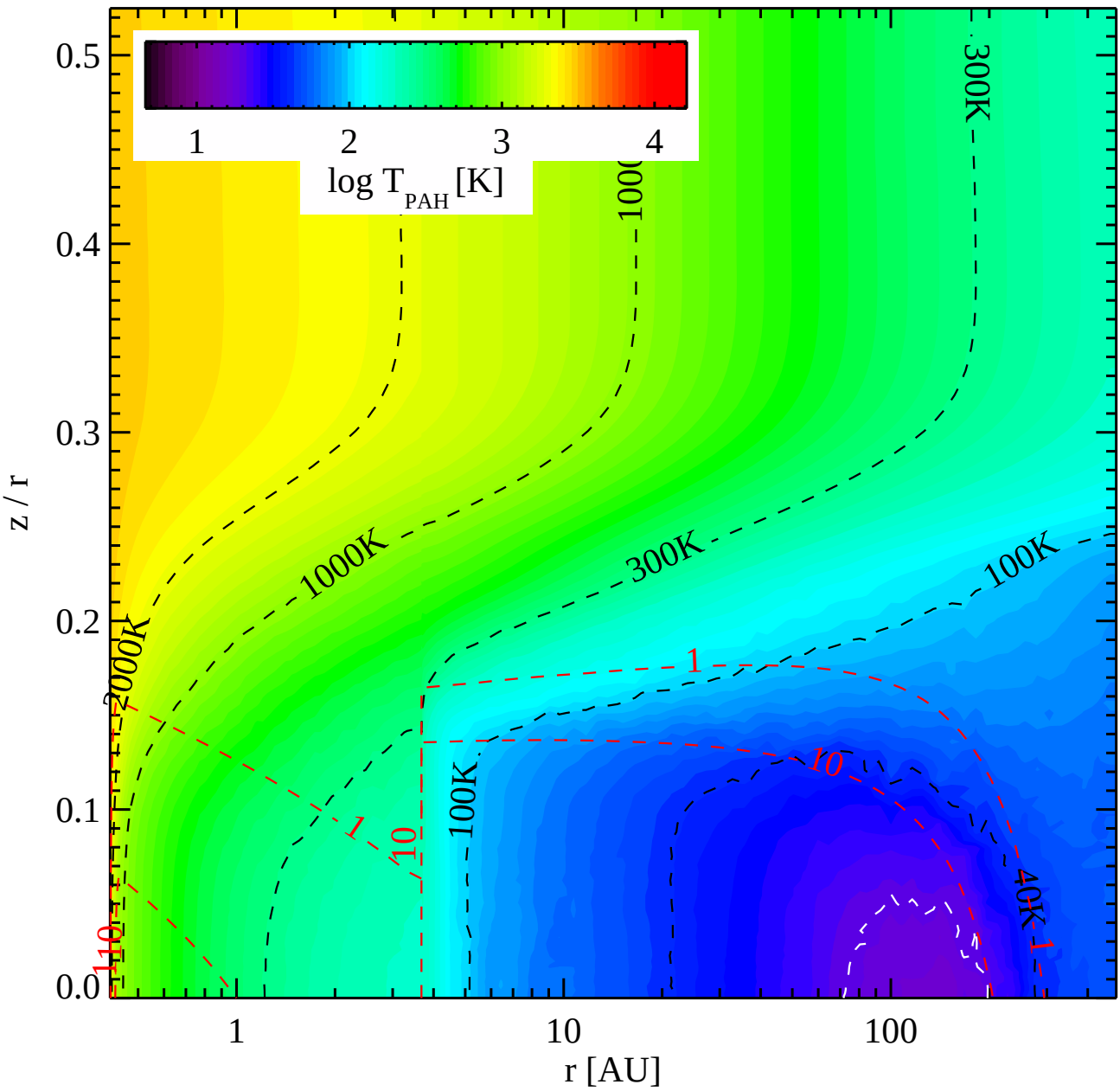

0
2
4
6
8
10
log χ
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]
AV=1
AV=10
AV=1
AV=10

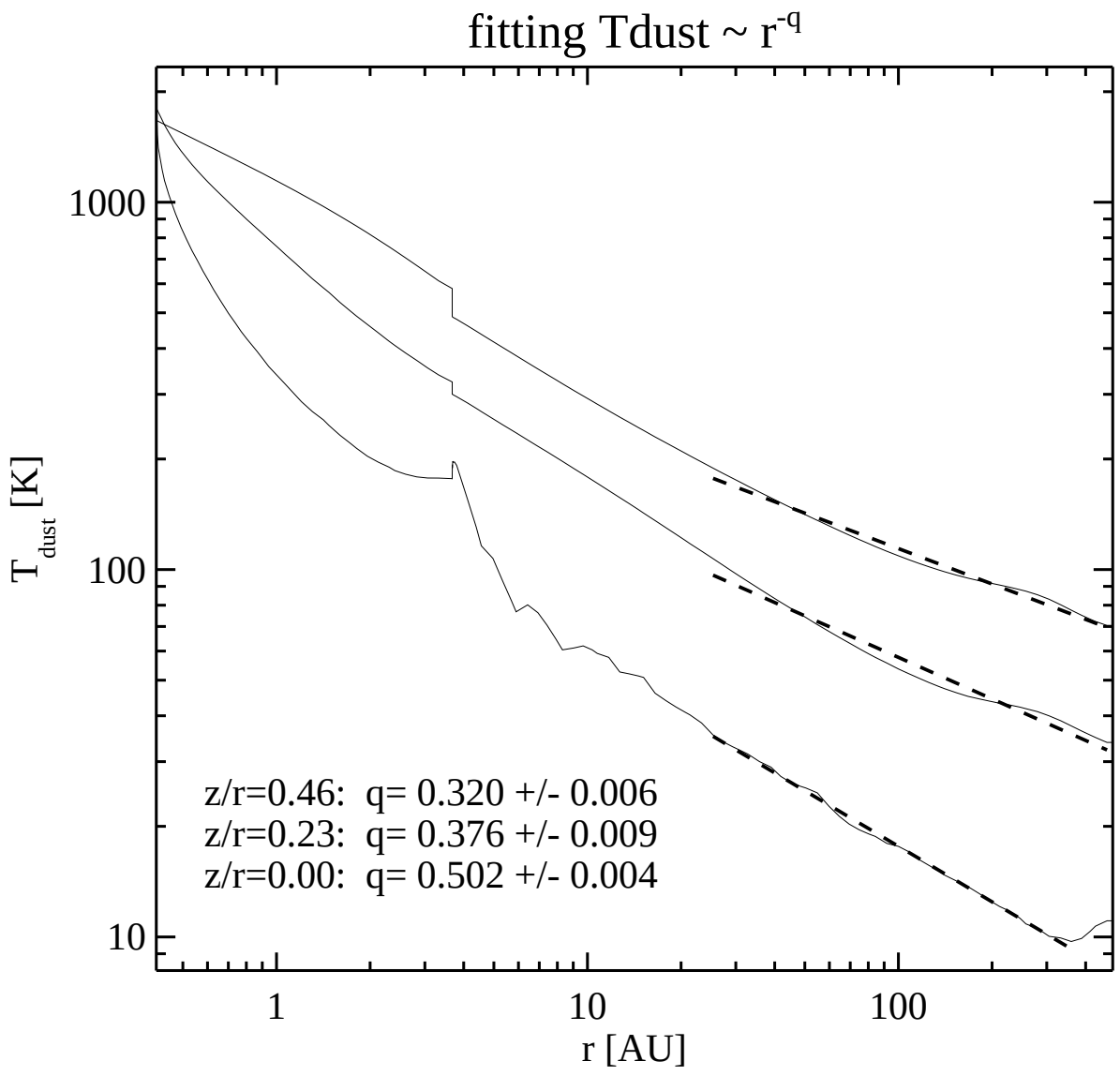

4
6
8
10
12
14
log n<H> [cm-3]
0.5
0.4
0.3
0.2
0.1
0.0
z / r
τ1keV =10
AV =10
τ10keV =10
1
10
100
r [AU]

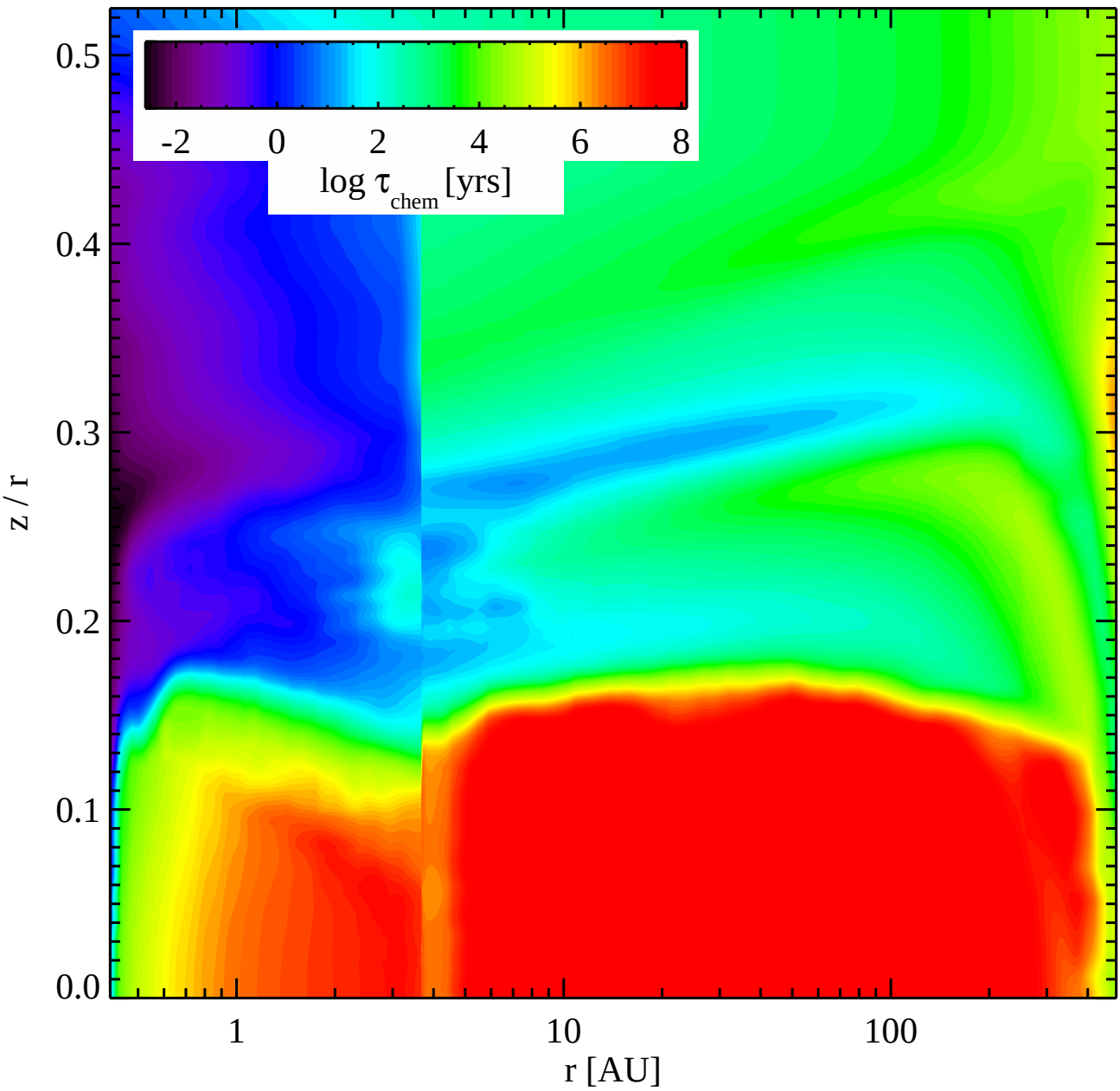

-20 -18 -16 -14 -12 -10 -8
log ζX[1/s]
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]
ζX=ζCR

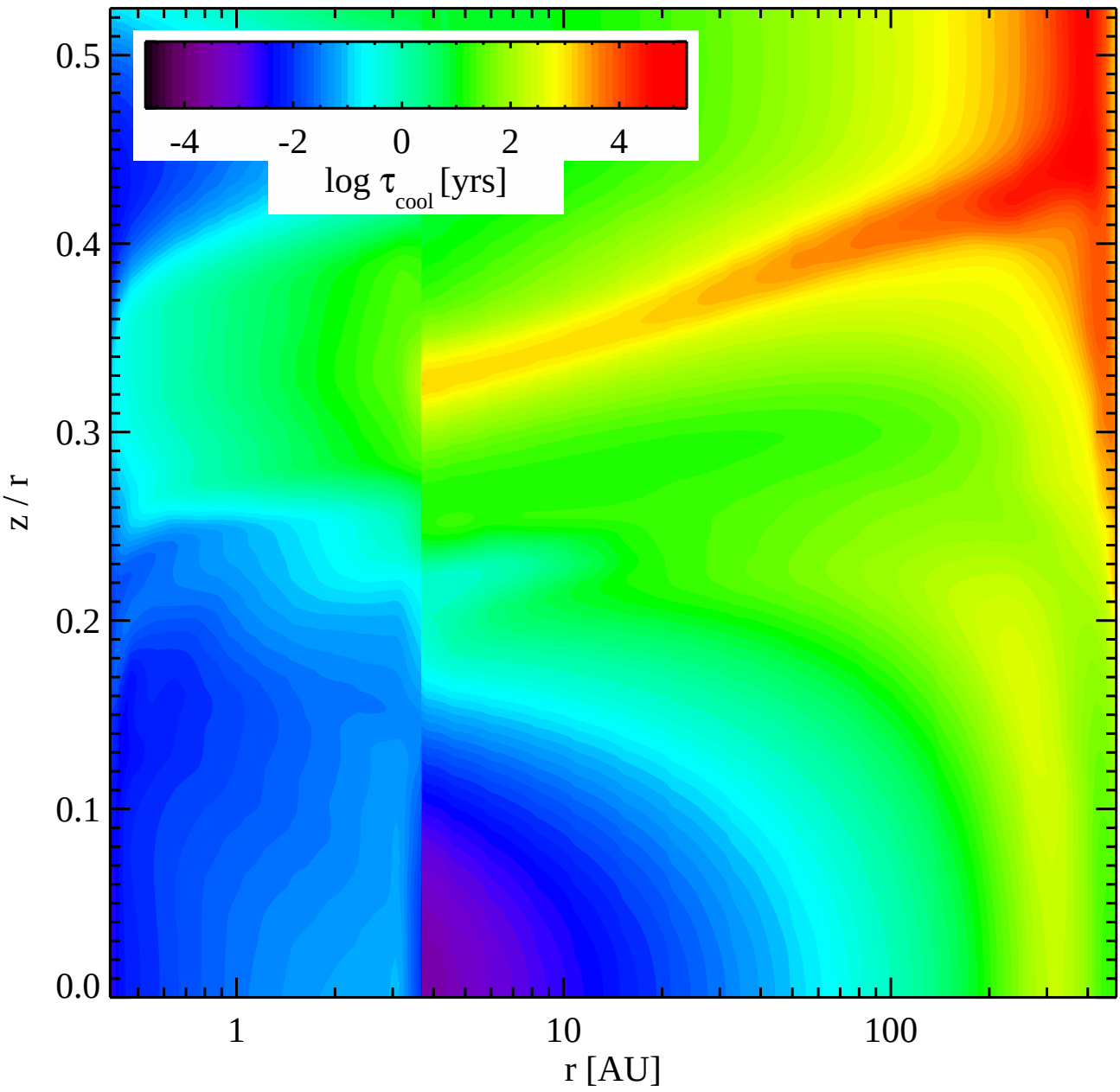

1
2
3
4
log T dust [K]
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]
100K
40K
700K
300K
1400K
20K
1
10
1
10

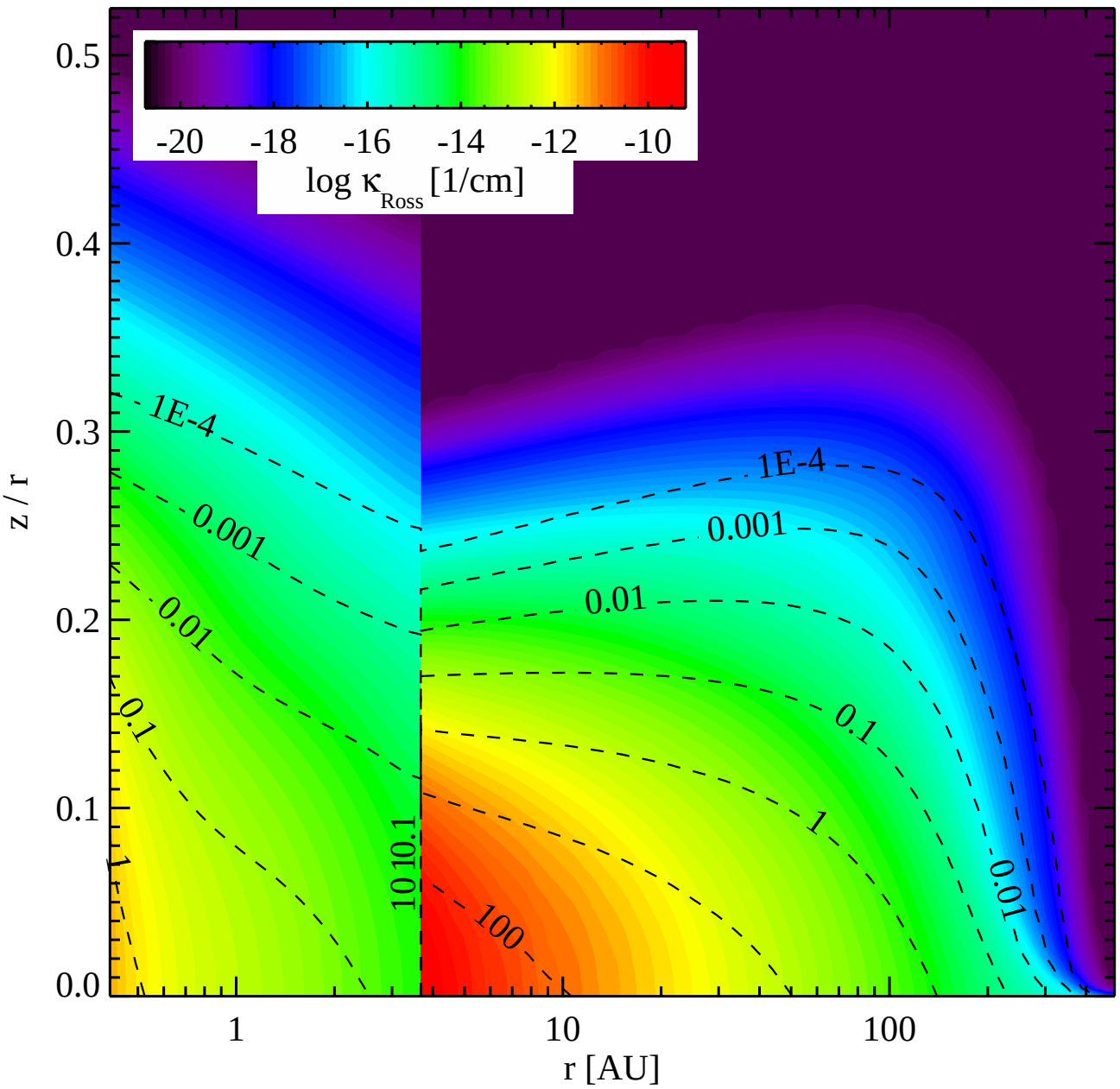

log T gas [K]
1
2
3
4
8000K
1000K
300K
100K
40K
20K
1
10
z / r
r [AU]
0.0
0.1
0.2
0.3
0.4
0.5
1
10
100

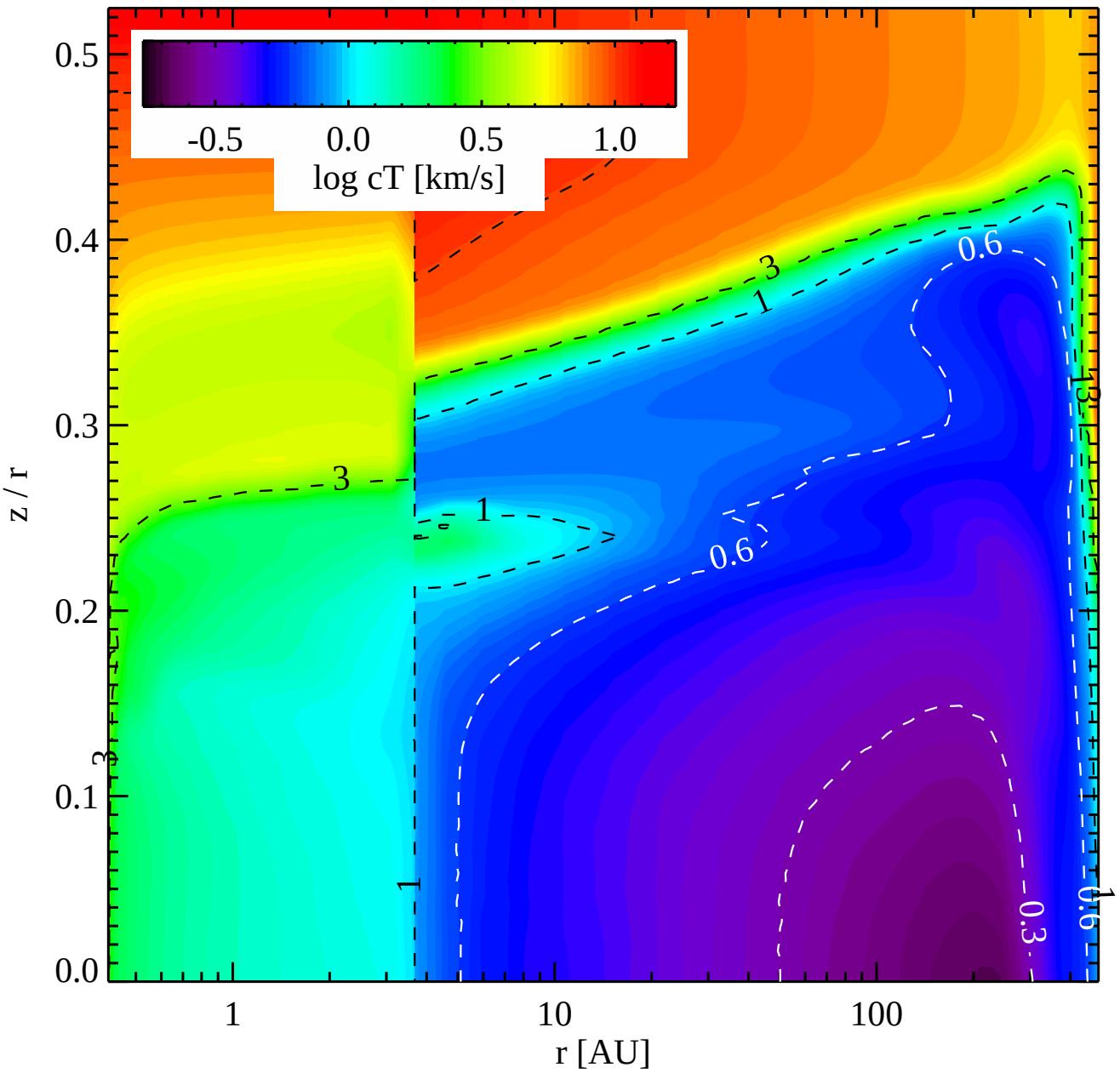

0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]
1
2
3
4
log T_PAH [K]
300K
1000K
300K
100K
2000K
100K
40K
1
10
1
10
1
10

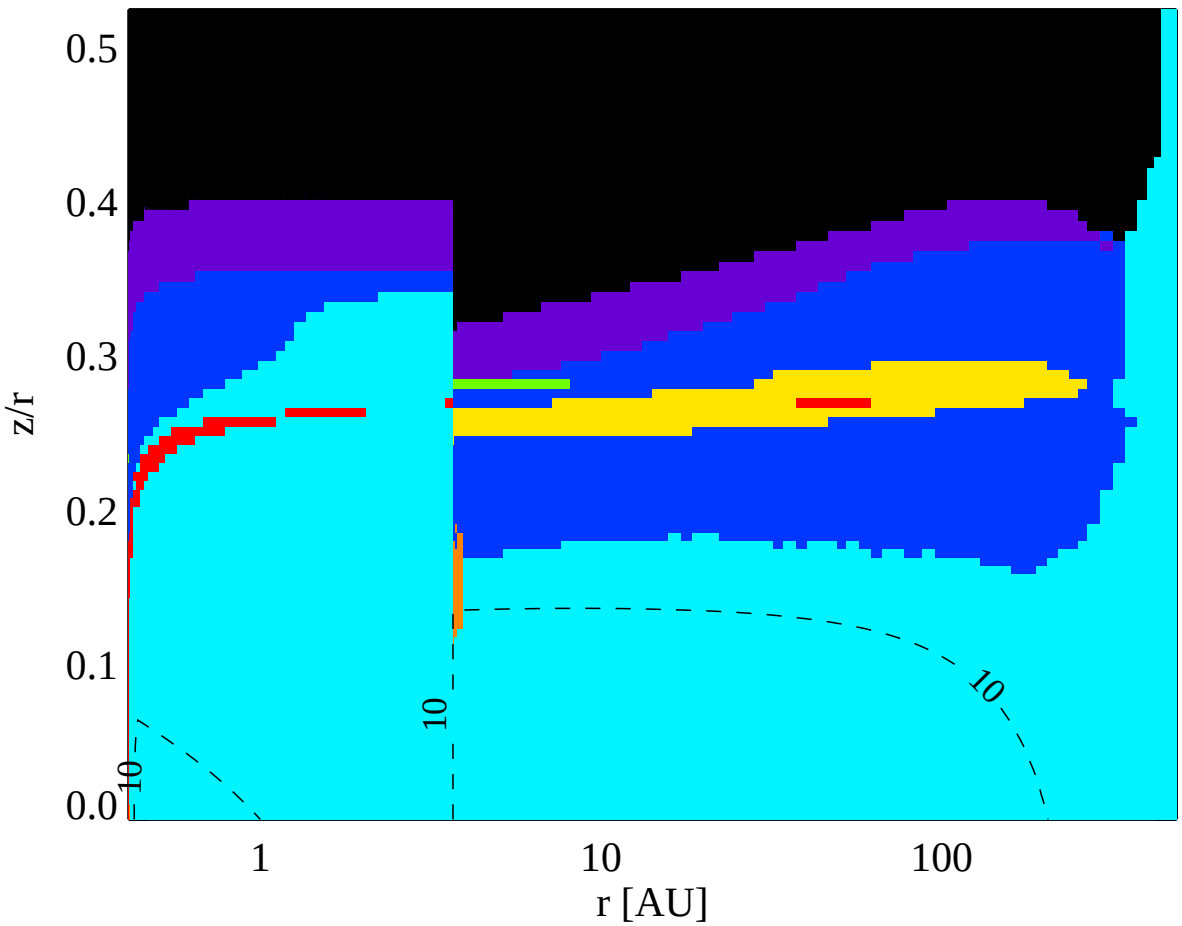

fitting Tdust ~ r^-q
1000
100
10
T dust [K]
1
10
100
r [AU]
z/r=0.46: q= 0.320 +/- 0.006
z/r=0.23: q= 0.376 +/- 0.009
z/r=0.00: q= 0.502 +/- 0.004


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


-20
-18
-16
-14
-12
-10
log κ Ross [1/cm]
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]
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]
3
1
0.6
0.3



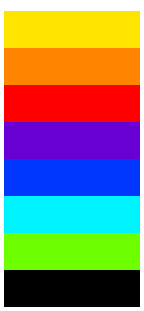
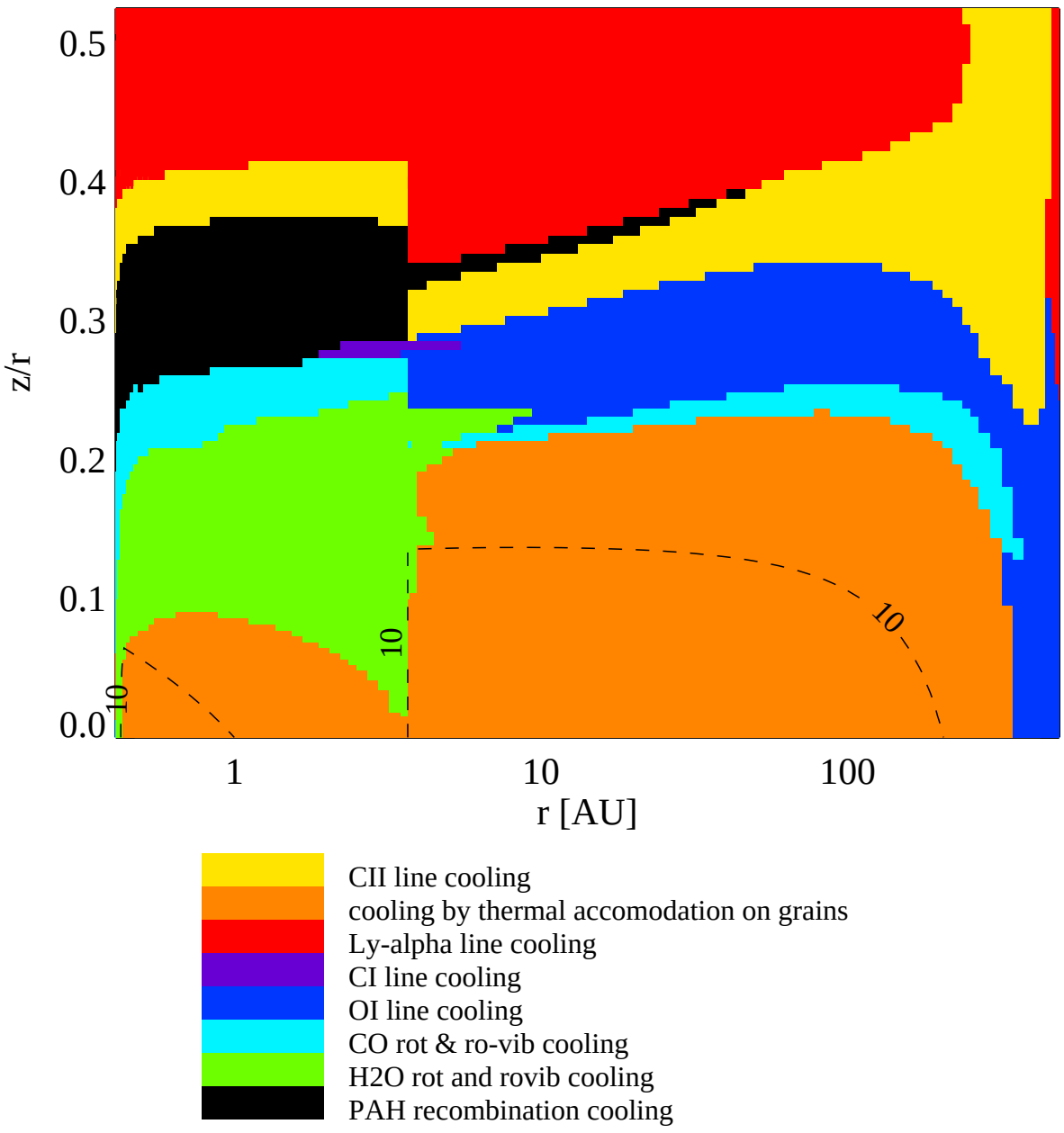
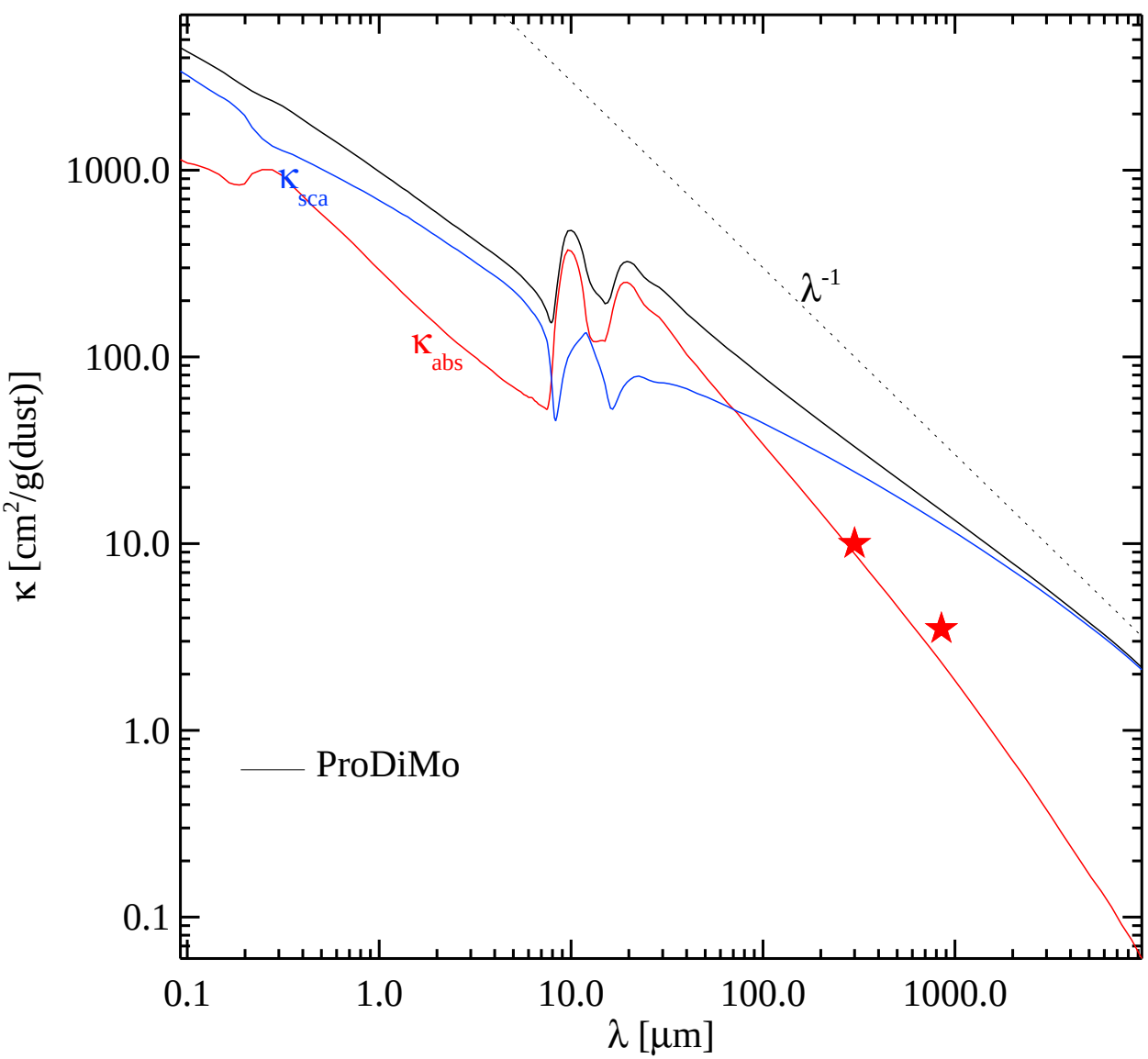
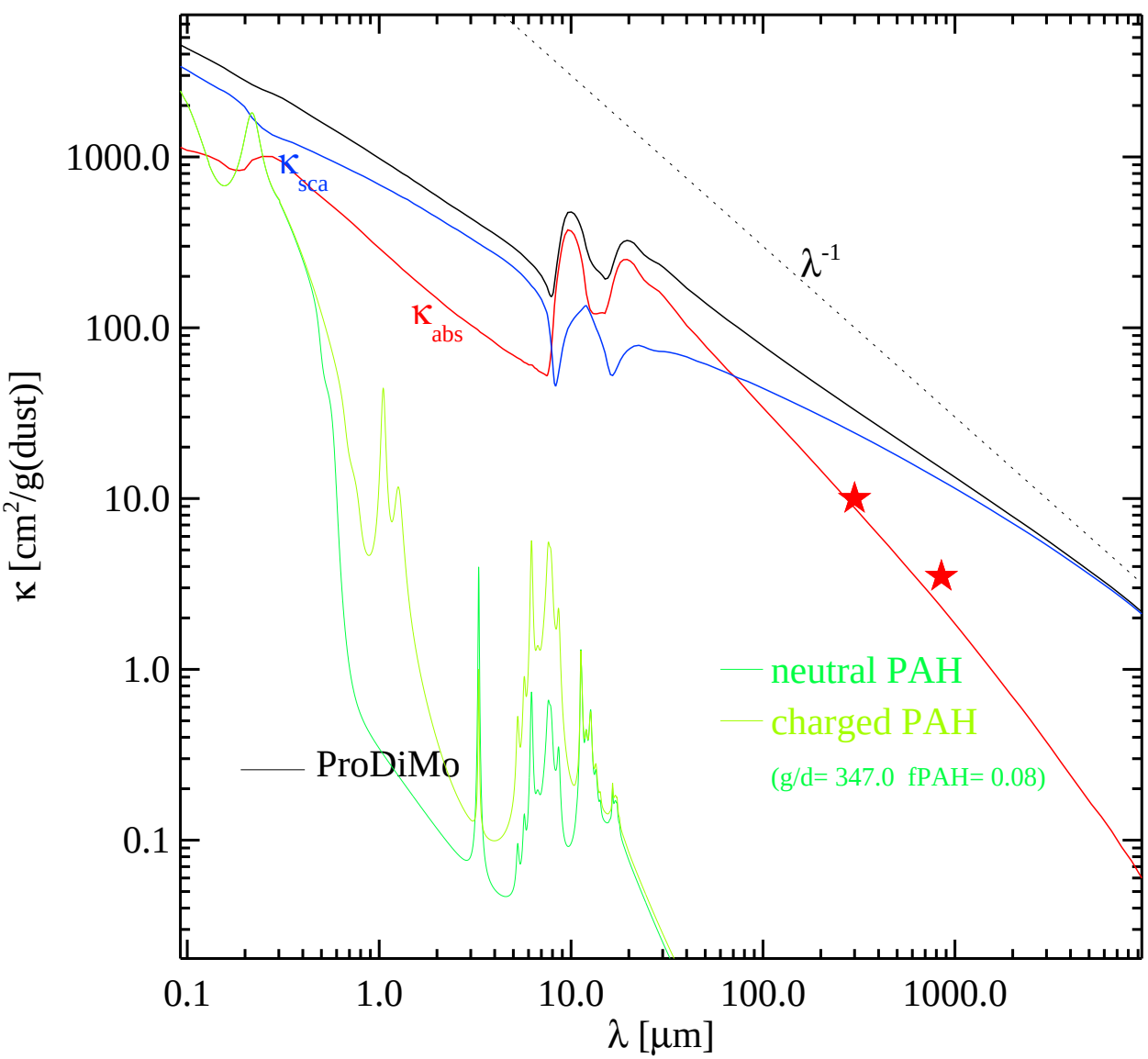
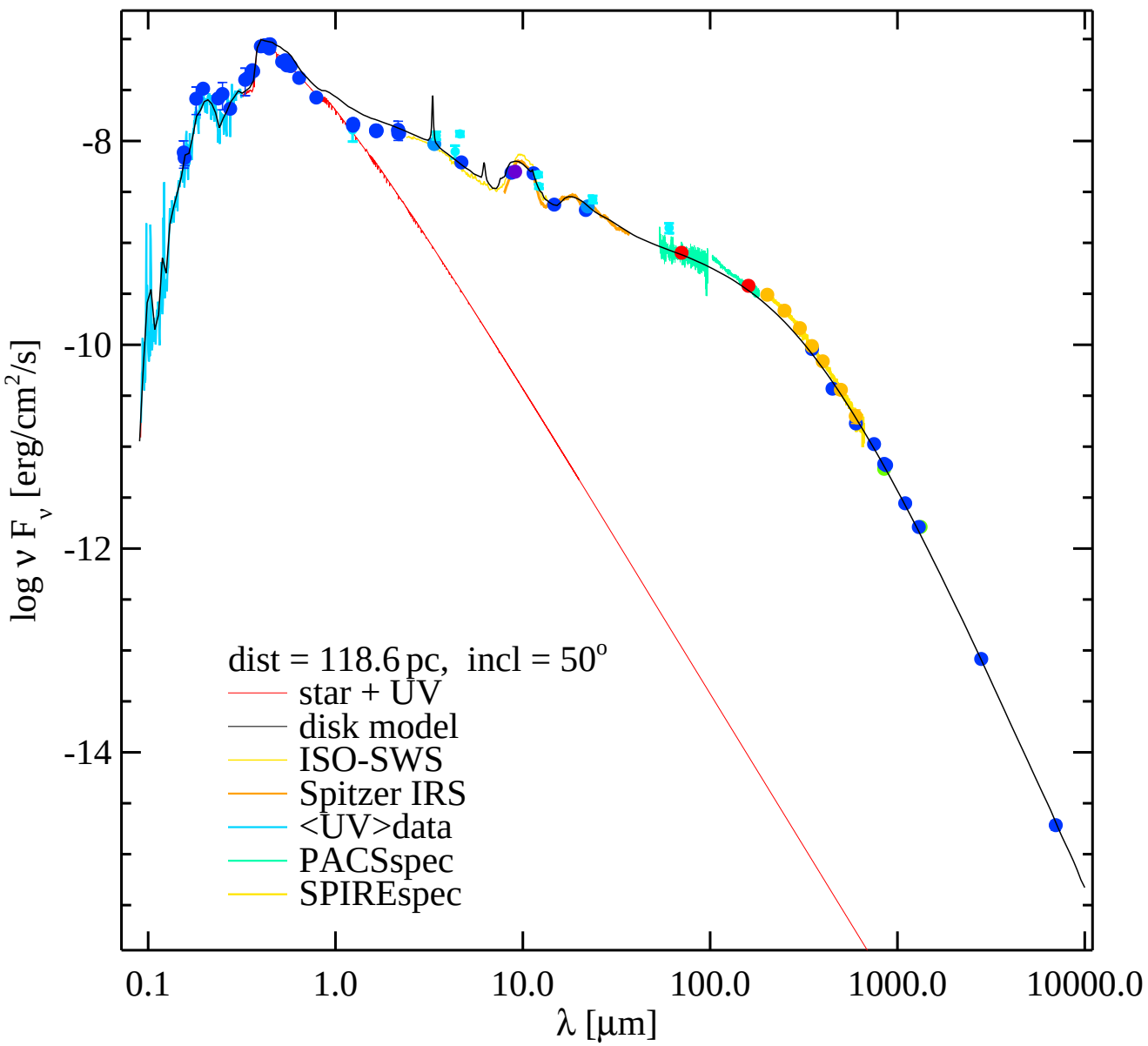


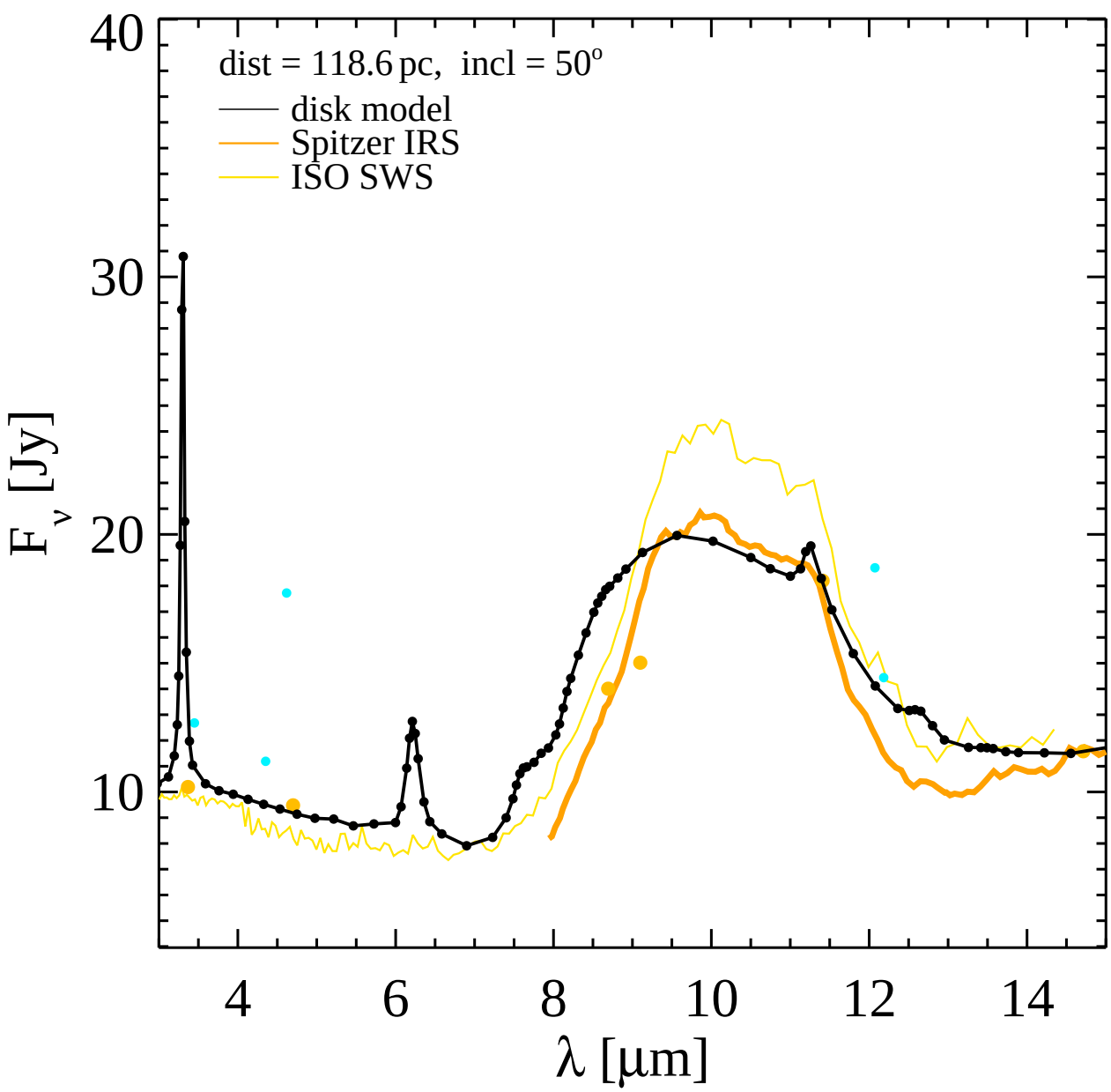
photo-electric heating
heating by thermal accomodation on grains
IR background heating by CO ro-vib
background heating by CII
PAH heating
viscous heating
background heating by CI
X-ray Coulomb heating

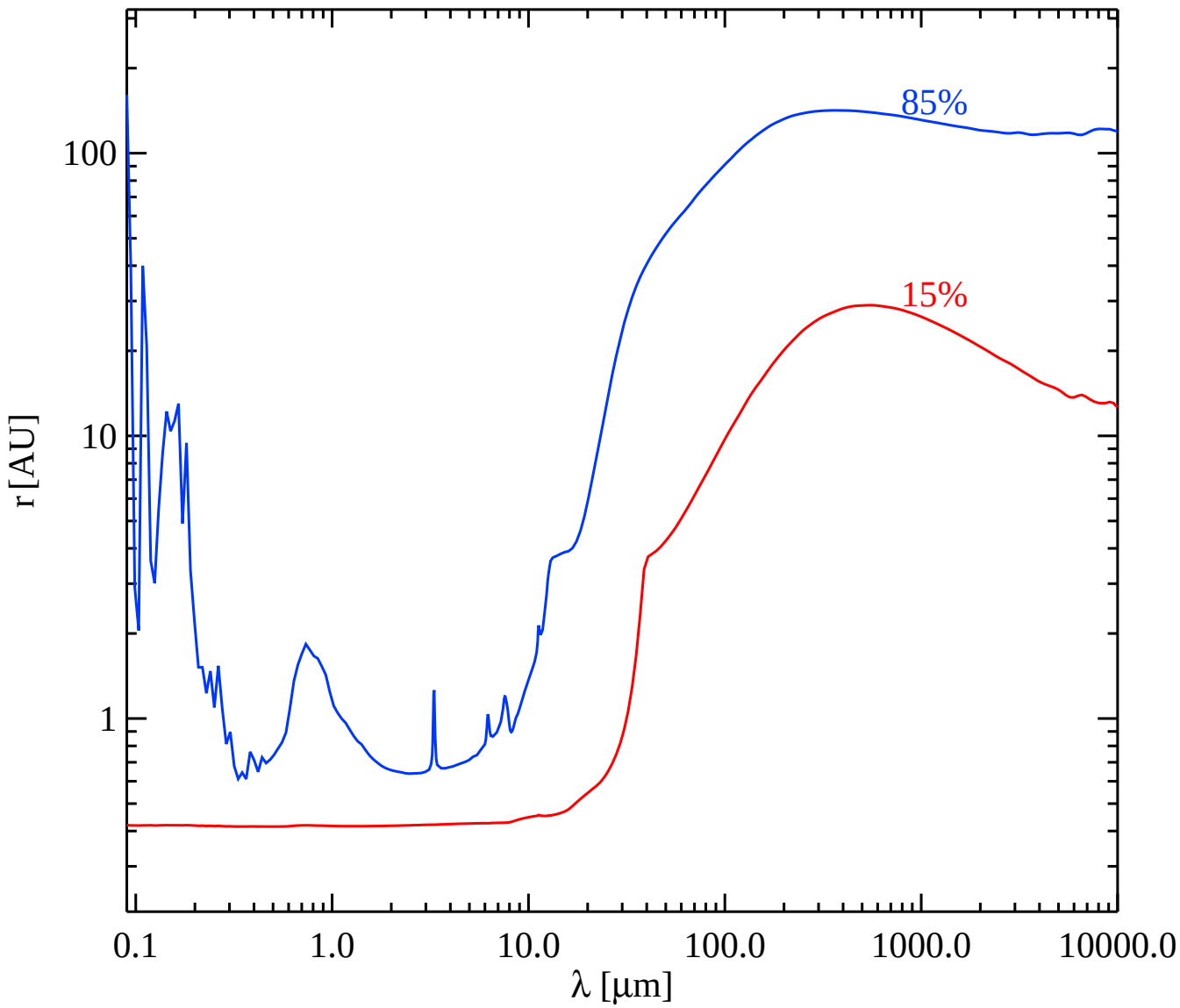

0.5
0.4
0.3
0.2
0.1
0.0
z/r
1
10
100
r [AU]
10
10
10
CII line cooling
cooling by thermal accomodation on grains
Ly-alpha line cooling
CI line cooling
OI line cooling
CO rot & ro-vib cooling
H2O rot and rovib cooling
PAH recombination cooling

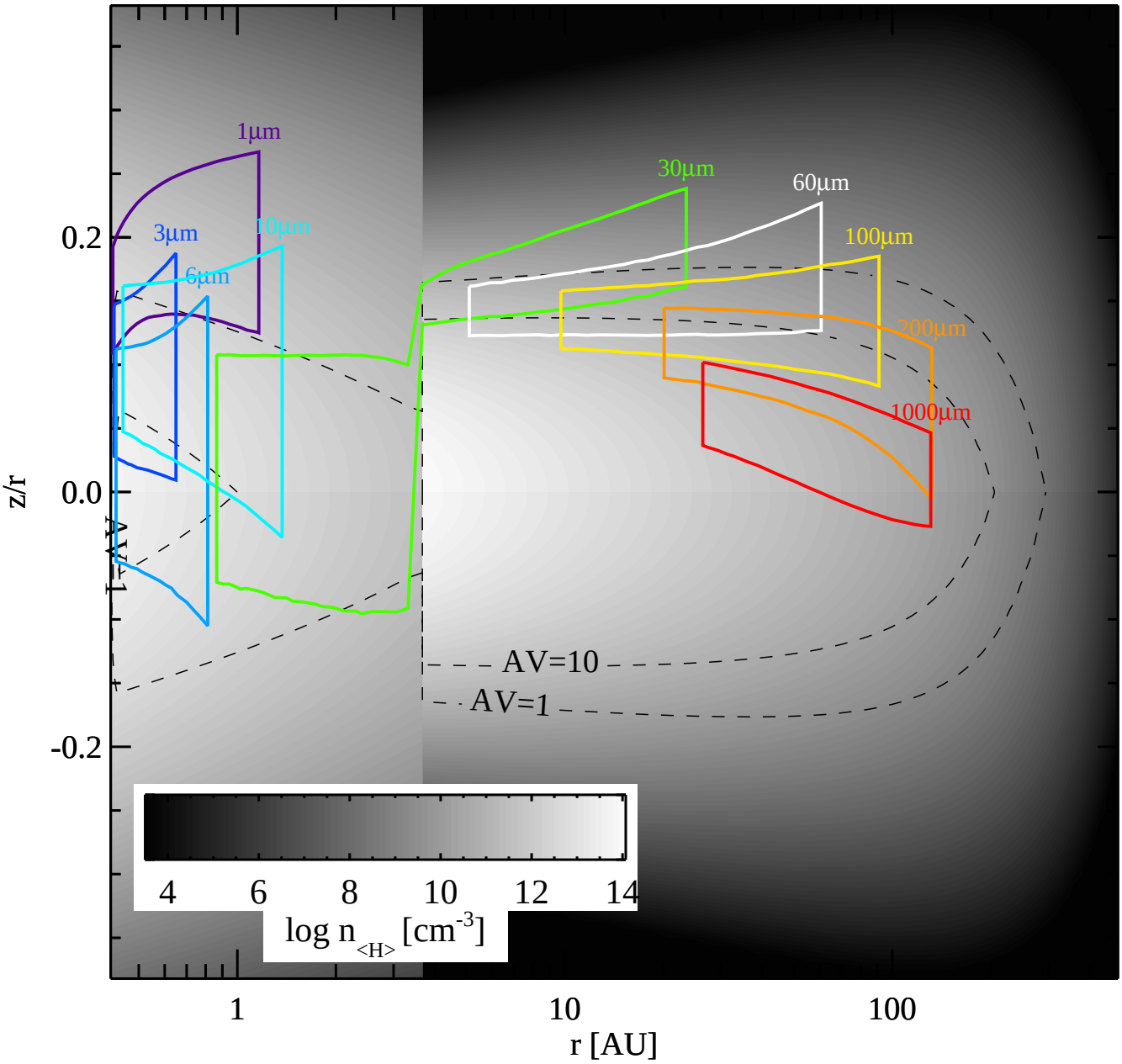

1000.0
100.0
10.0
1.0
0.1
κ [cm²/g(dust)]
κsca
κabs
λ-1
ProDiMo
0.1
1.0
10.0
100.0
1000.0
λ [μm]

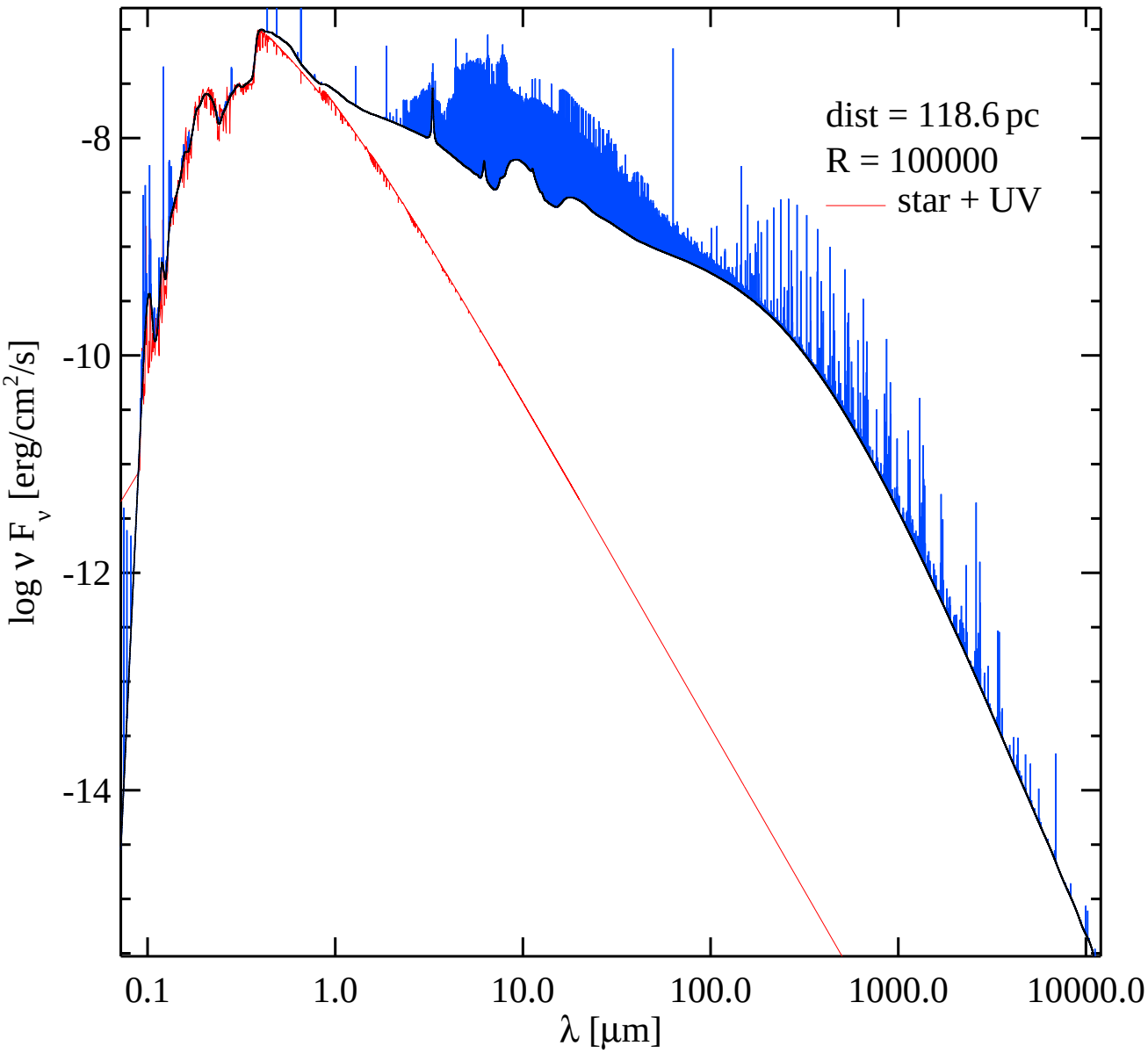

1000.0
100.0
10.0
1.0
0.1
κ [cm²/g(dust)]
κsca
κabs
λ-1
neutral PAH
charged PAH
(g/d= 347.0 fPAH= 0.08)
ProDiMo
0.1
1.0
10.0
100.0
1000.0
λ [μm]

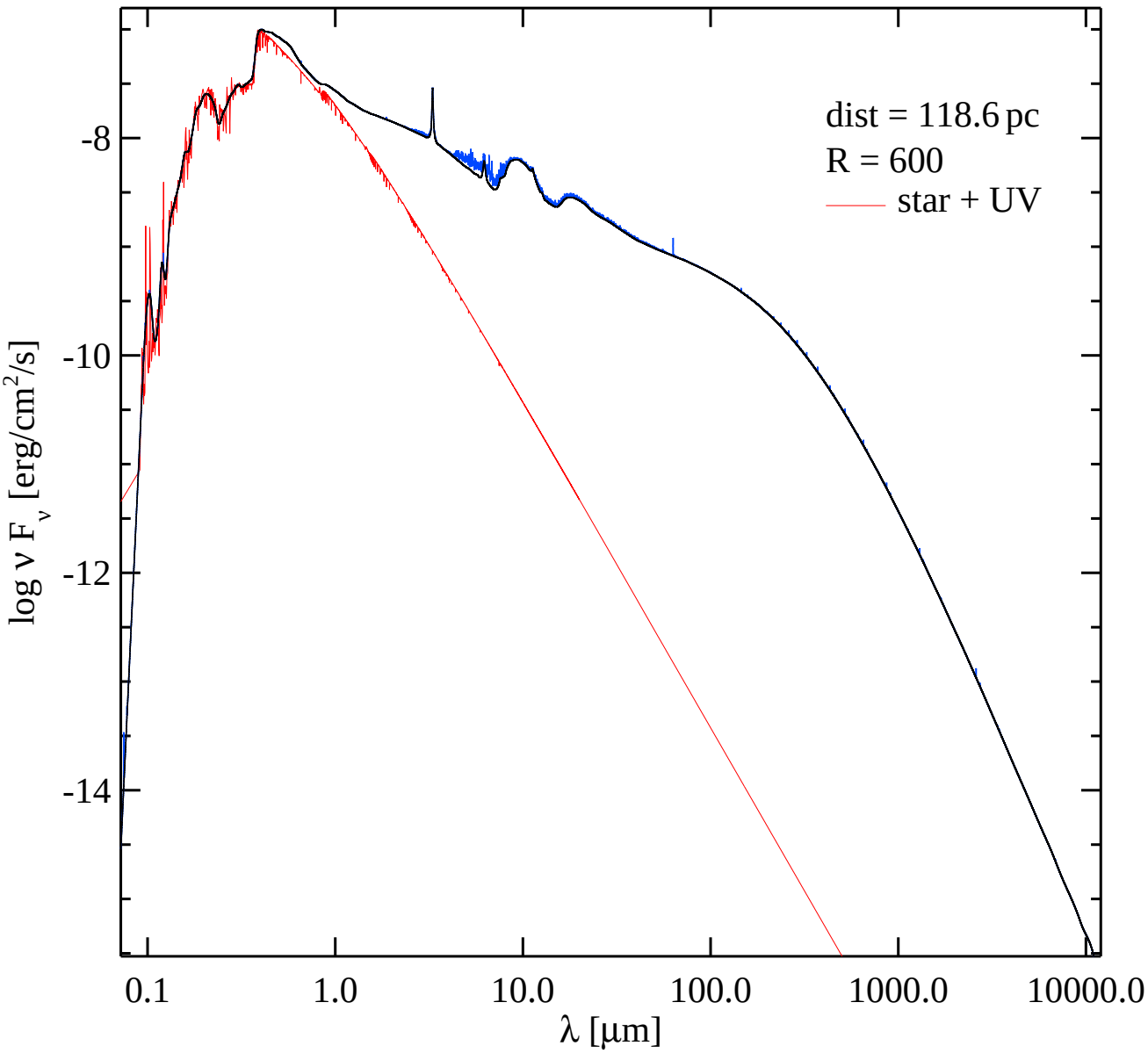

-8
-10
-12
-14
log ν F_ν [erg/cm²/s]
0.1
1.0
10.0
100.0
1000.0
10000.0
λ [μm]
dist = 118.6 pc, incl = 50°
star + UV
disk model
ISO-SWS
Spitzer IRS
<UV>data
PACSspec
SPIREspec

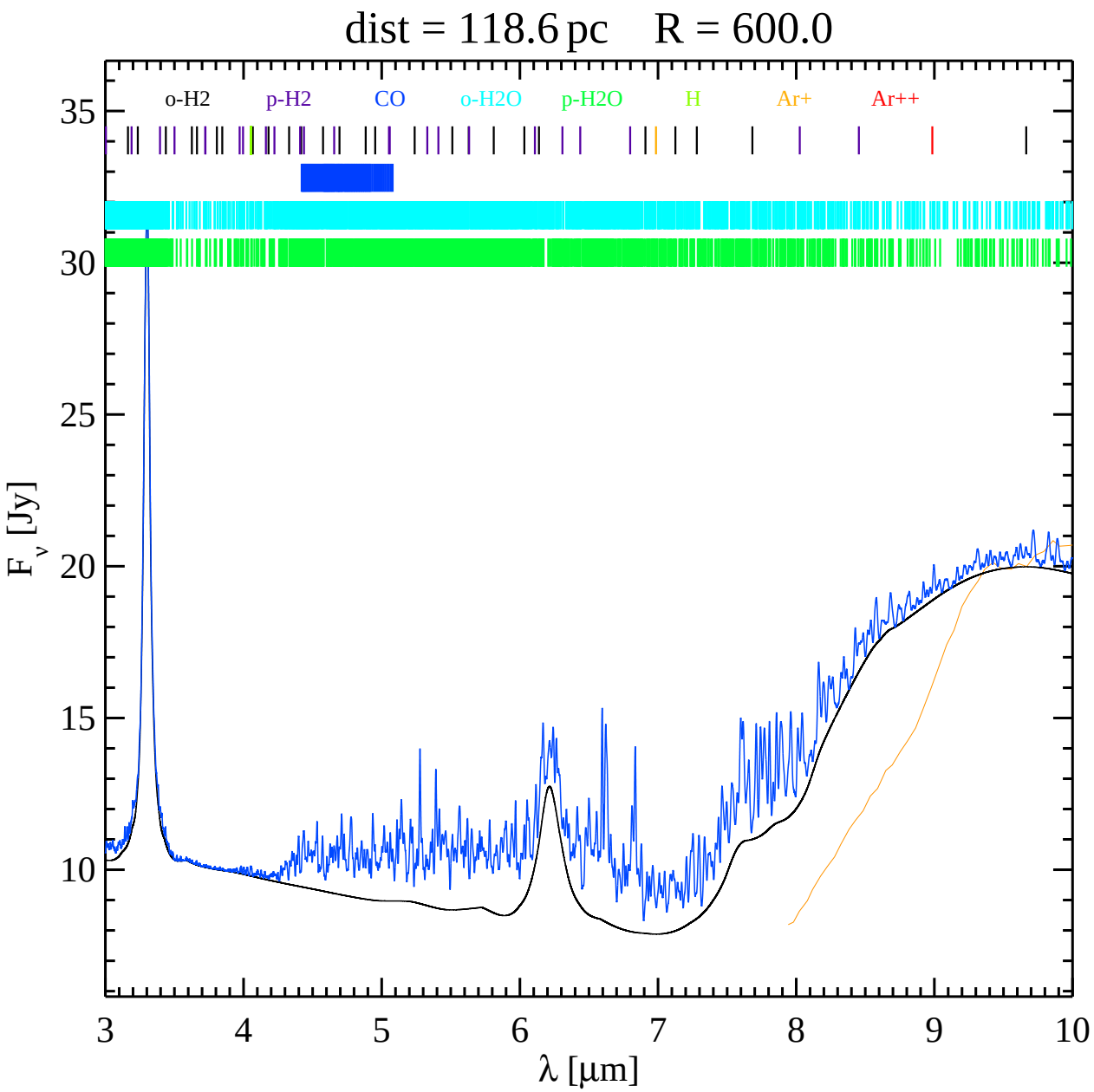

dist = 118.6 pc, incl = 50°
disk model
Spitzer IRS
ISO SWS
40
30
20
10
F_ν [Jy]
4
6
8
10
12
14
λ [μm]

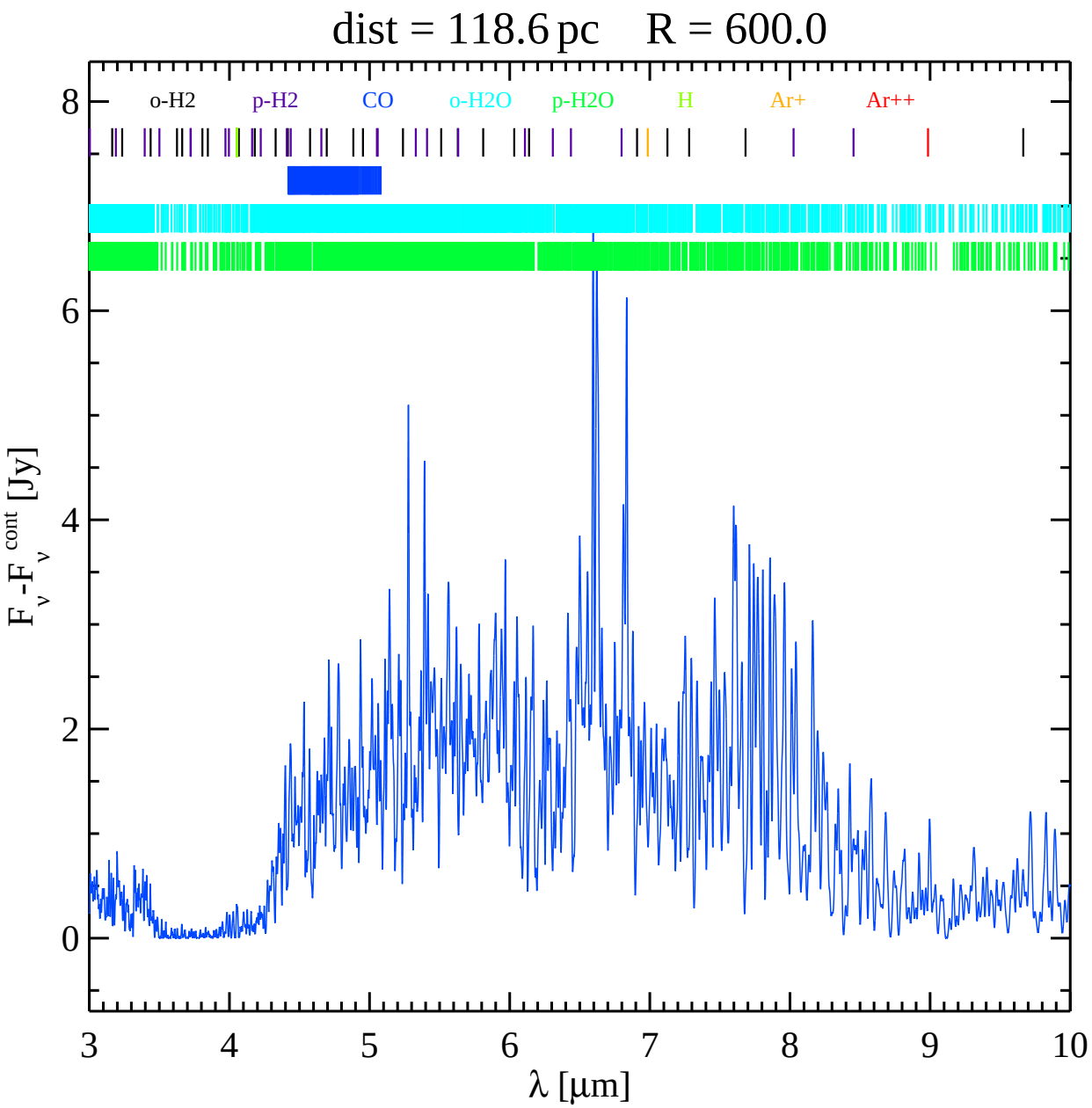

85%
15%
100
10
1
r [AU]
0.1
1.0
10.0
100.0
1000.0
10000.0
λ [μm]

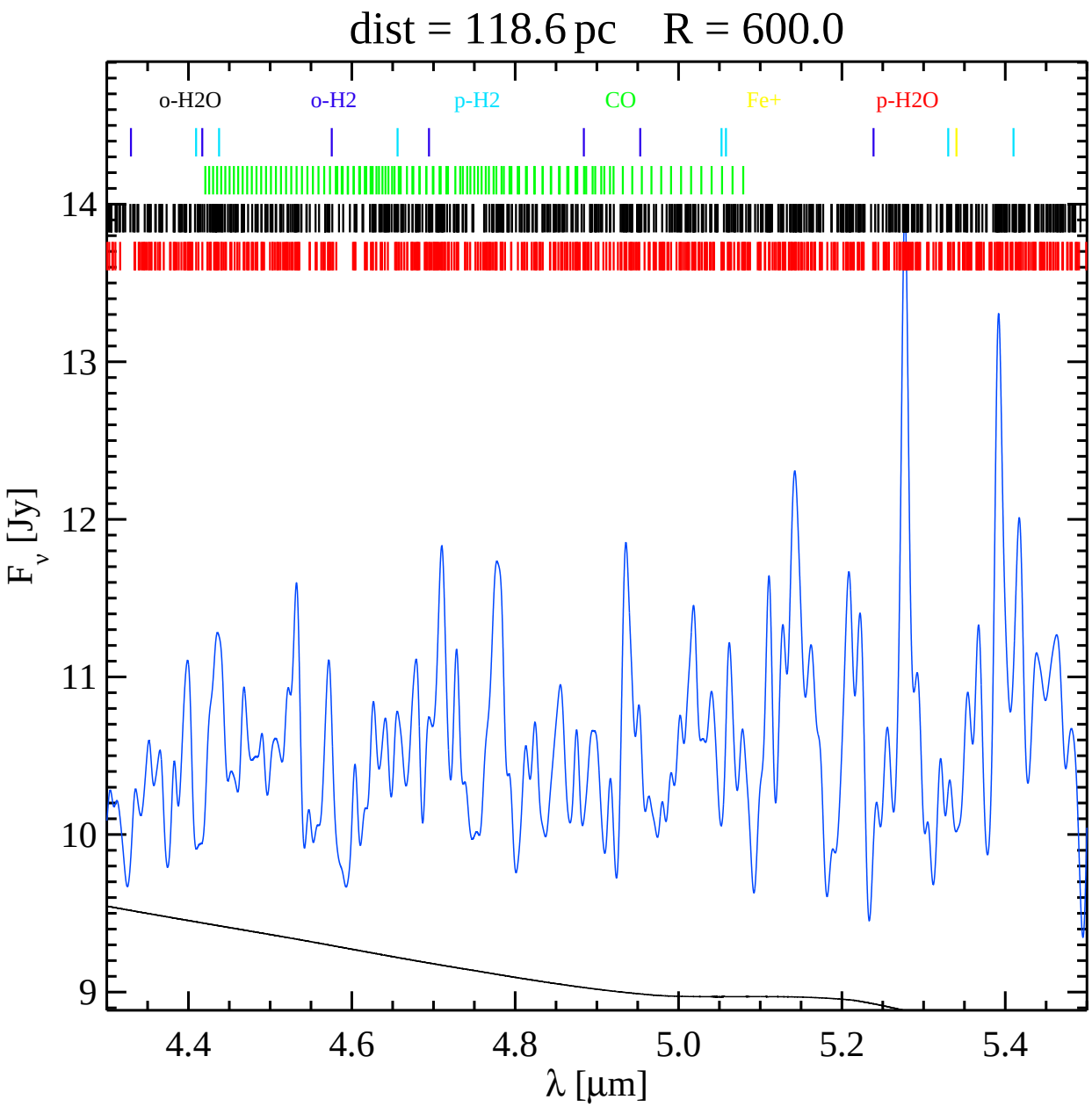

1µm
3µm
10µm
6µm
30µm
60µm
100µm
200µm
1000µm
AV=10
AV=1
AV=1
0.2
0.0
-0.2
z/r
4
6
8
10
12
14
log n<H> [cm-3]
1
10
100
r [AU]

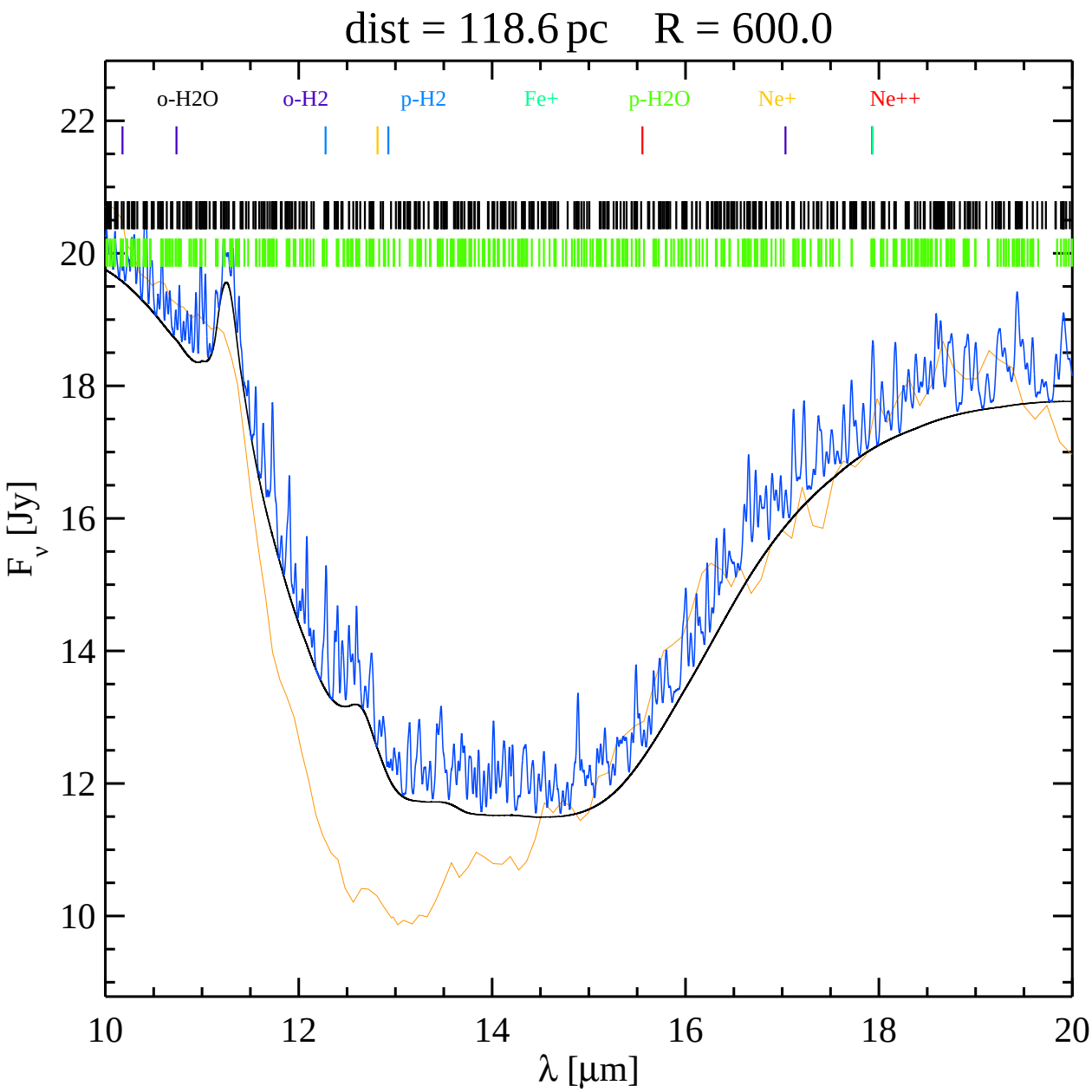

dist = 118.6 pc
R = 100000
star + UV
-8
-10
-12
-14
log ν F_ν [erg/cm²/s]
0.1
1.0
10.0
100.0
1000.0
10000.0
λ [μm]

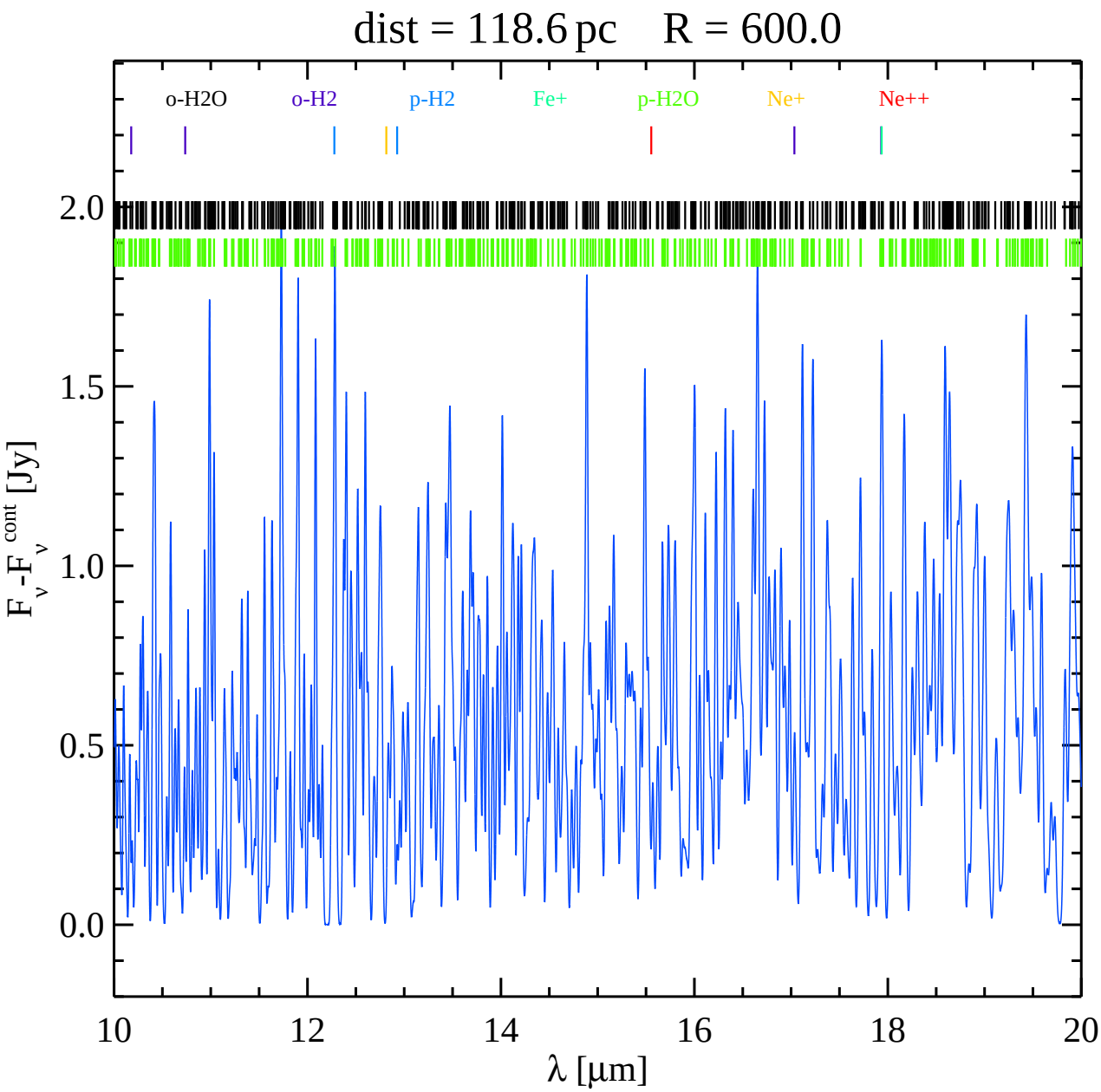

dist = 118.6 pc
R = 600
star + UV
-8
-10
-12
-14
log ν F_ν [erg/cm²/s]
0.1
1.0
10.0
100.0
1000.0
10000.0
λ [μm]

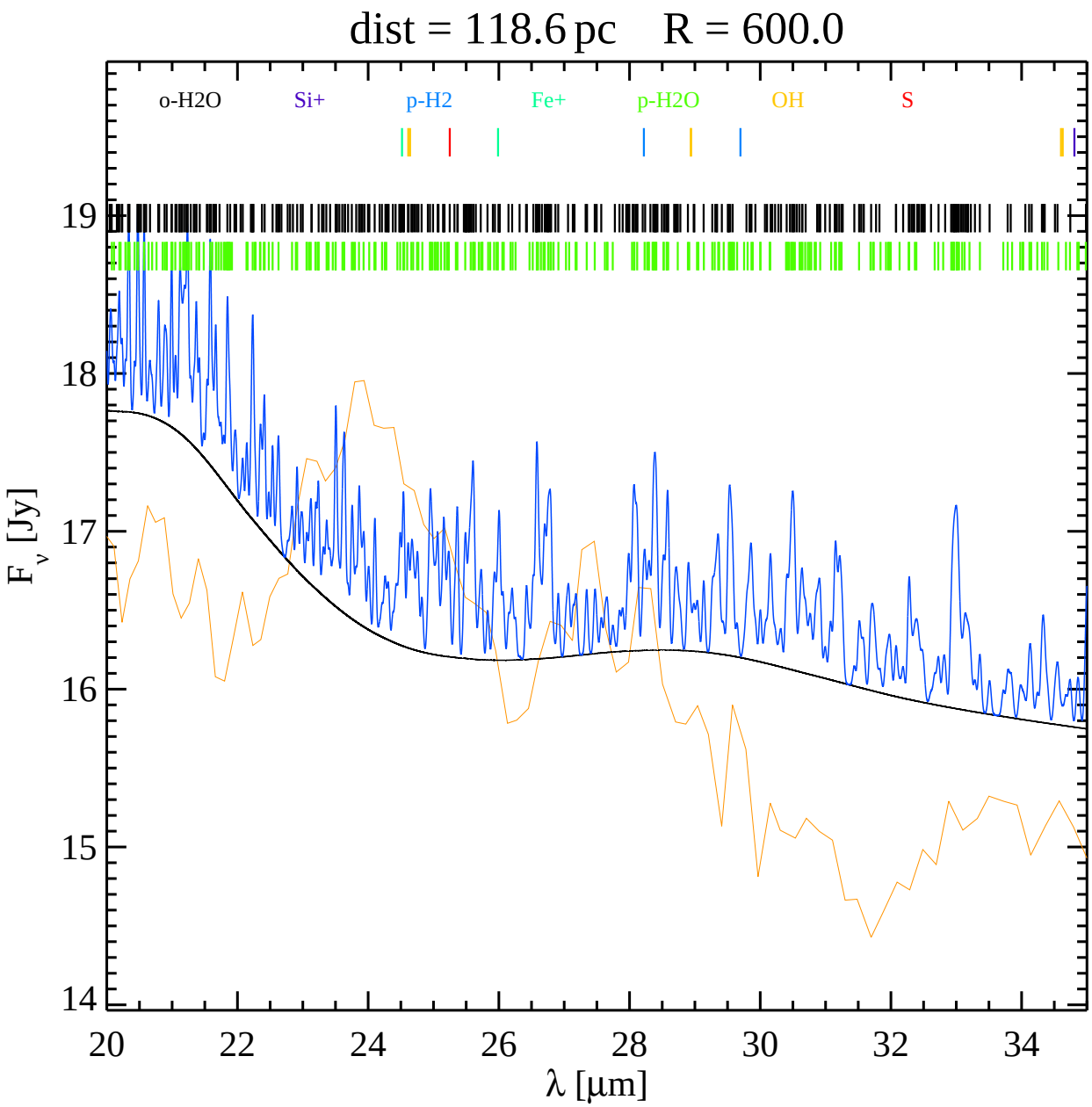

dist = 118.6 pc R = 600.0
o-H2
p-H2
CO
o-H2O
p-H2O
H
Ar+
Ar++
35
30
25
20
15
10
F_ν [Jy]
3
4
5
6
7
8
9
10
λ [μm]

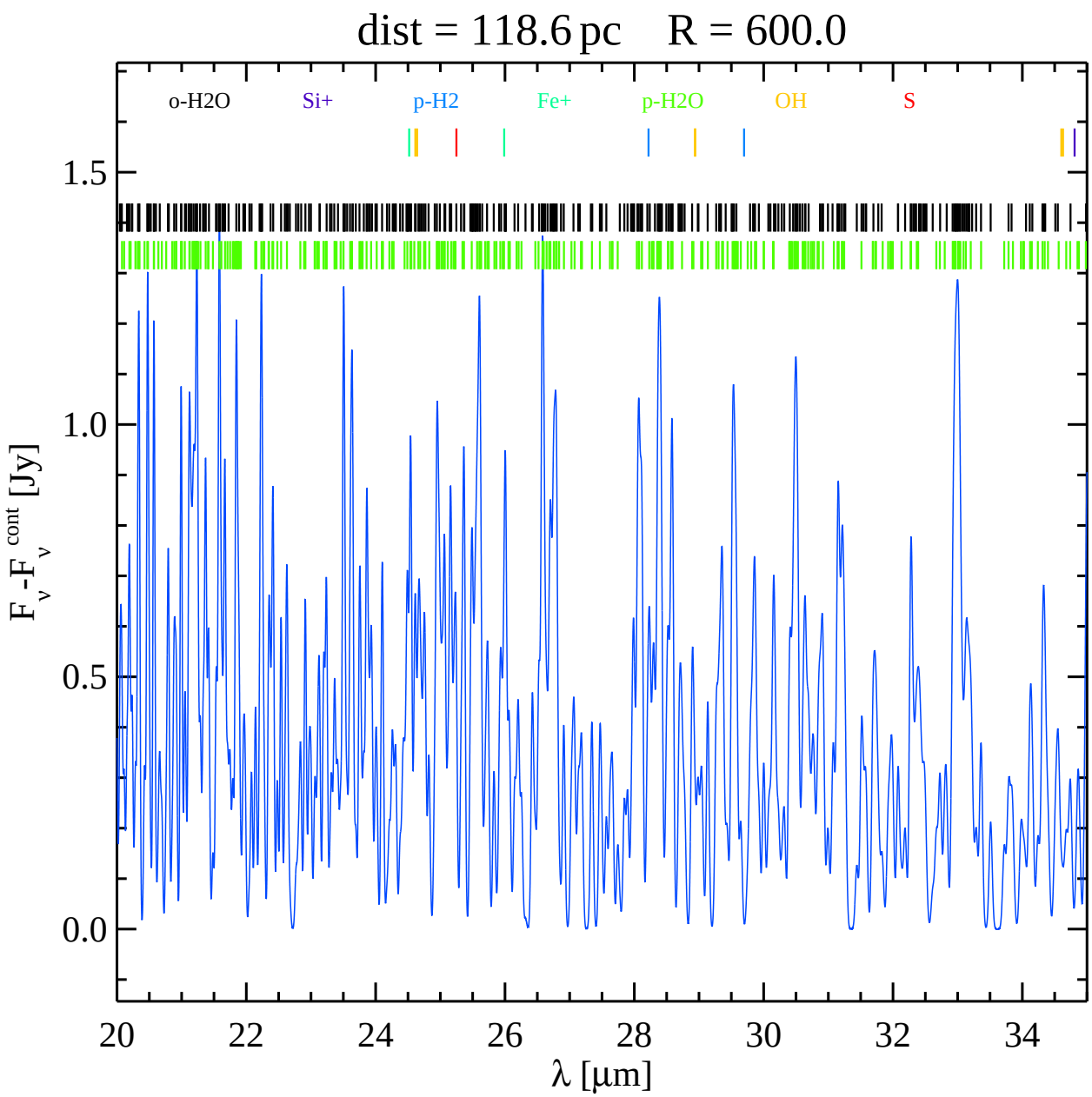

dist = 118.6 pc R = 600.0
o-H2
p-H2
CO
o-H2O
p-H2O
H
Ar+
Ar++
F_ν - F_ν^cont [Jy]
λ [μm]
0
2
4
6
8
3
4
5
6
7
8
9
10

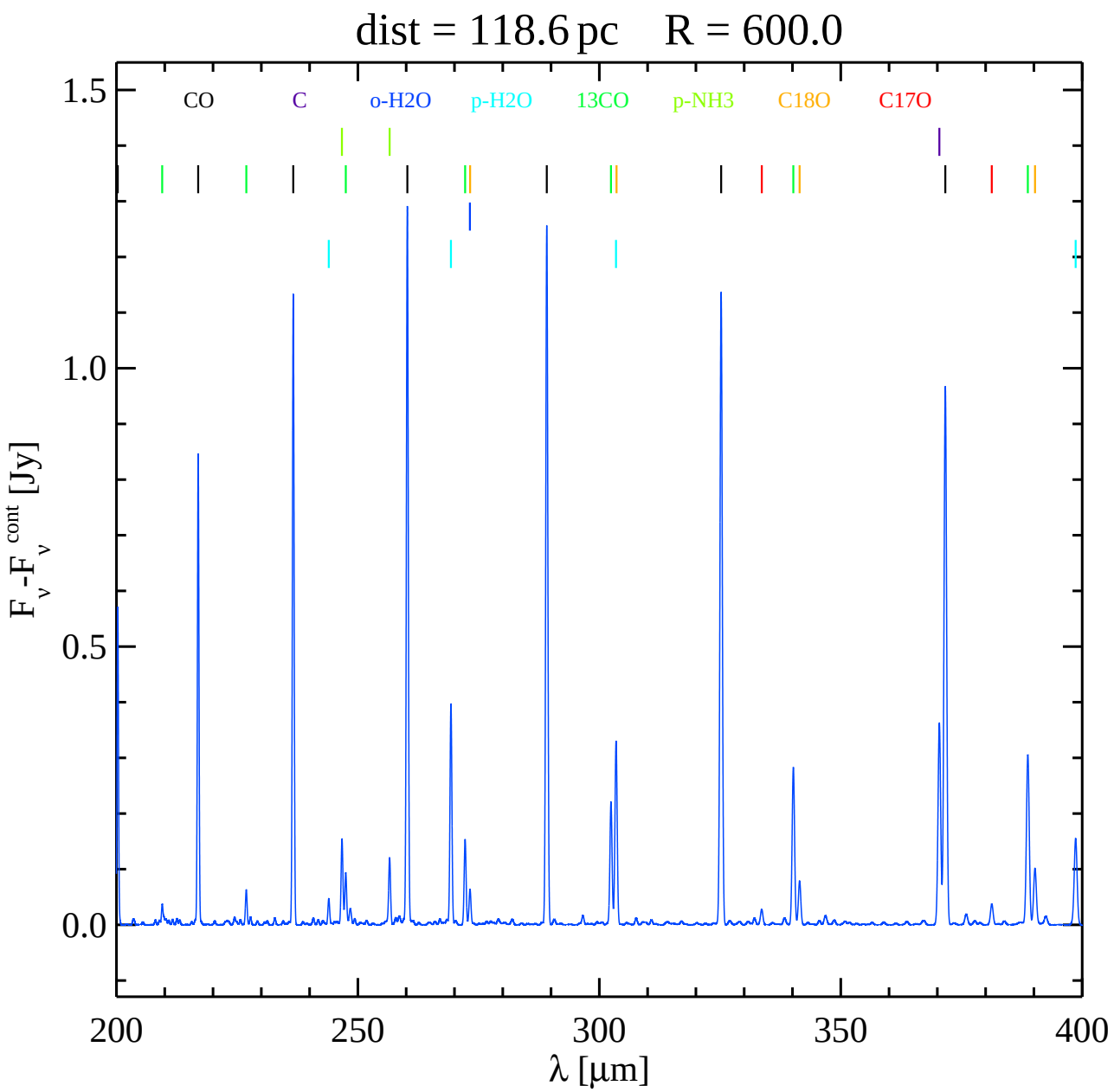

dist = 118.6 pc R = 600.0
o-H2O
o-H2
p-H2
CO
Fe+
p-H2O
14
13
12
11
10
9
F_ν [Jy]
4.4
4.6
4.8
5.0
5.2
5.4
λ [μm]

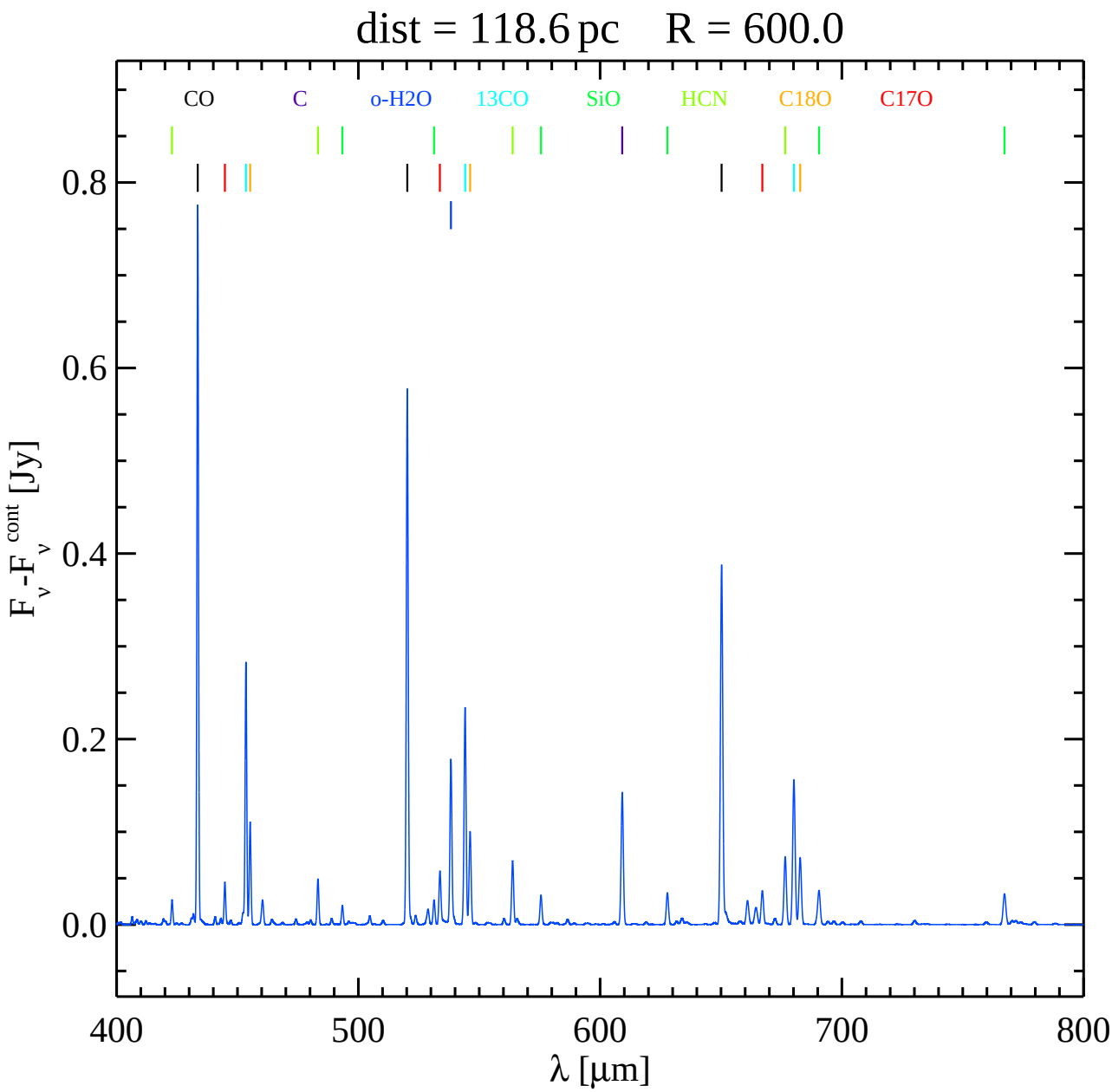

dist = 118.6 pc R = 600.0
o-H2O
o-H2
p-H2
Fe+
p-H2O
Ne+
Ne++
22
20
18
16
14
12
10
F_ν [Jy]
10
12
14
16
18
20
λ [μm]

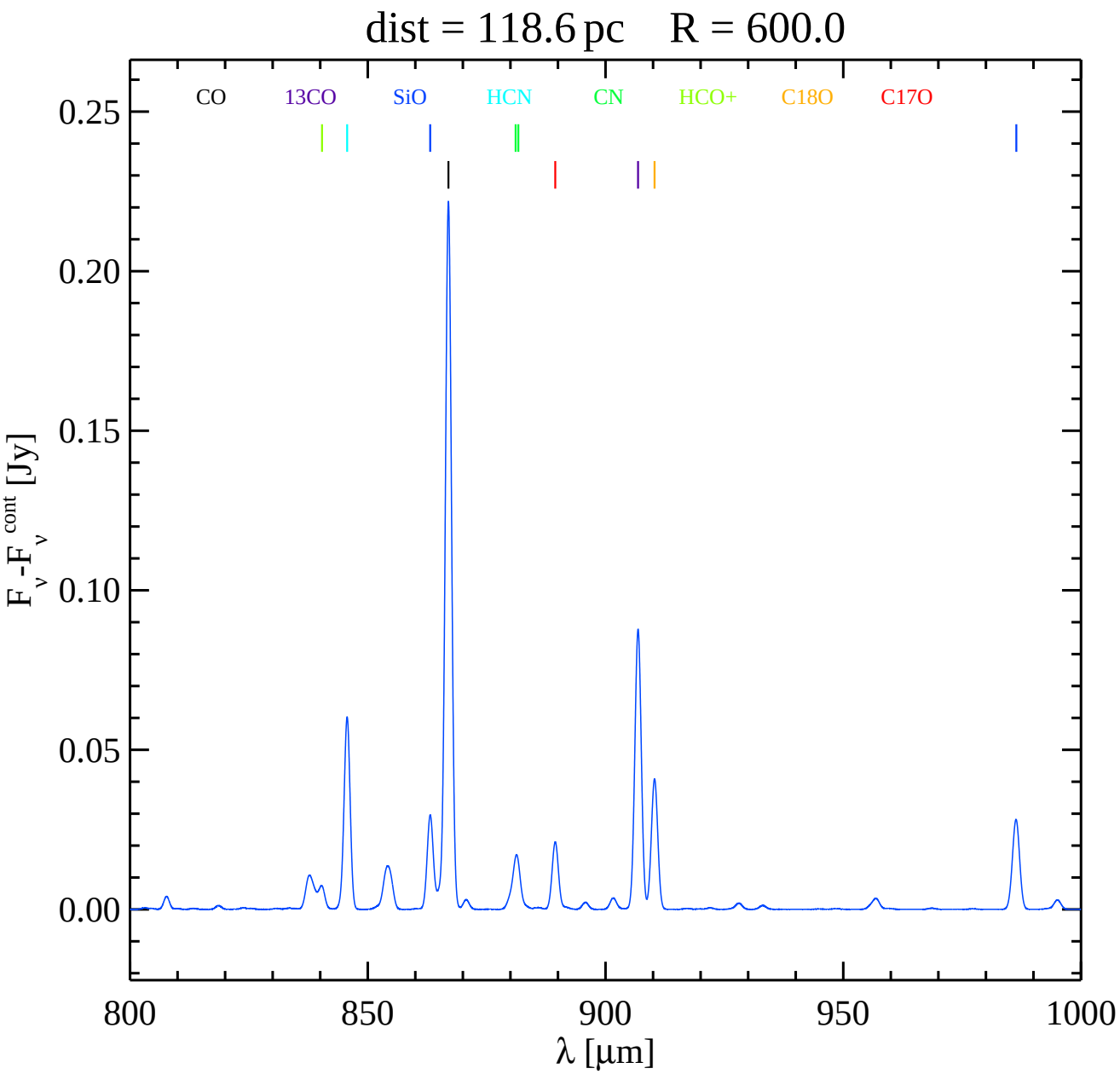

dist = 118.6 pc R = 600.0
o-H2O
o-H2
p-H2
Fe+
p-H2O
Ne+
Ne++
2.0
1.5
1.0
0.5
0.0
F_ν - F_ν^cont [Jy]
10
12
14
16
18
20
λ [μm]

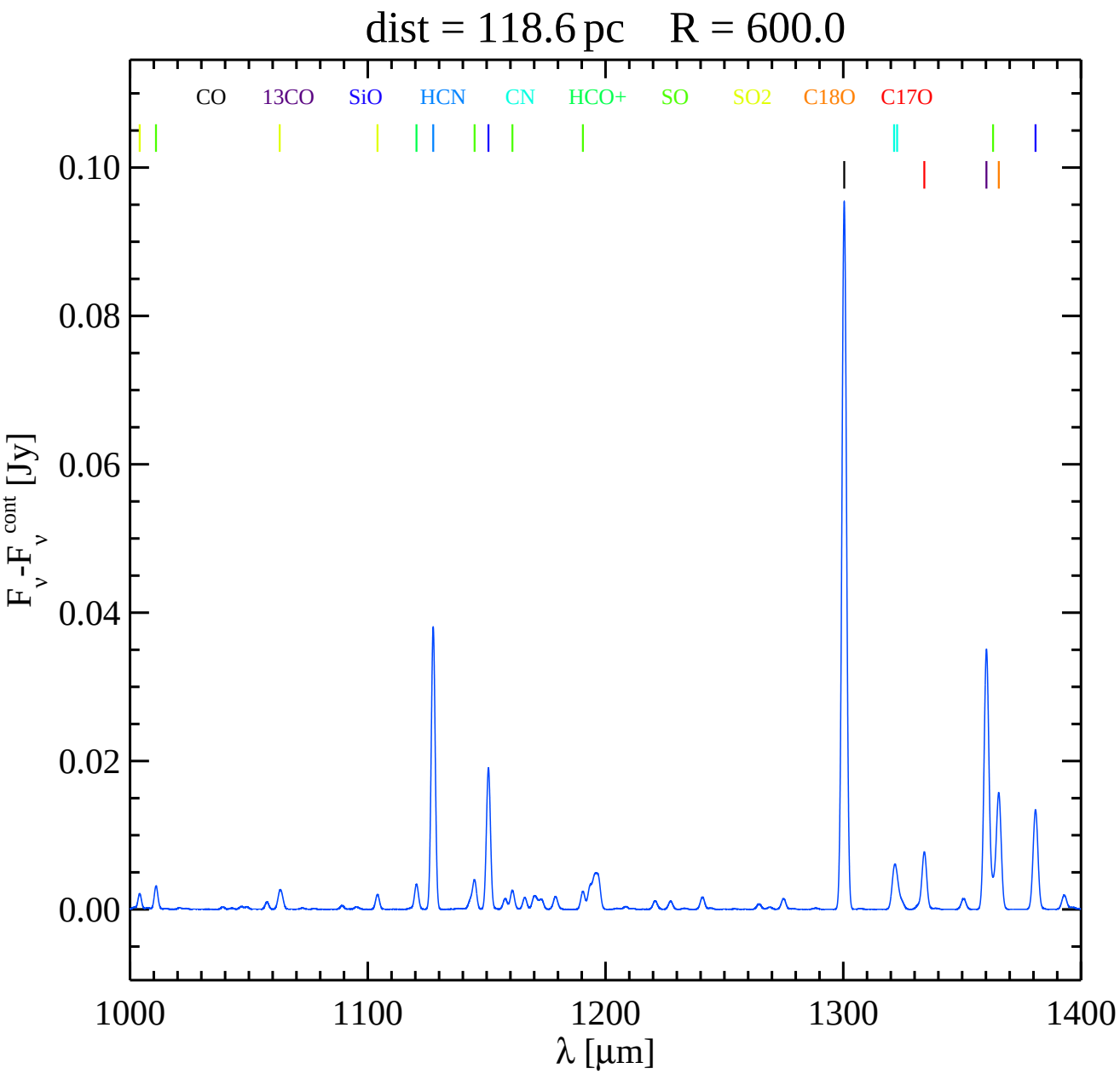

dist = 118.6 pc R = 600.0
o-H2O
Si+
p-H2
Fe+
p-H2O
OH
S
19
18
17
16
15
14
F_ν [Jy]
20
22
24
26
28
30
32
34
λ [μm]

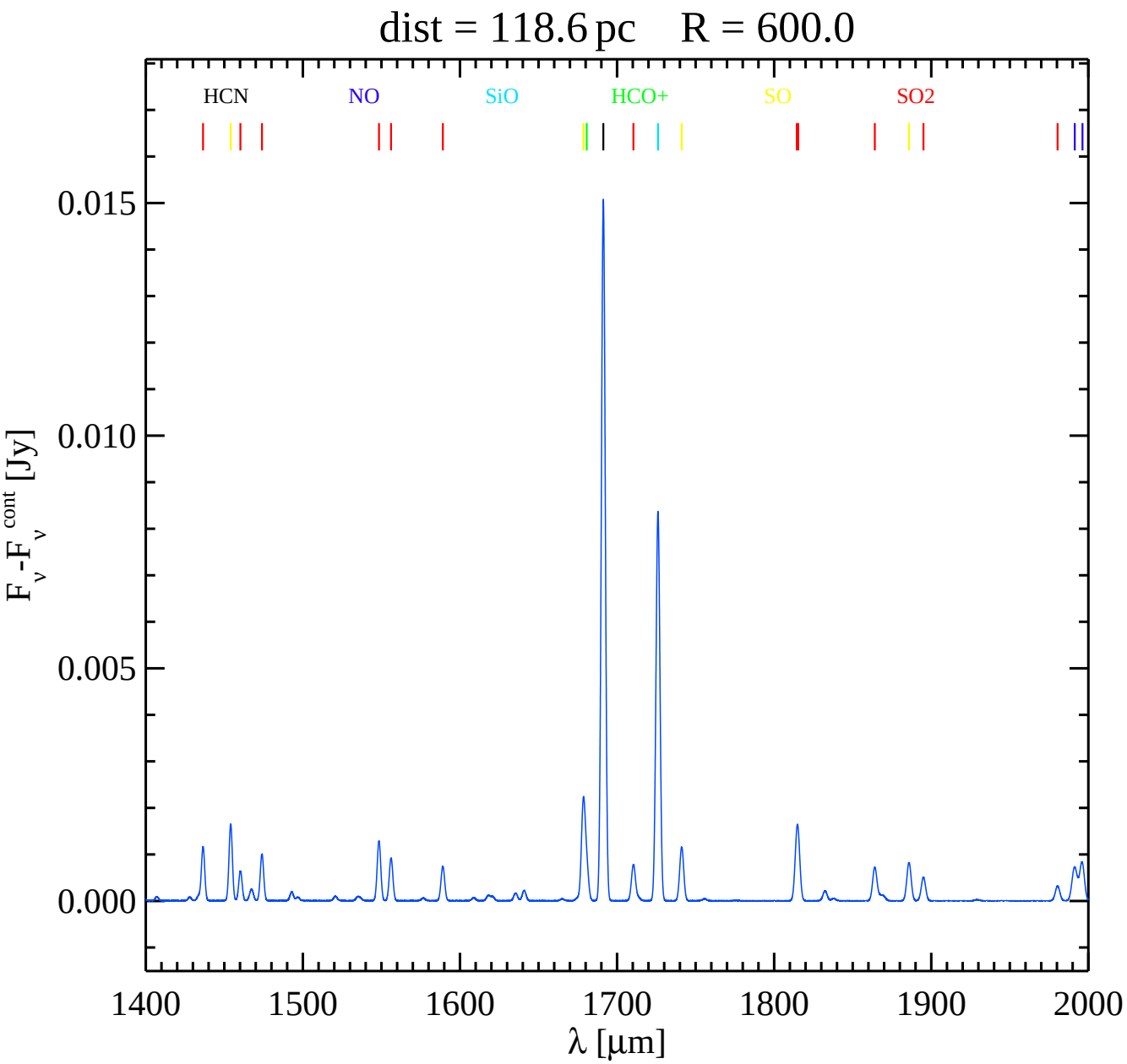

dist = 118.6 pc R = 600.0
o-H2O
Si+
p-H2
Fe+
p-H2O
OH
S
1.5
1.0
0.5
0.0
F_ν - F_ν^cont [Jy]
20
22
24
26
28
30
32
34
λ [μm]

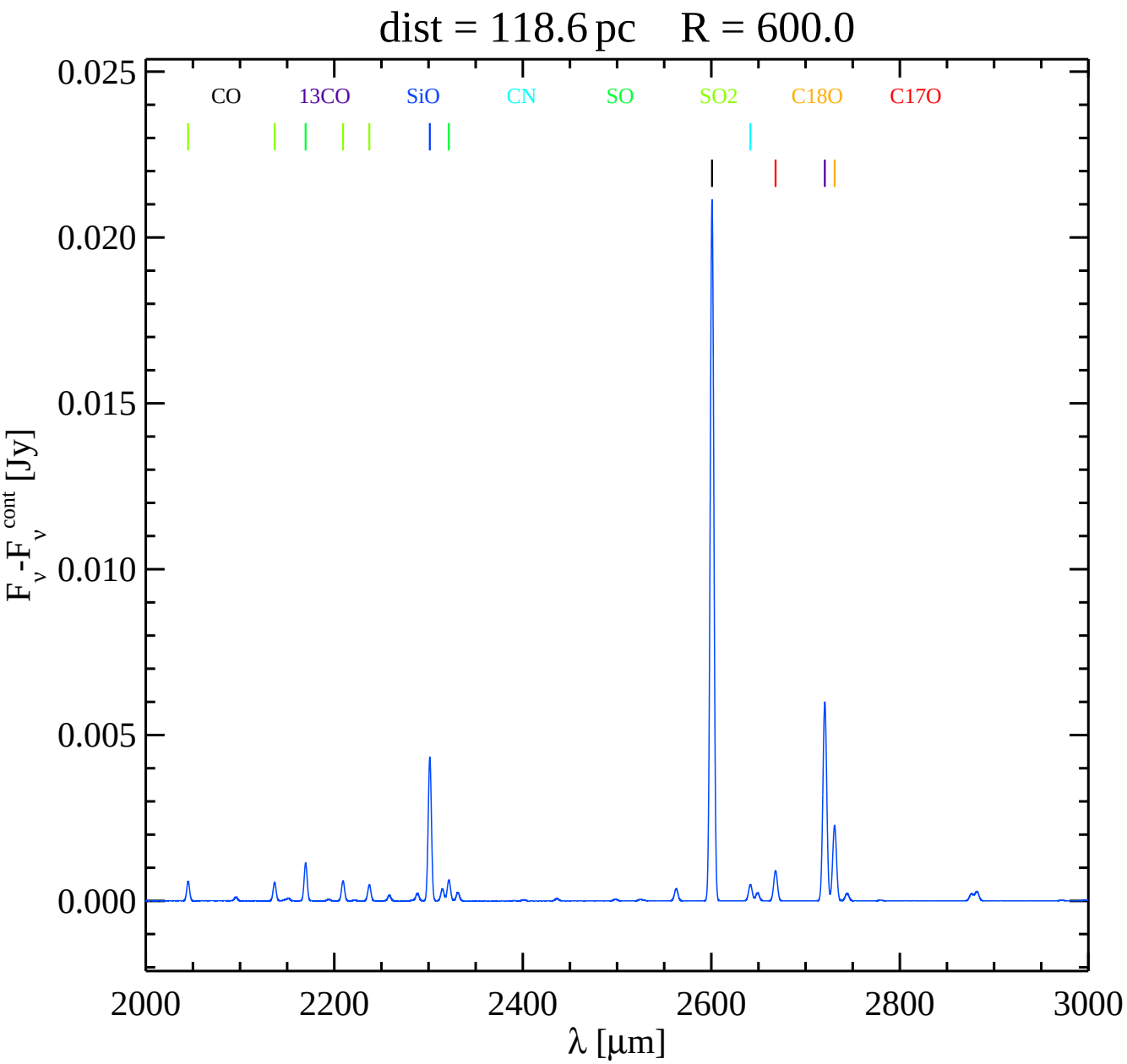

dist = 118.6 pc R = 600.0
CO
C
o-H2O
p-H2O
13CO
p-NH3
C18O
C17O
1.5
1.0
0.5
0.0
F_ν - F_ν^cont [Jy]
200
250
300
350
400
λ [μm]

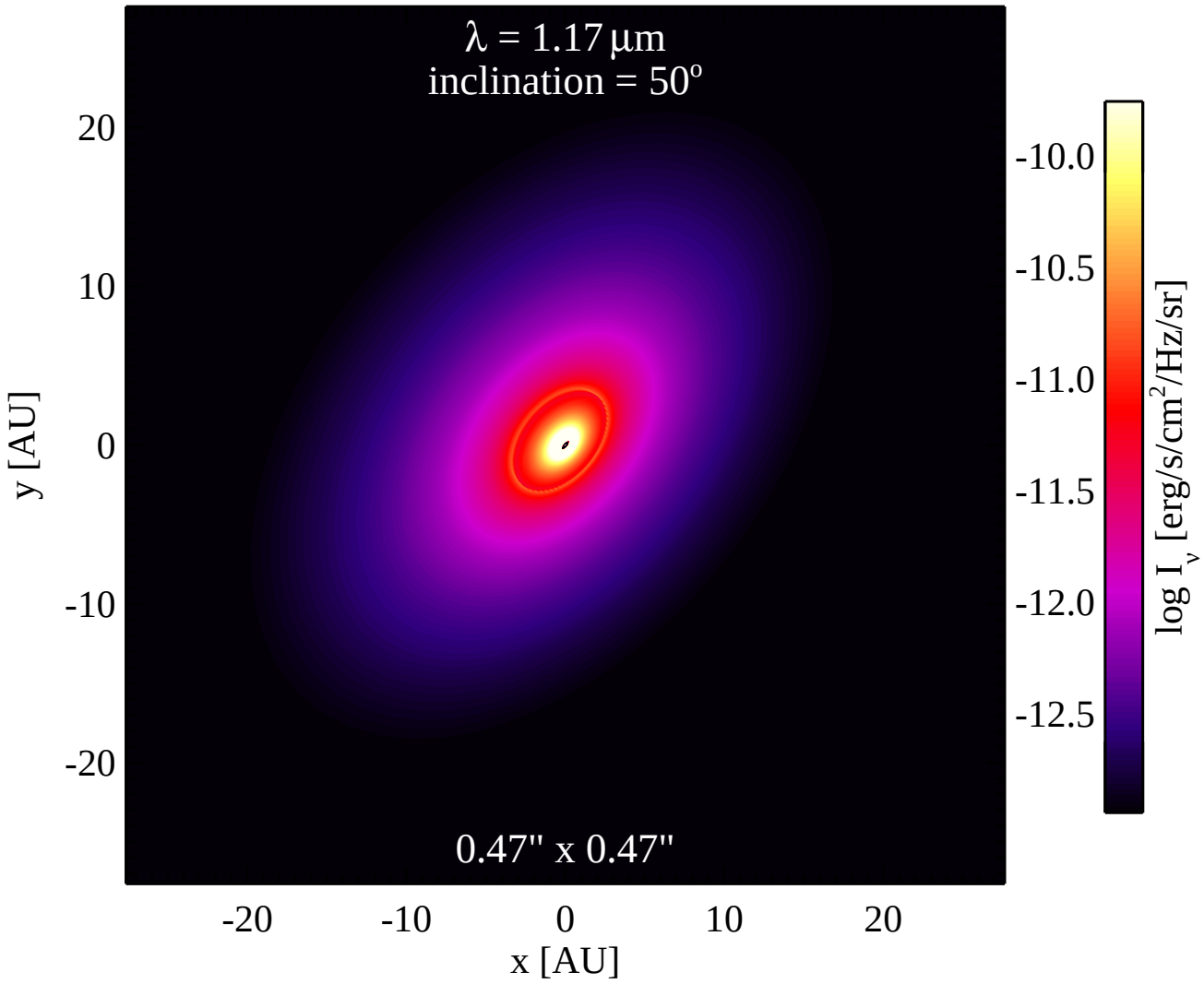

dist = 118.6 pc R = 600.0
CO
C
o-H2O
13CO
SiO
HCN
C18O
C17O
0.8
0.6
0.4
0.2
0.0
F_ν - F_ν^cont [Jy]
400
500
600
700
800
λ [μm]

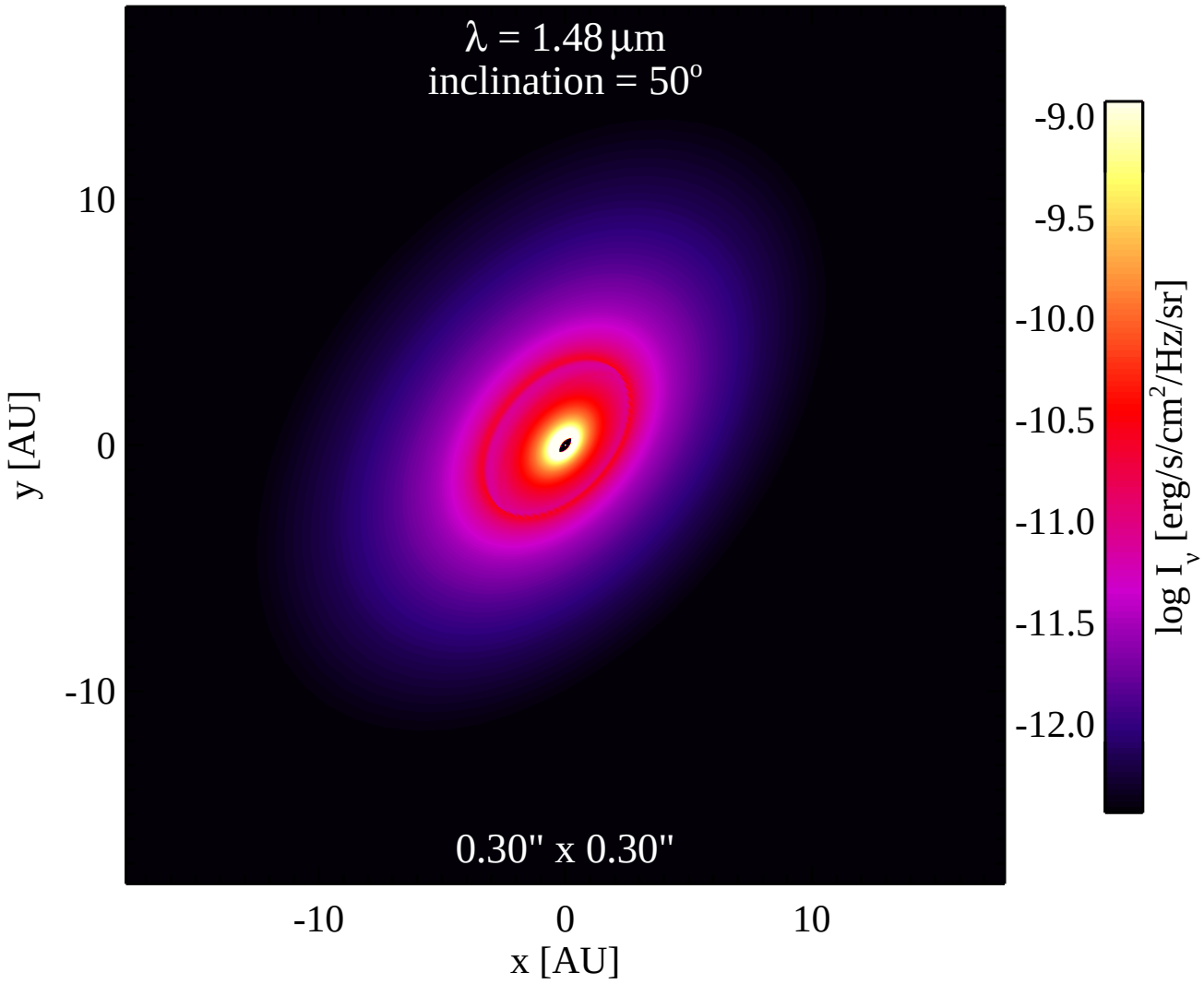

dist = 118.6 pc R = 600.0
CO
13CO
SiO
HCN
CN
HCO+
C18O
C17O
0.25
0.20
0.15
0.10
0.05
0.00
F_ν -F_ν^cont [Jy]
800
850
900
950
1000
λ [μm]

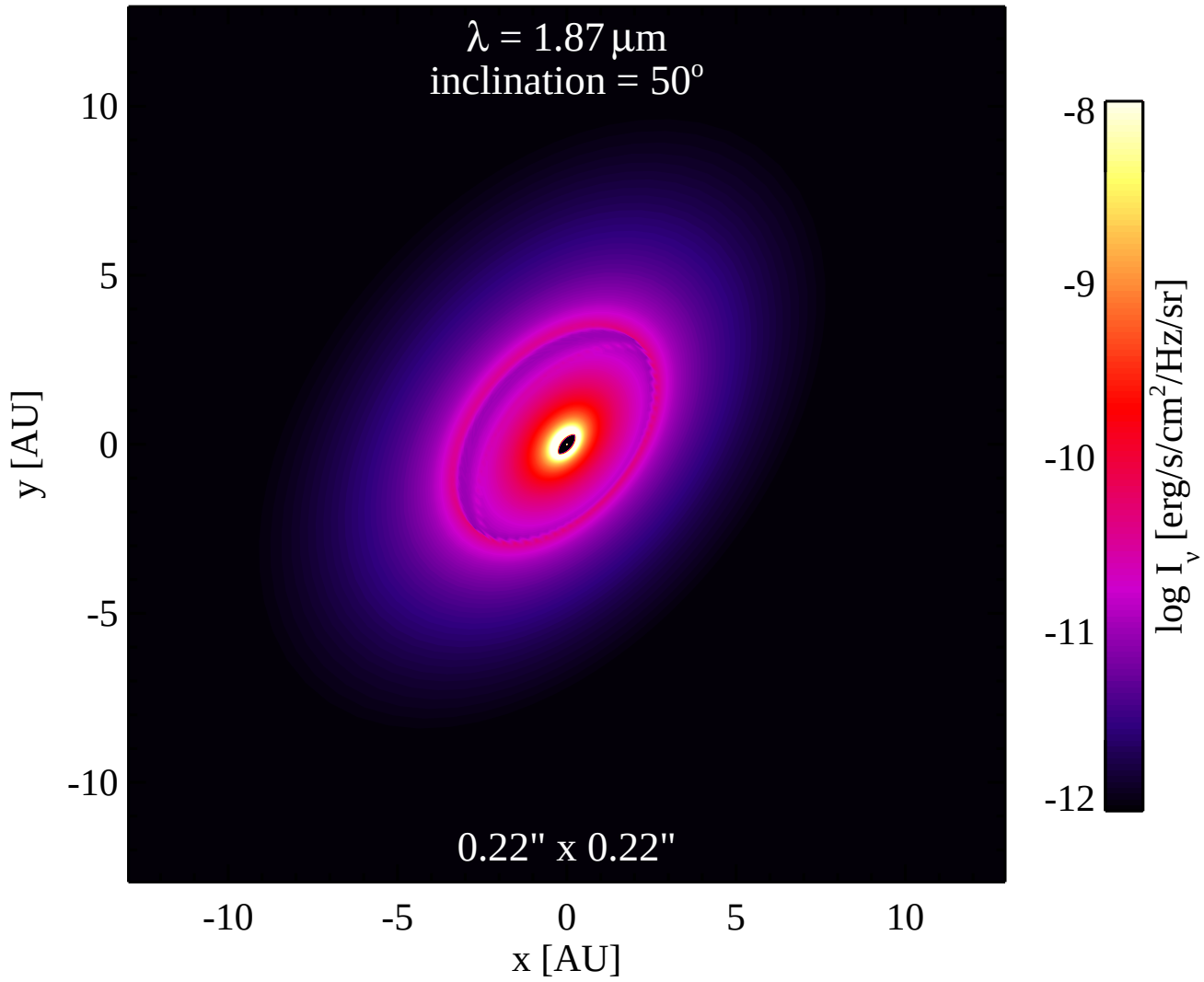

dist = 118.6 pc R = 600.0
CO
13CO
SiO
HCN
CN
HCO+
SO
SO2
C18O
C17O
0.10
0.08
0.06
0.04
0.02
0.00
F_ν -F_ν^cont [Jy]
1000
1100
1200
1300
1400
λ [μm]

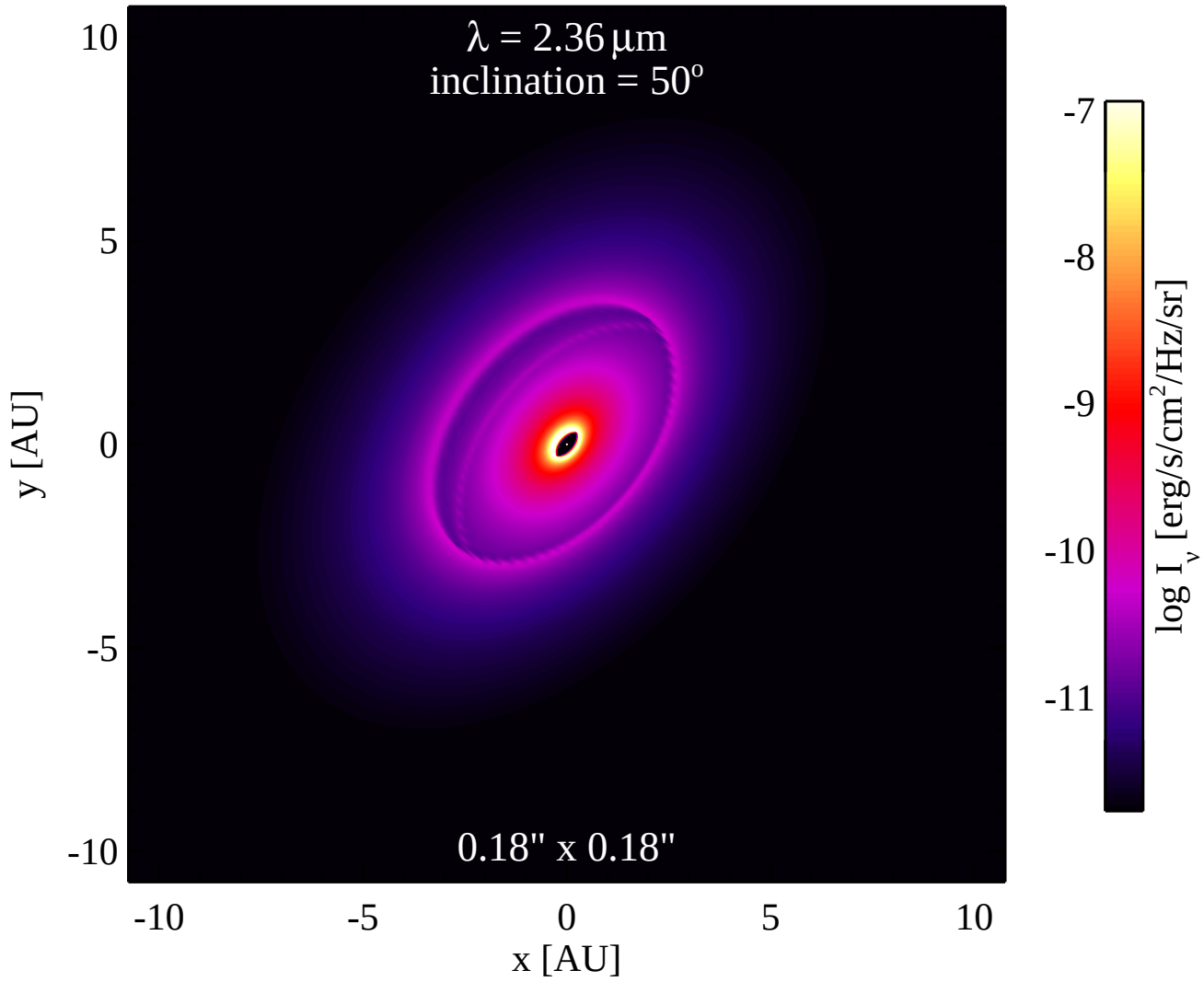

dist = 118.6 pc R = 600.0
HCN
NO
SiO
HCO+
SO
SO2
0.015
0.010
0.005
0.000
F_ν - F_ν^cont [Jy]
1400
1500
1600
1700
1800
1900
2000
λ [μm]

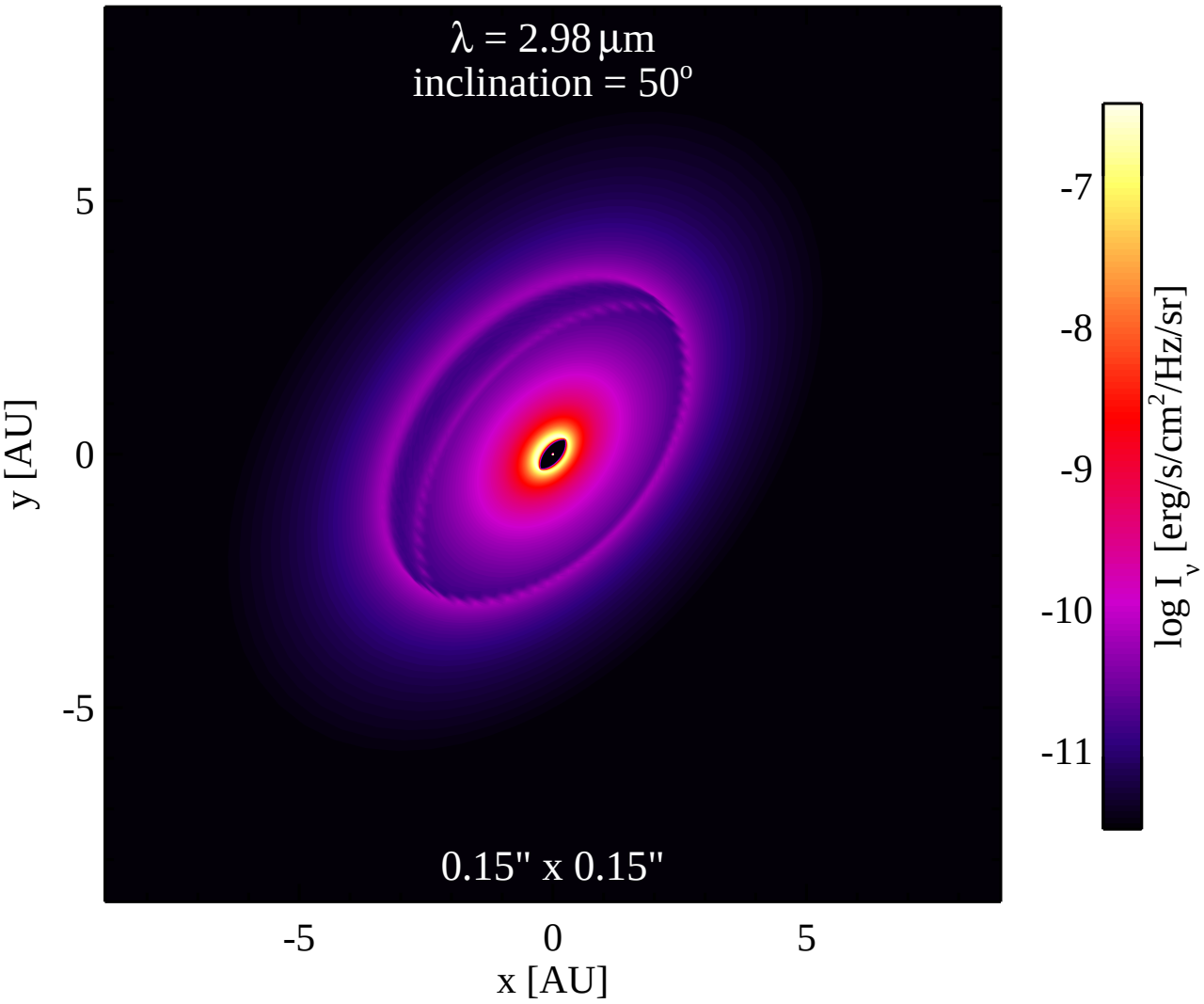

dist = 118.6 pc R = 600.0
CO
13CO
SiO
CN
SO
SO2
C18O
C17O
0.025
0.020
0.015
0.010
0.005
0.000
F_ν - F_ν^cont [Jy]
2000
2200
2400
2600
2800
3000
λ [μm]

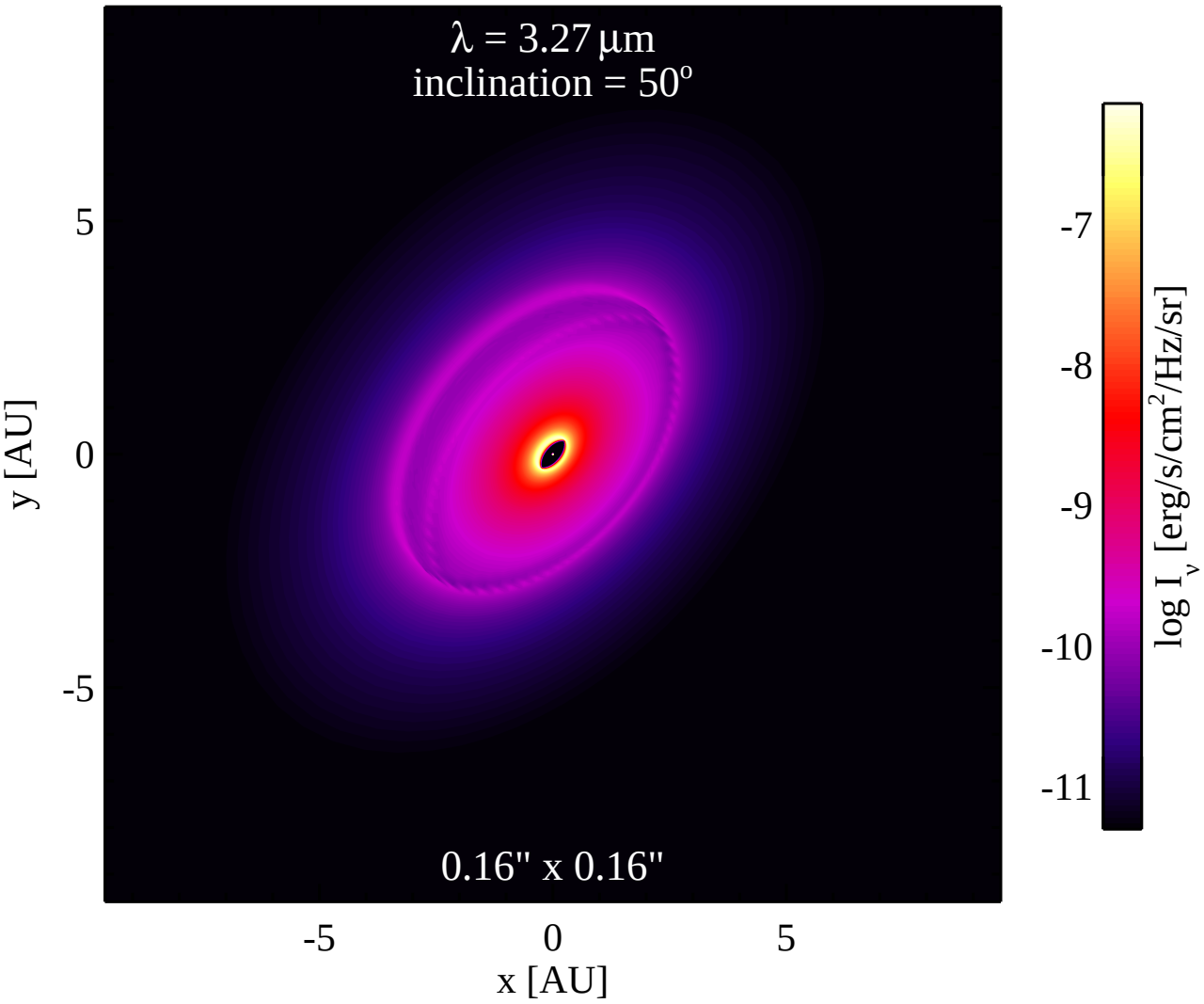

λ = 1.17 μm
inclination = 50°
0.47" x 0.47"
20
10
0
-10
-20
y [AU]
-20
-10
0
10
20
x [AU]
-10.0
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

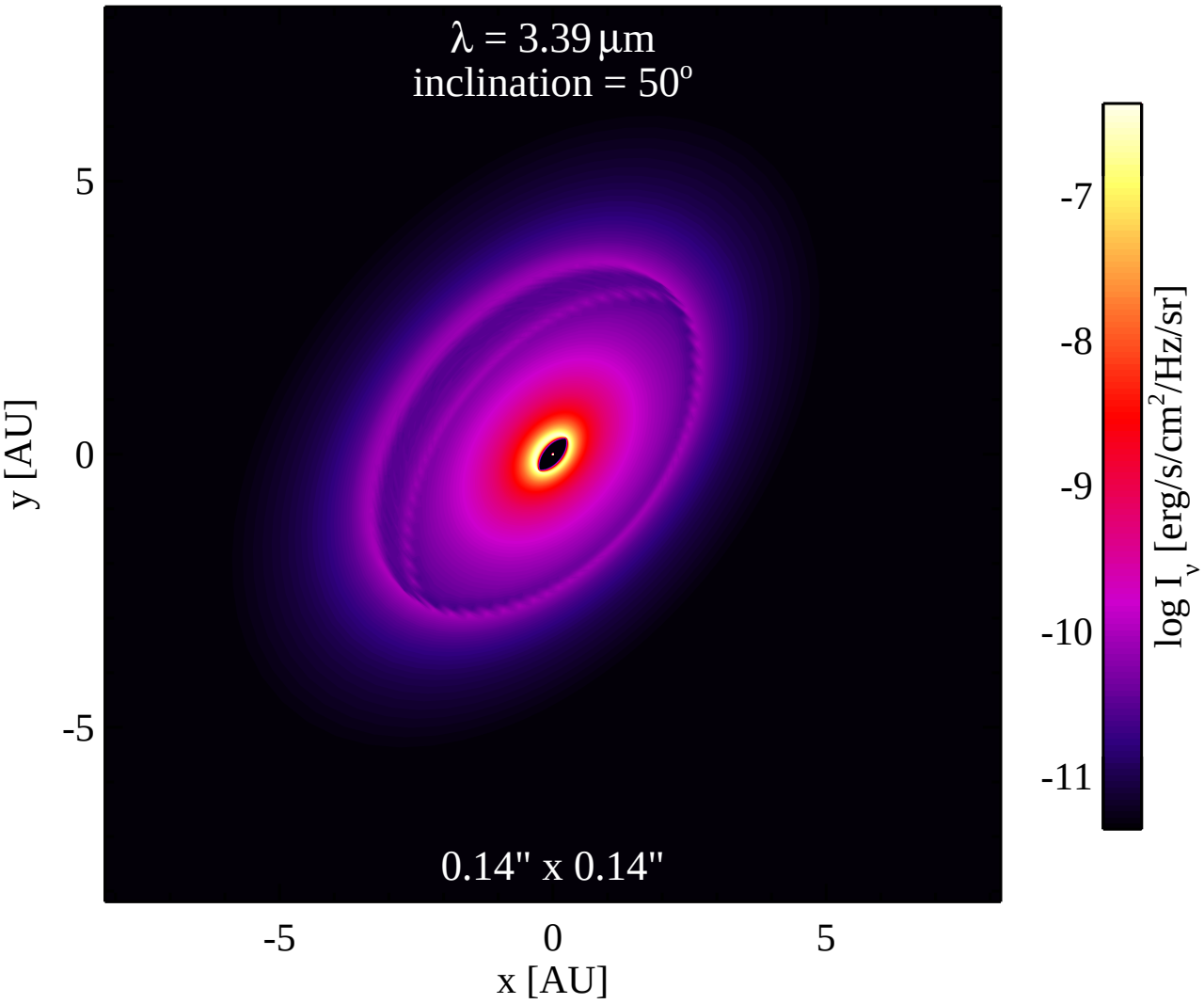

λ = 1.48 μm
inclination = 50°
0.30" x 0.30"
10
0
-10
y [AU]
-10
0
10
x [AU]
-9.0
-9.5
-10.0
-10.5
-11.0
-11.5
-12.0
log I_ν [erg/s/cm²/Hz/sr]

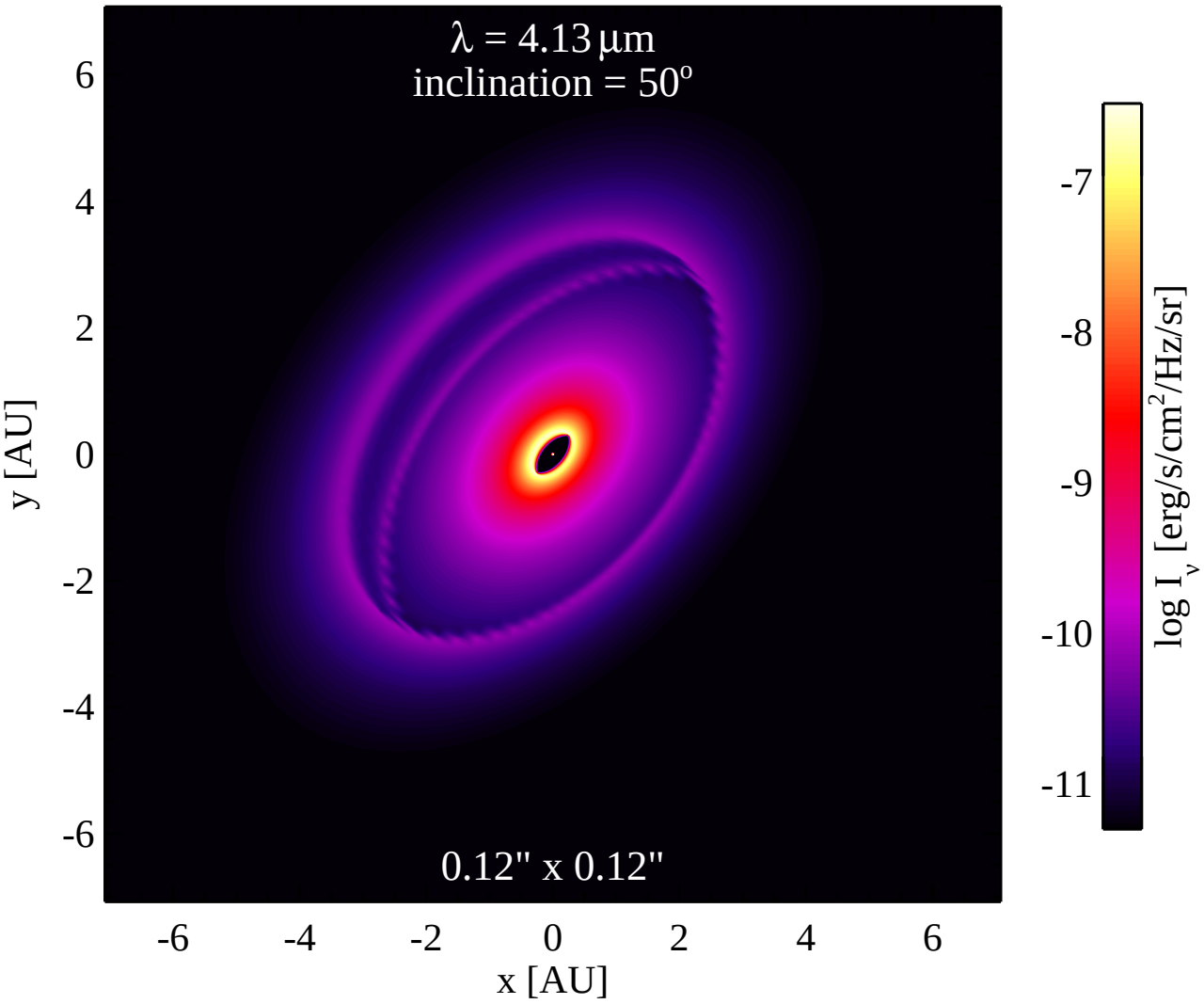

λ = 1.87 μm
inclination = 50°
0.22" x 0.22"
10
5
0
-5
-10
y [AU]
-10
-5
0
5
10
x [AU]
-8
-9
-10
-11
-12
log I_ν [erg/s/cm²/Hz/sr]

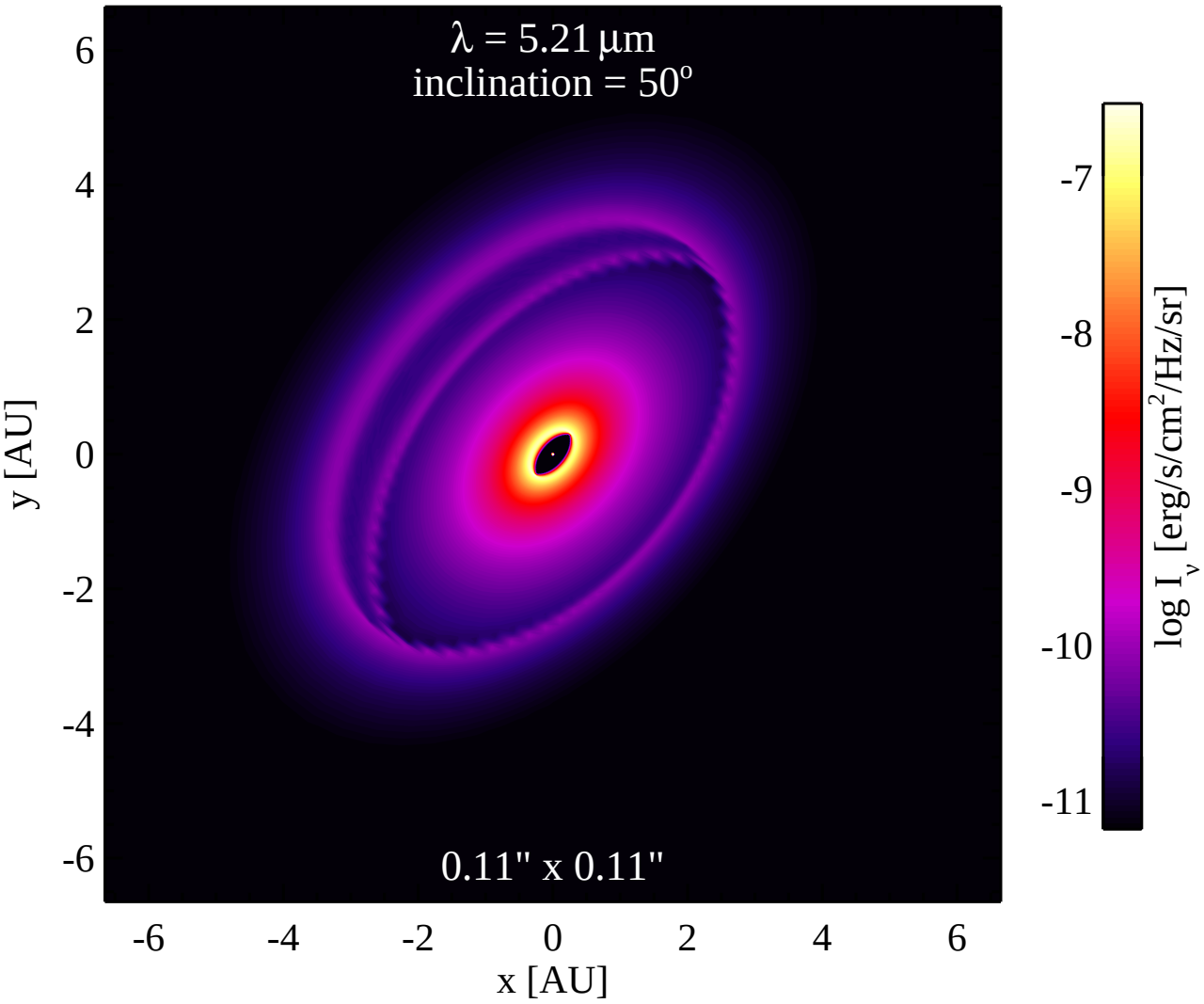

λ = 2.36 μm
inclination = 50°
0.18" x 0.18"
10
5
0
-5
-10
y [AU]
-10
-5
0
5
10
x [AU]
-7
-8
-9
-10
-11
log I_ν [erg/s/cm²/Hz/sr]

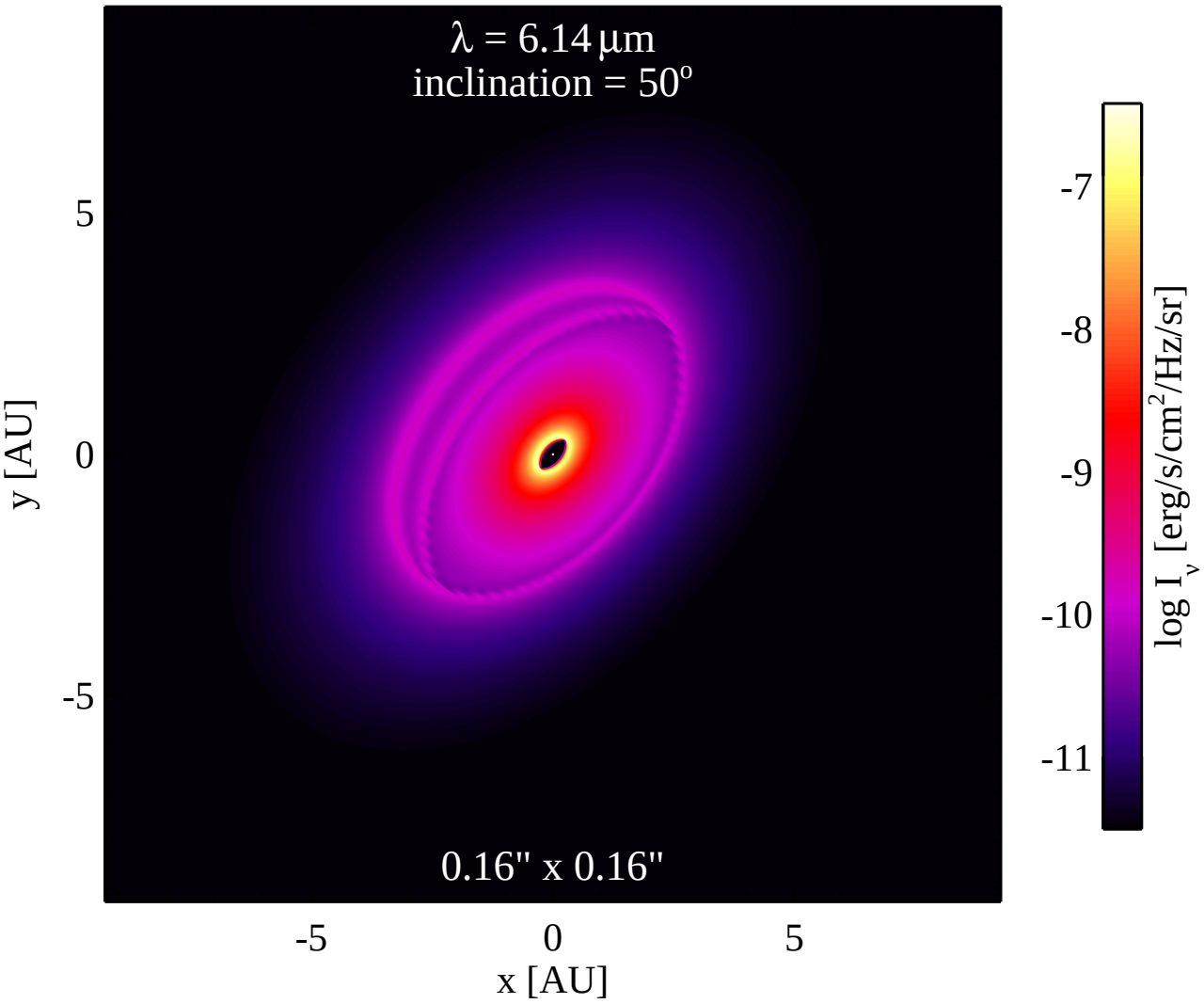

λ = 2.98 μm
inclination = 50°
0.15" x 0.15"
y [AU]
5
0
-5
-5
0
5
x [AU]
-7
-8
-9
-10
-11
log I_ν [erg/s/cm²/Hz/sr]

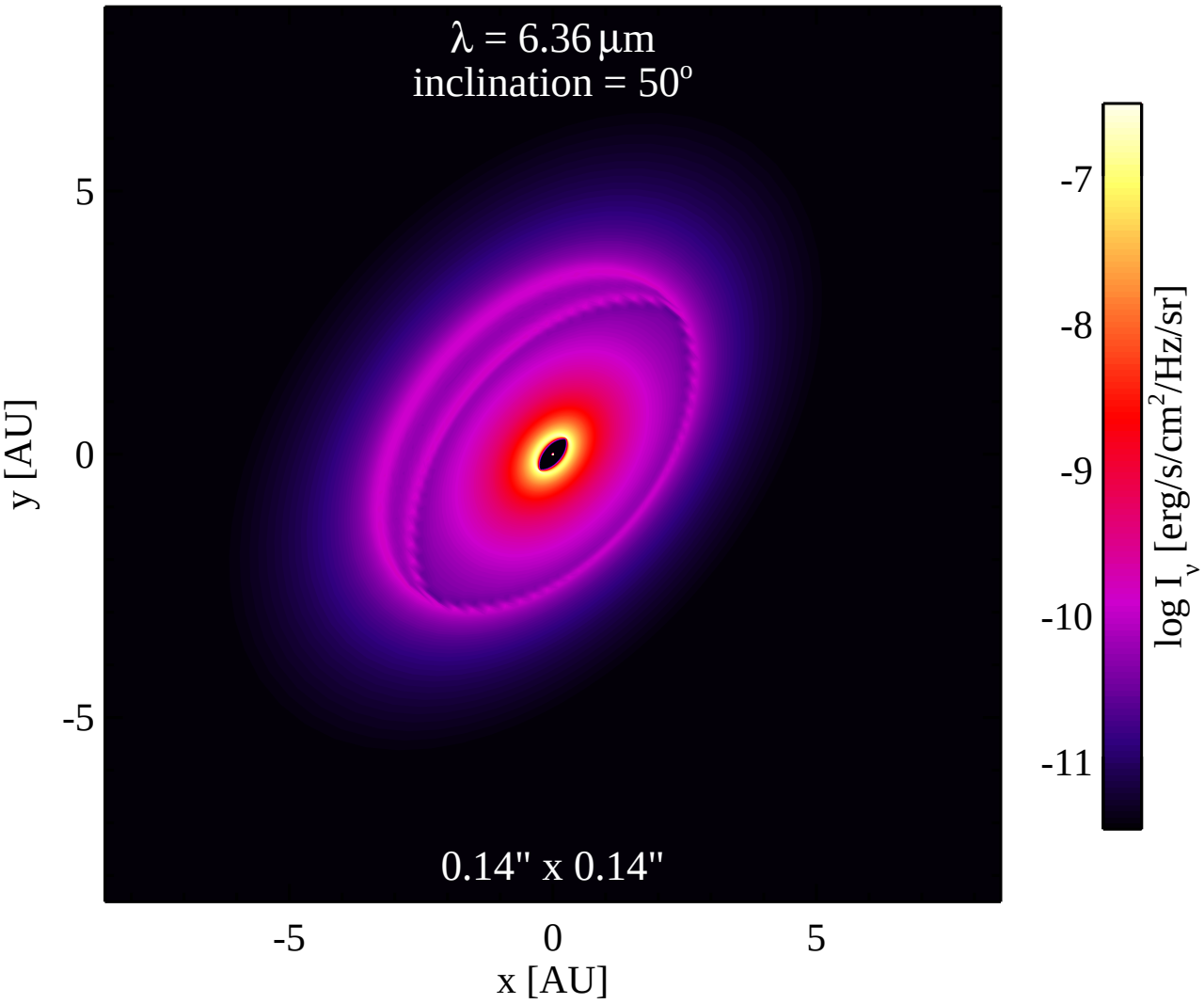

λ = 3.27 μm
inclination = 50°
0.16" x 0.16"
y [AU]
x [AU]
5
0
-5
-5
0
5
log I_ν [erg/s/cm²/Hz/sr]
-7
-8
-9
-10
-11

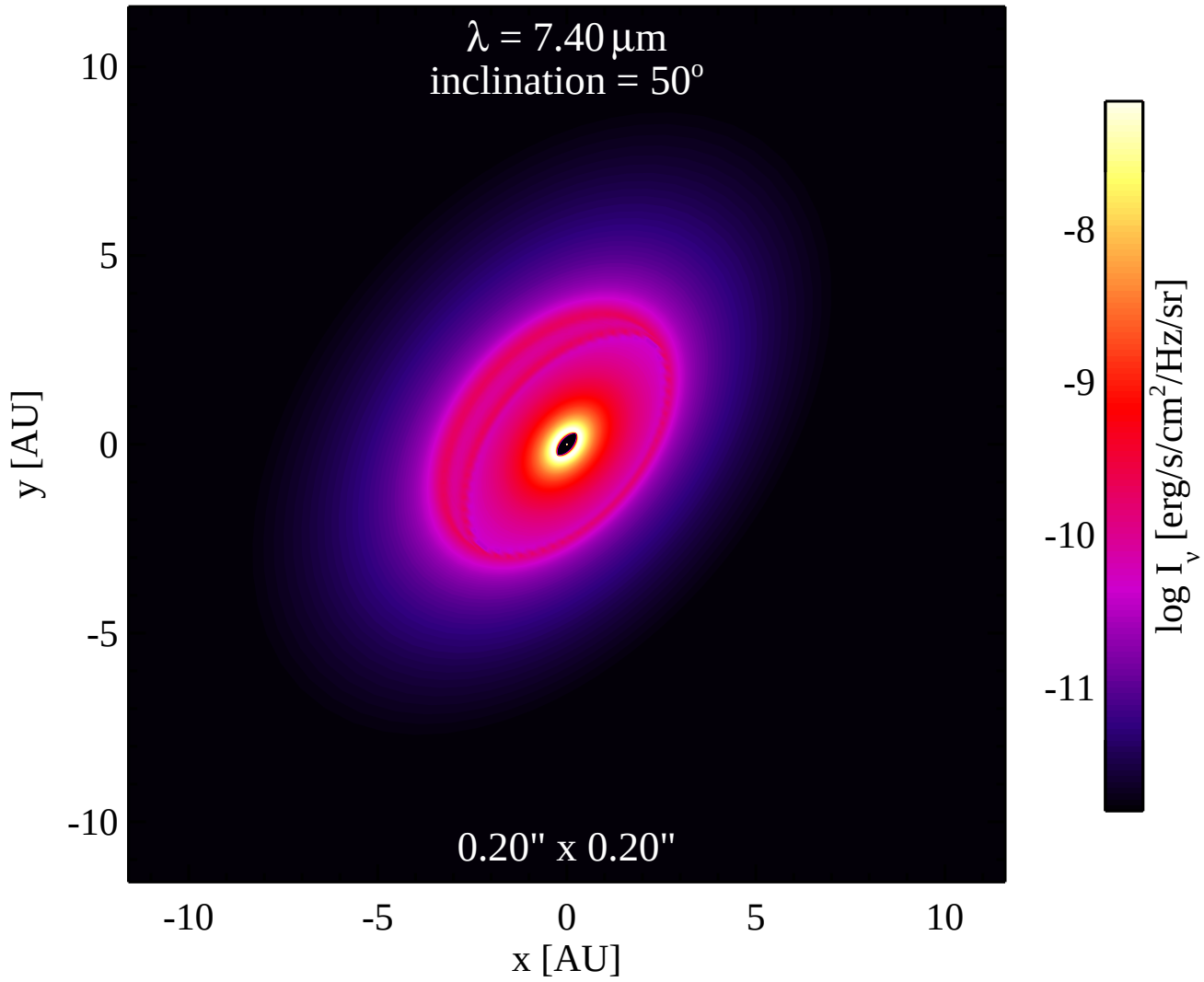

λ = 3.39 μm
inclination = 50°
0.14" x 0.14"
y [AU]
x [AU]
5
0
-5
-5
0
5
log I_ν [erg/s/cm²/Hz/sr]
-7
-8
-9
-10
-11

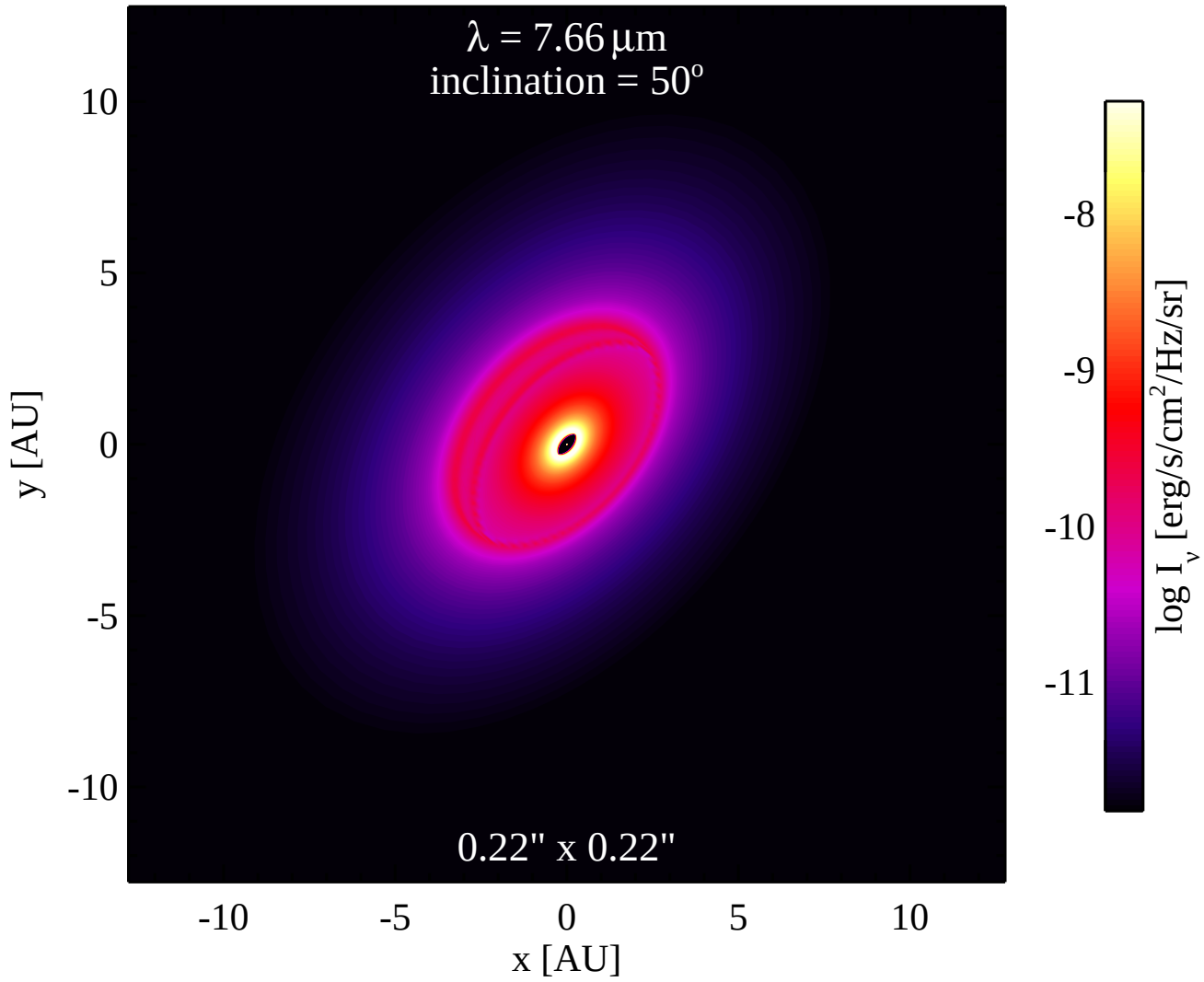

λ = 4.13 μm
inclination = 50°
0.12" x 0.12"
y [AU]
x [AU]
6
4
2
0
-2
-4
-6
-6
-4
-2
0
2
4
6
-7
-8
-9
-10
-11
log I_ν [erg/s/cm²/Hz/sr]

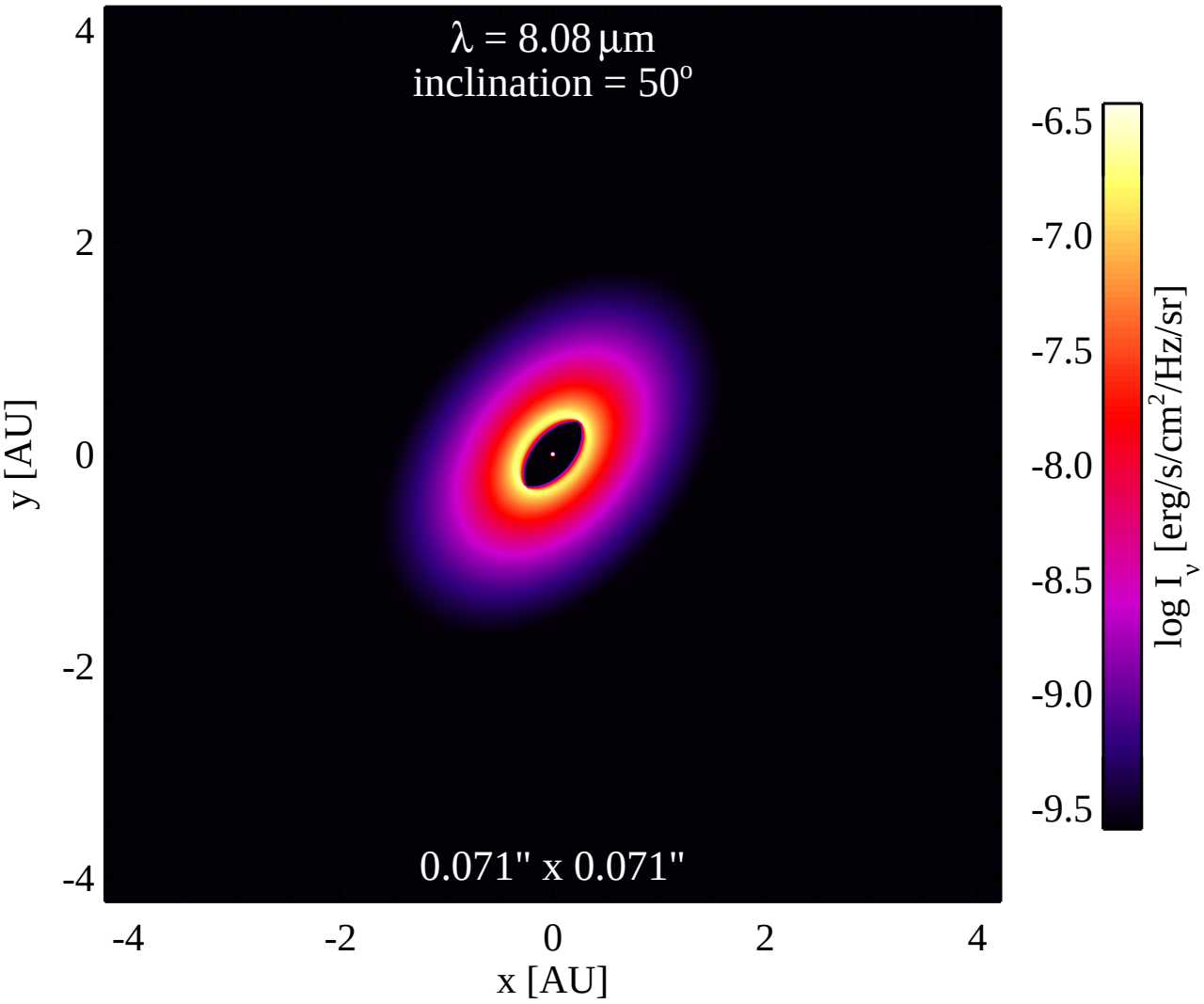

λ = 5.21 μm
inclination = 50°
0.11" x 0.11"
y [AU]
x [AU]
6
4
2
0
-2
-4
-6
-6
-4
-2
0
2
4
6
-7
-8
-9
-10
-11
log I_ν [erg/s/cm²/Hz/sr]

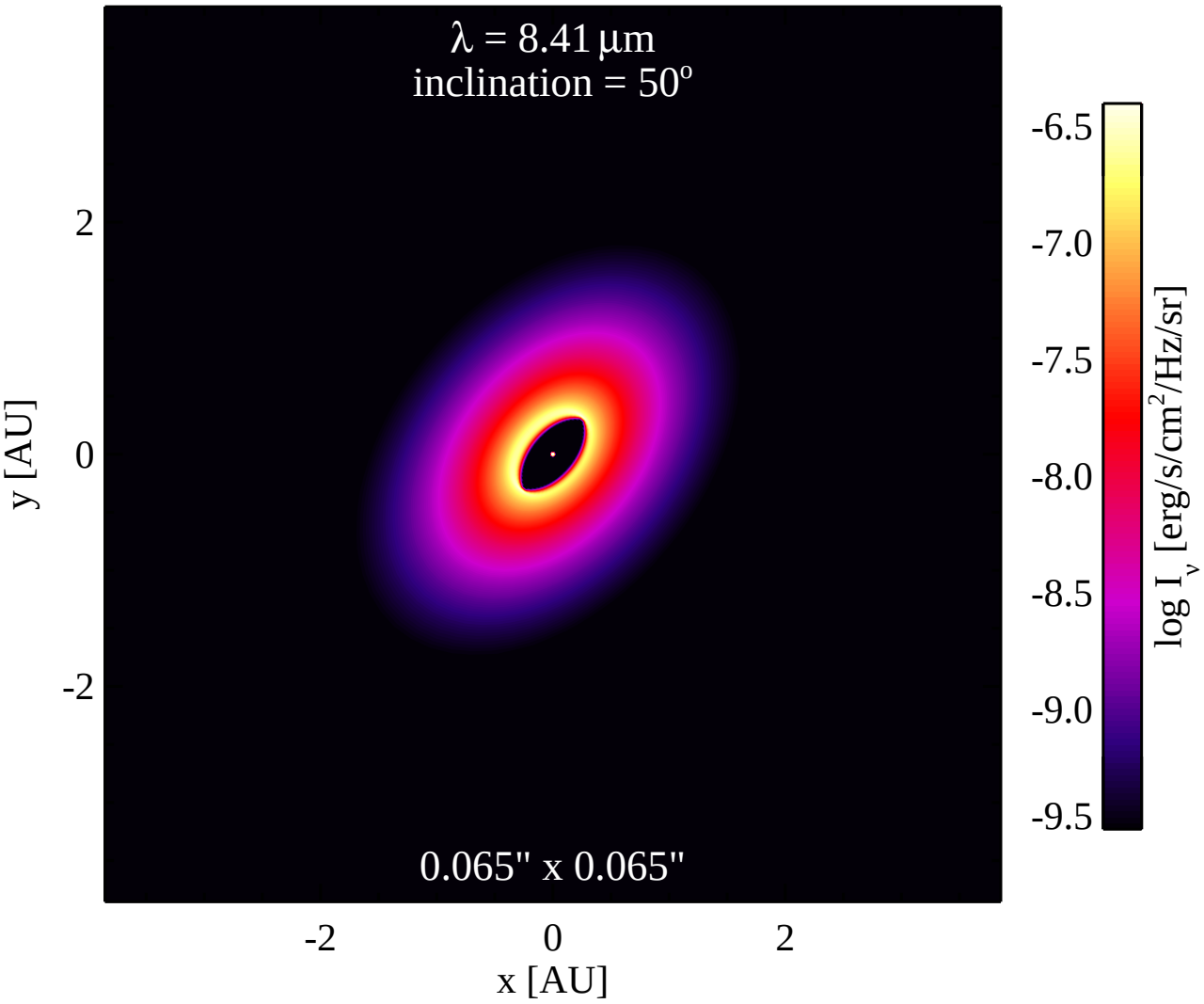

λ = 6.14 μm
inclination = 50°
0.16" x 0.16"
y [AU]
5
0
-5
-5
0
5
x [AU]
-7
-8
-9
-10
-11
log I_ν [erg/s/cm²/Hz/sr]

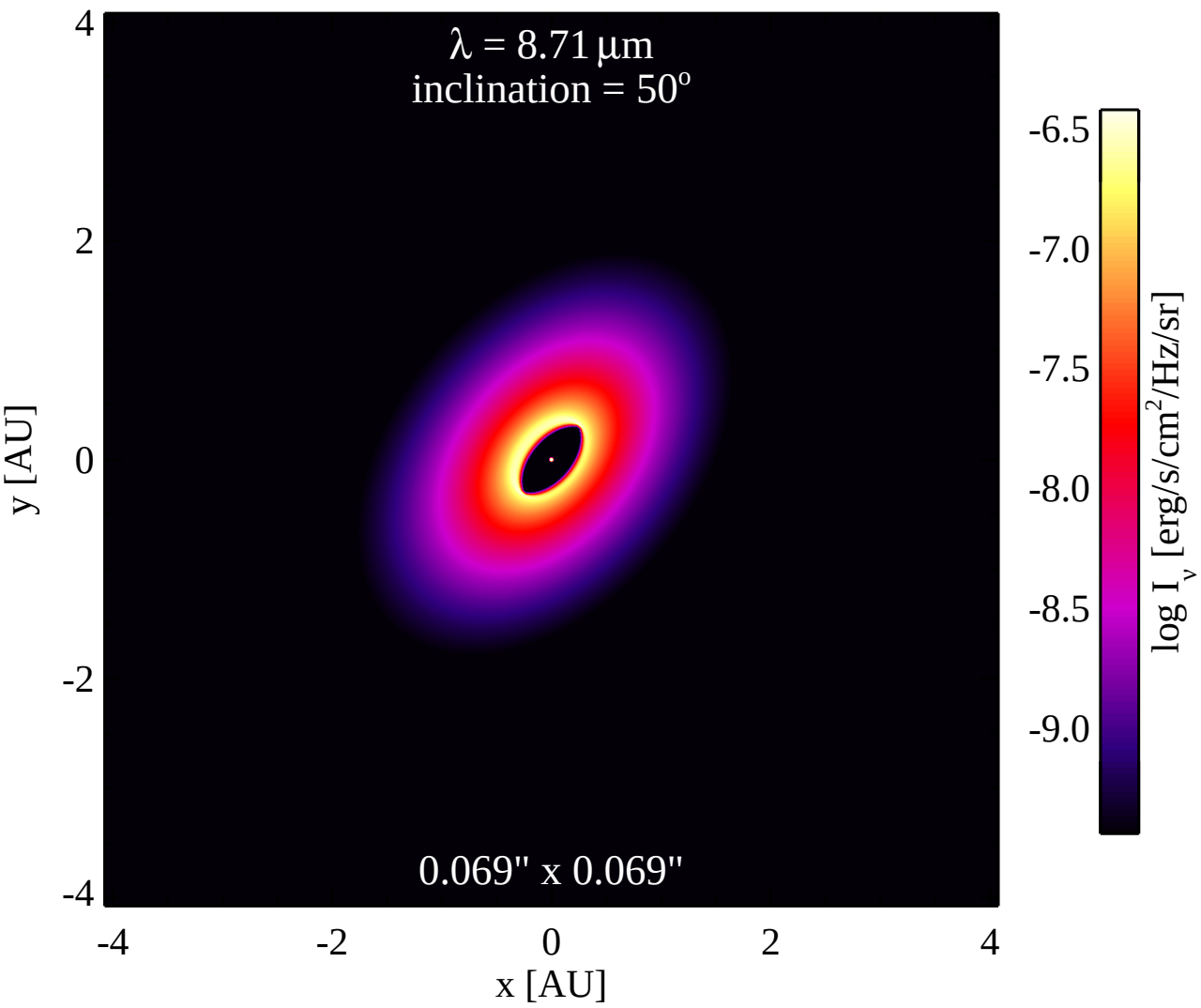

λ = 6.36 μm
inclination = 50°
0.14" x 0.14"
y [AU]
x [AU]
5
0
-5
-5
0
5
log I_ν [erg/s/cm²/Hz/sr]
-7
-8
-9
-10
-11

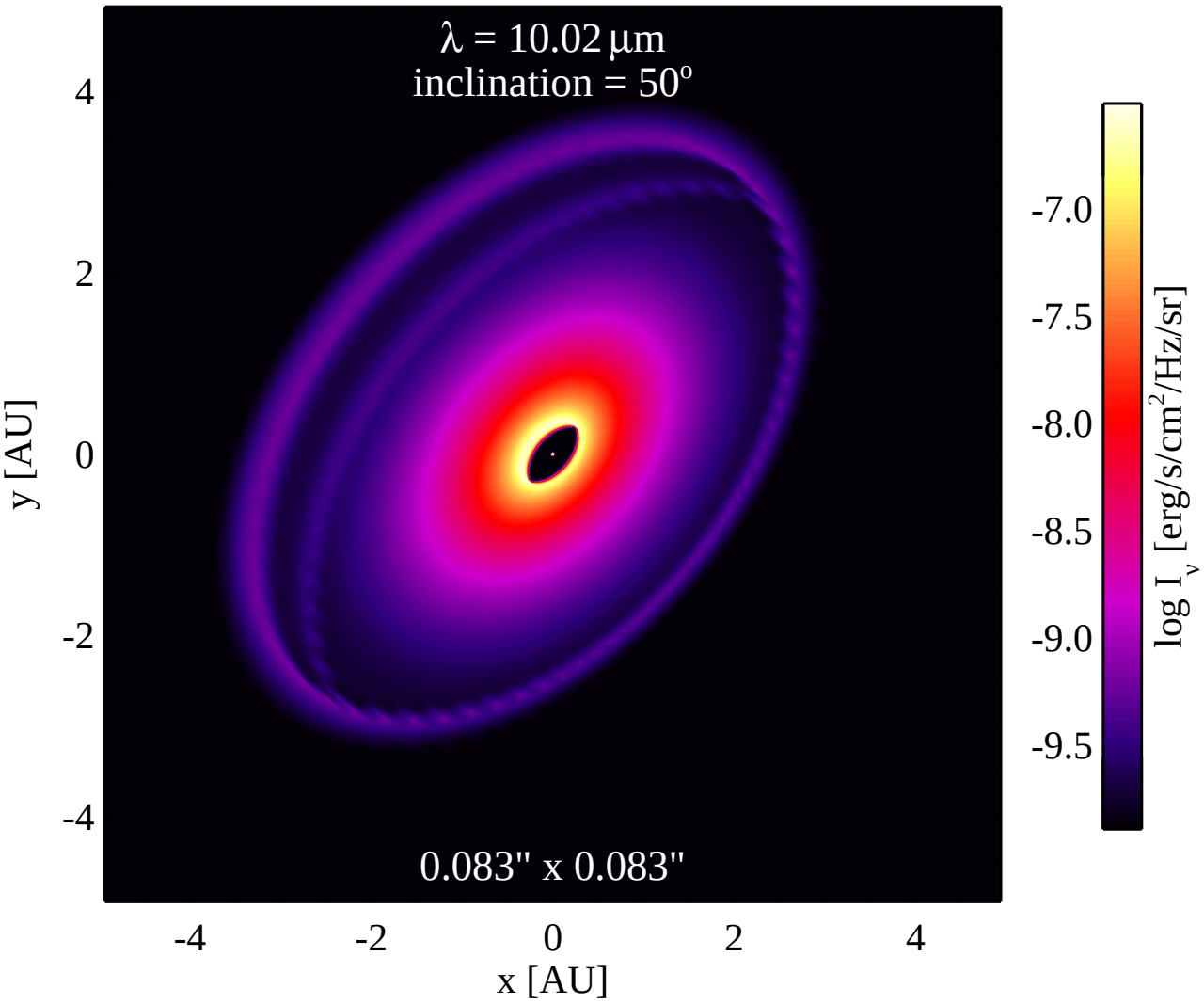

λ = 7.40 μm
inclination = 50°
0.20" x 0.20"
10
5
0
-5
-10
y [AU]
-10
-5
0
5
10
x [AU]
-8
-9
-10
-11
log I_ν [erg/s/cm²/Hz/sr]

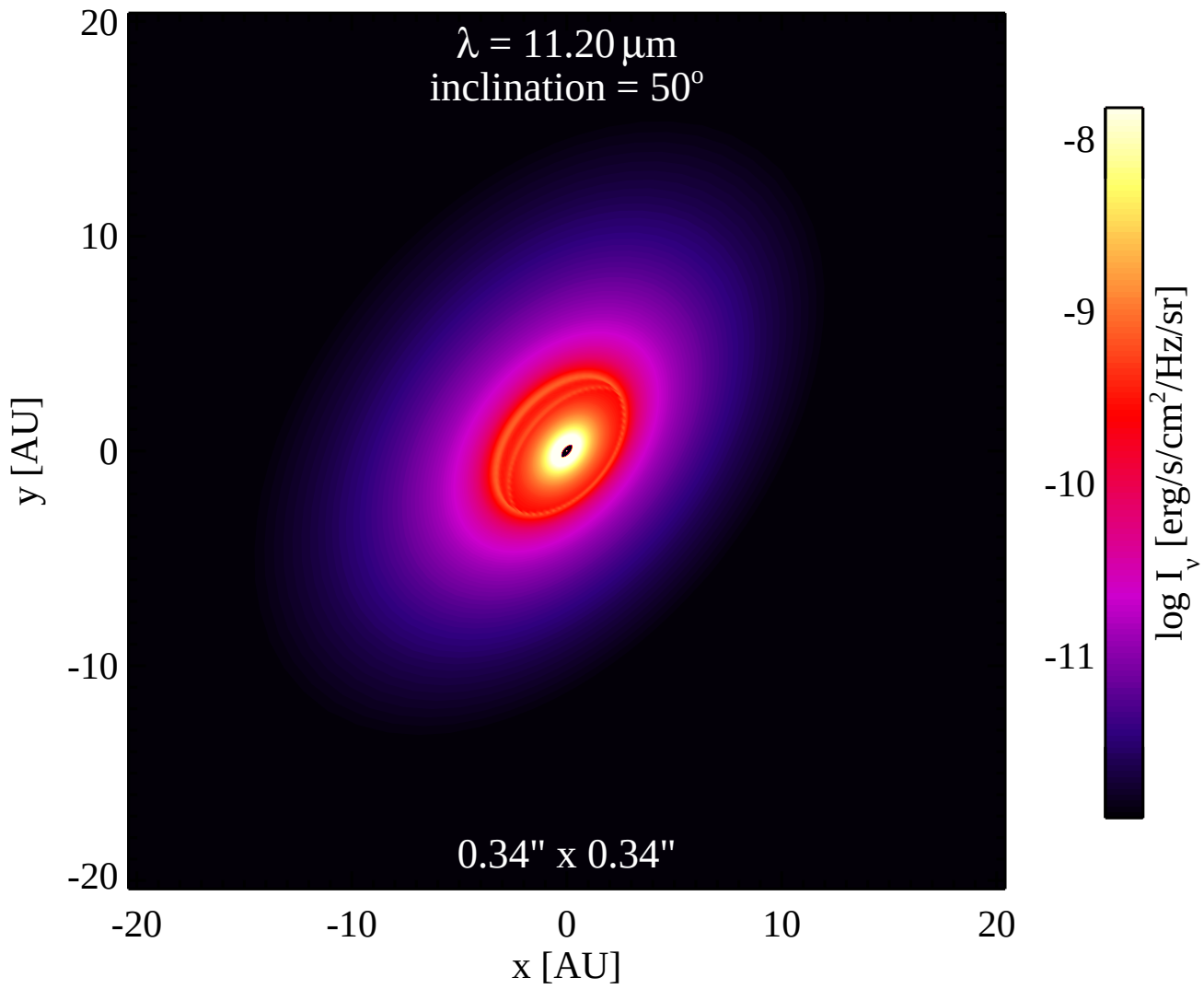

λ = 7.66 μm
inclination = 50°
0.22" x 0.22"
10
5
0
-5
-10
y [AU]
-10
-5
0
5
10
x [AU]
-8
-9
-10
-11
log I_ν [erg/s/cm²/Hz/sr]

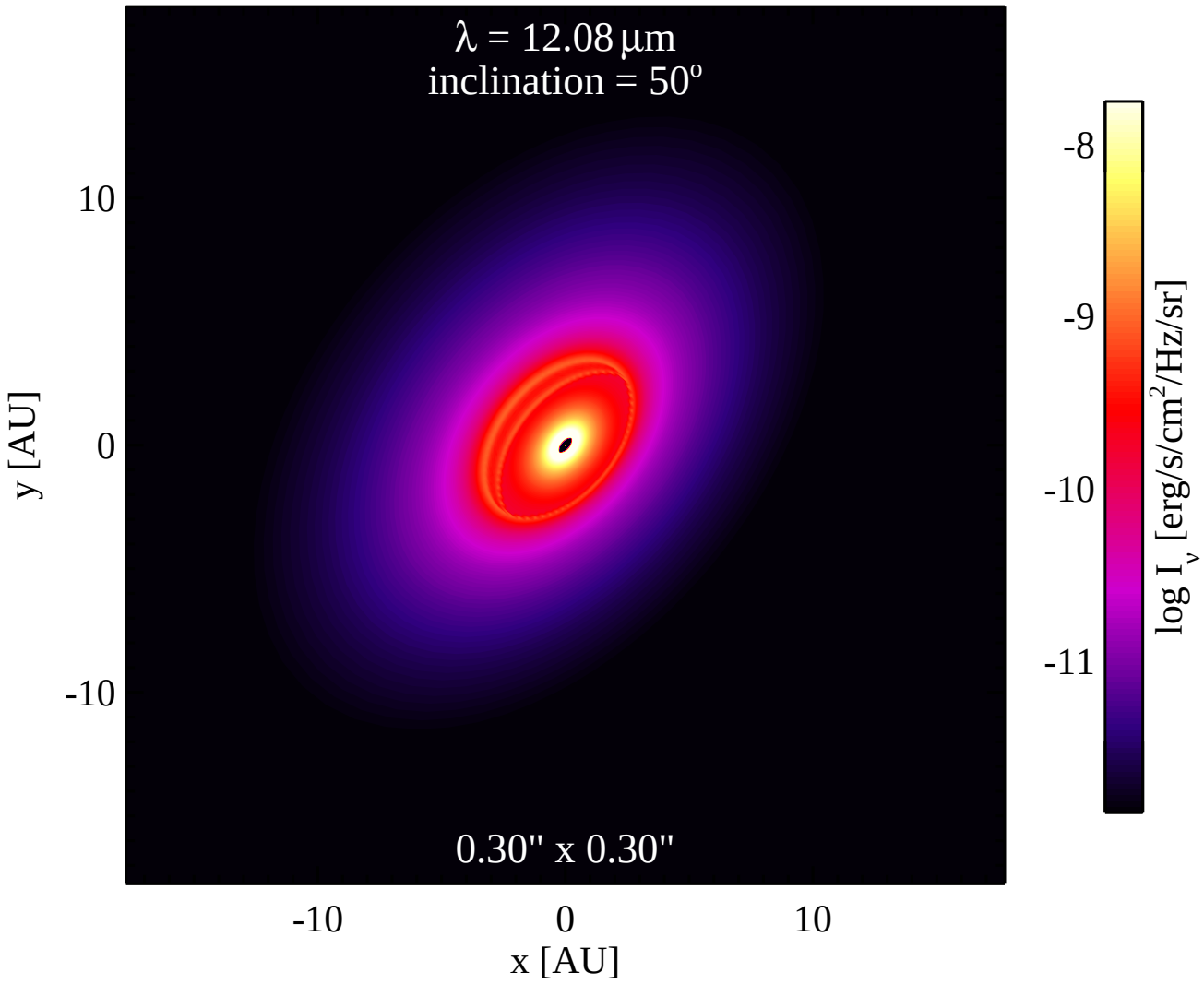

λ = 8.08 μm
inclination = 50°
0.071" x 0.071"
4
2
0
-2
-4
y [AU]
-4
-2
0
2
4
x [AU]
-6.5
-7.0
-7.5
-8.0
-8.5
-9.0
-9.5
log I_ν [erg/s/cm²/Hz/sr]

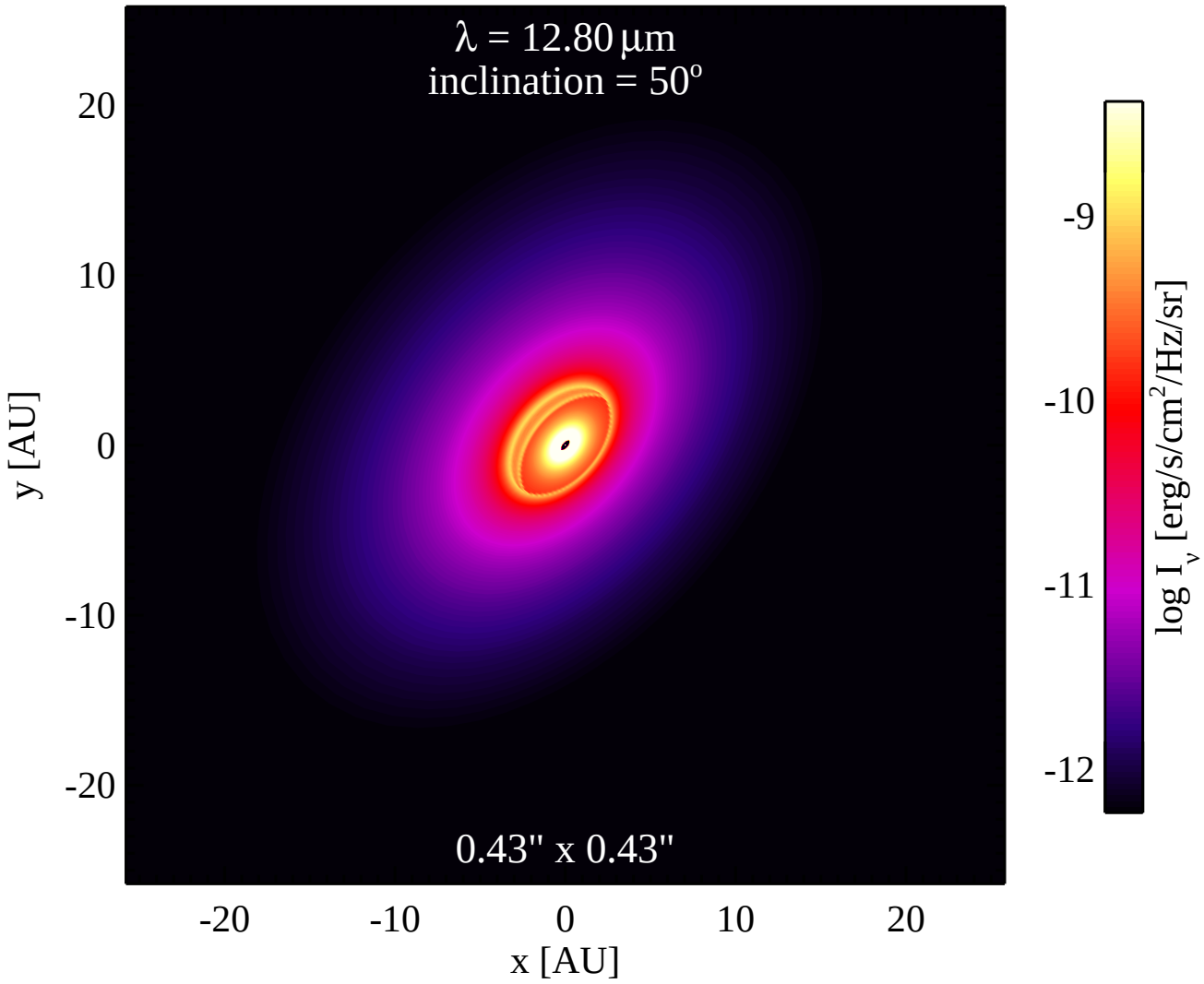

λ = 8.41 μm
inclination = 50°
0.065" x 0.065"
y [AU]
x [AU]
2
0
-2
-2
0
2
-6.5
-7.0
-7.5
-8.0
-8.5
-9.0
-9.5
log I_ν [erg/s/cm²/Hz/sr]

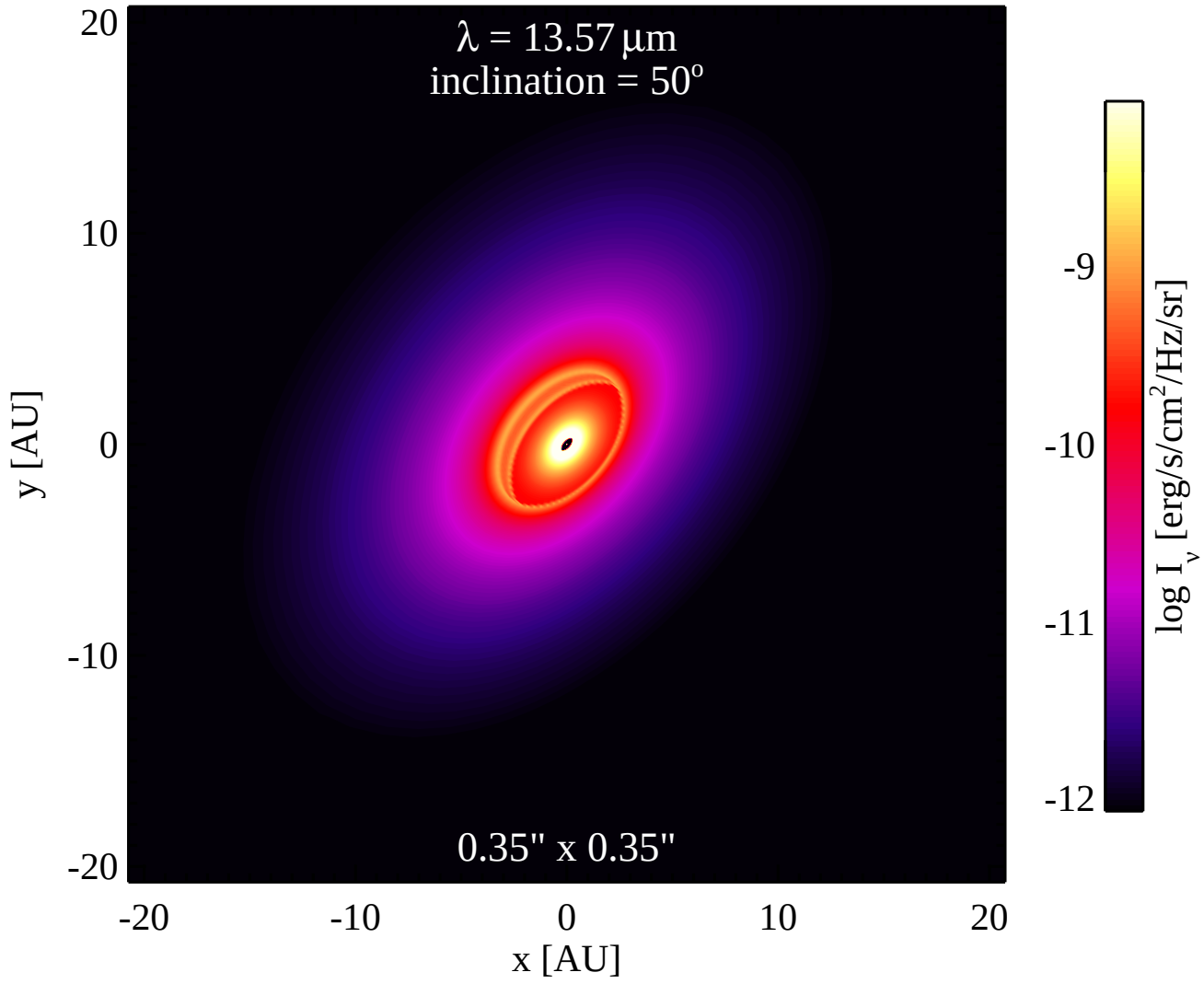

λ = 8.71 μm
inclination = 50°
0.069" x 0.069"
y [AU]
x [AU]
4
2
0
-2
-4
-4
-2
0
2
4
-6.5
-7.0
-7.5
-8.0
-8.5
-9.0
log I_ν [erg/s/cm²/Hz/sr]

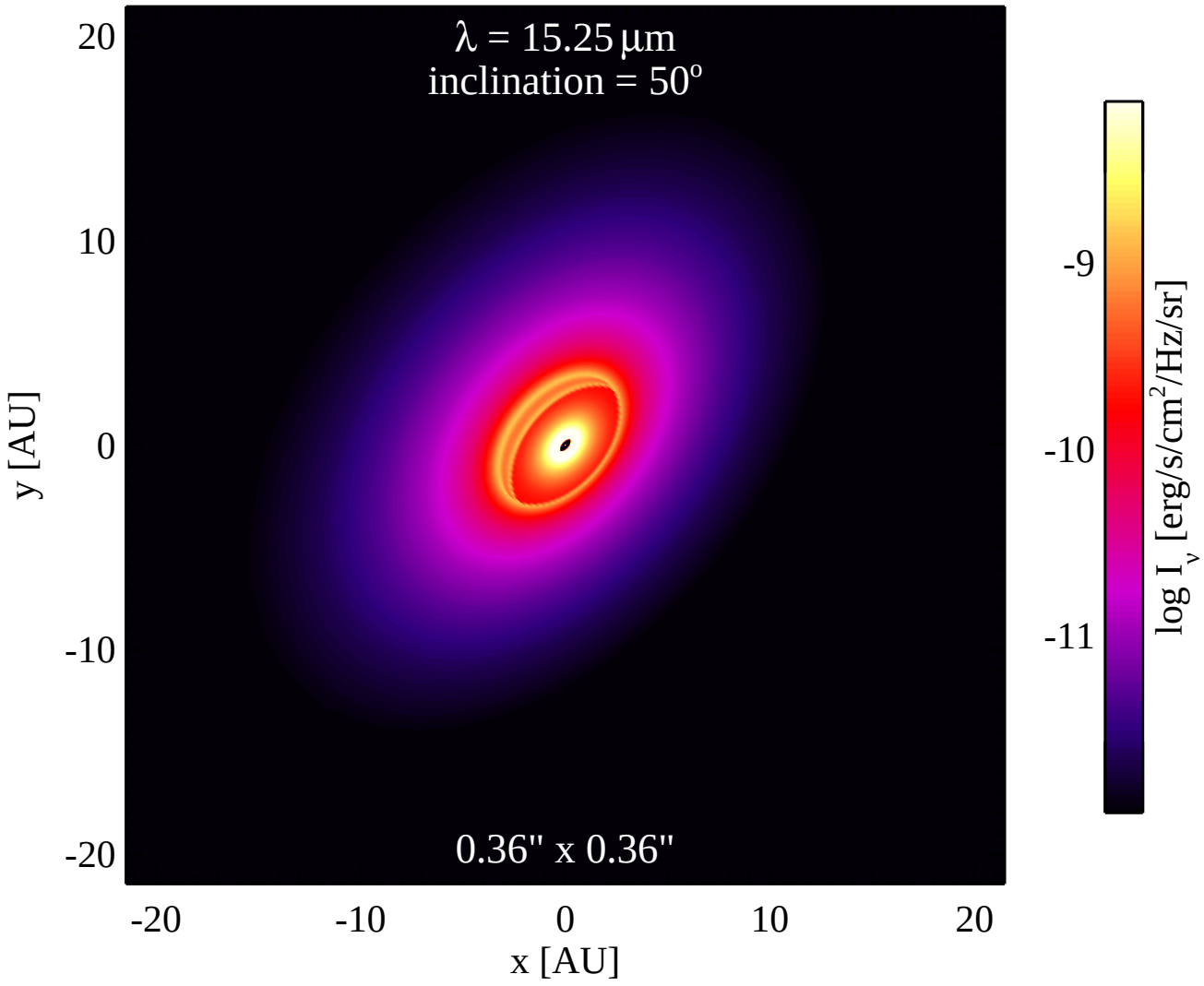

λ = 10.02 μm
inclination = 50°
0.083" x 0.083"
y [AU]
x [AU]
4
2
0
-2
-4
-4
-2
0
2
4
-7.0
-7.5
-8.0
-8.5
-9.0
-9.5
log I_ν [erg/s/cm²/Hz/sr]

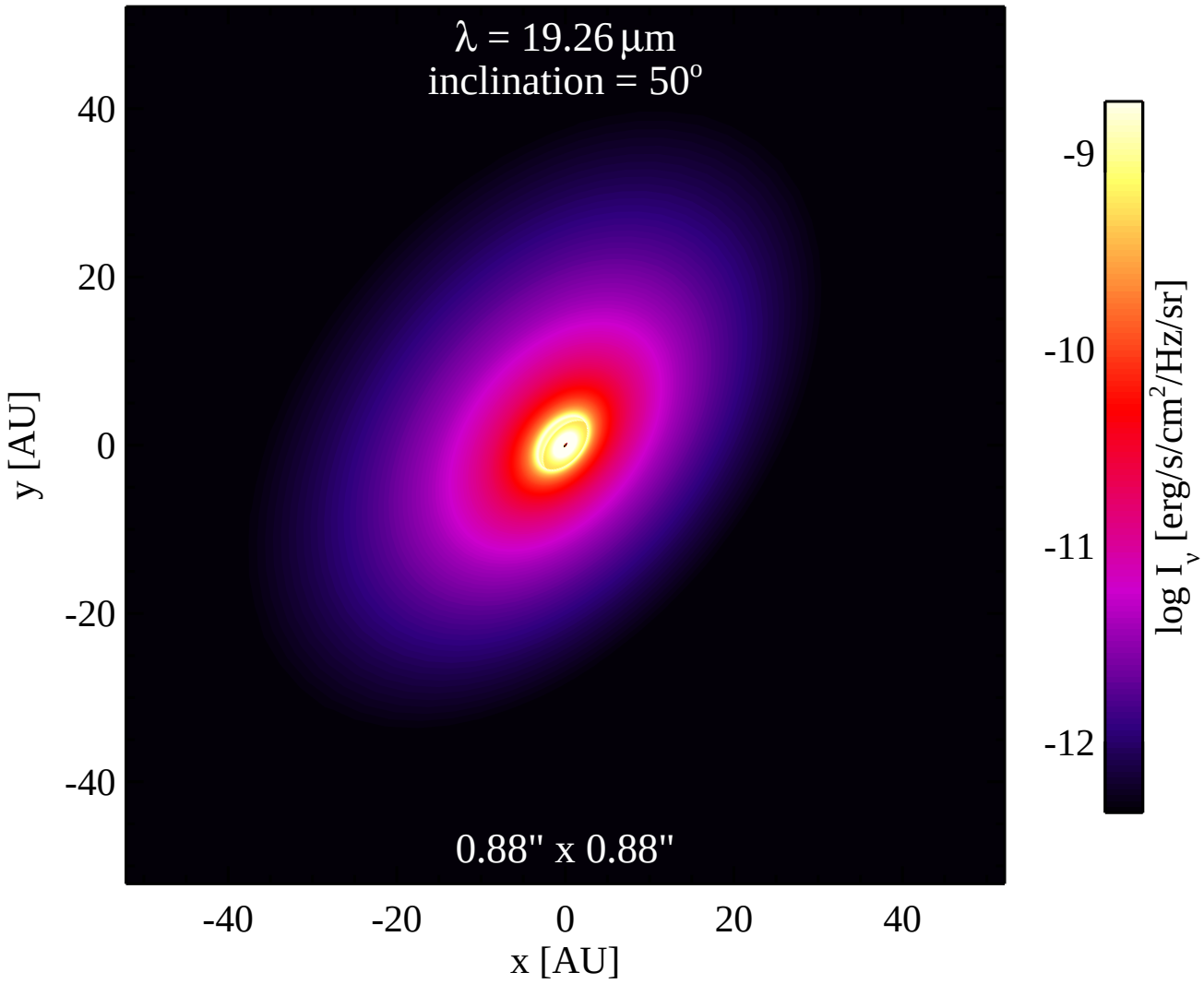

λ = 11.20 μm
inclination = 50°
0.34" x 0.34"
20
10
0
-10
-20
y [AU]
-20
-10
0
10
20
x [AU]
-8
-9
-10
-11
log I_ν [erg/s/cm²/Hz/sr]

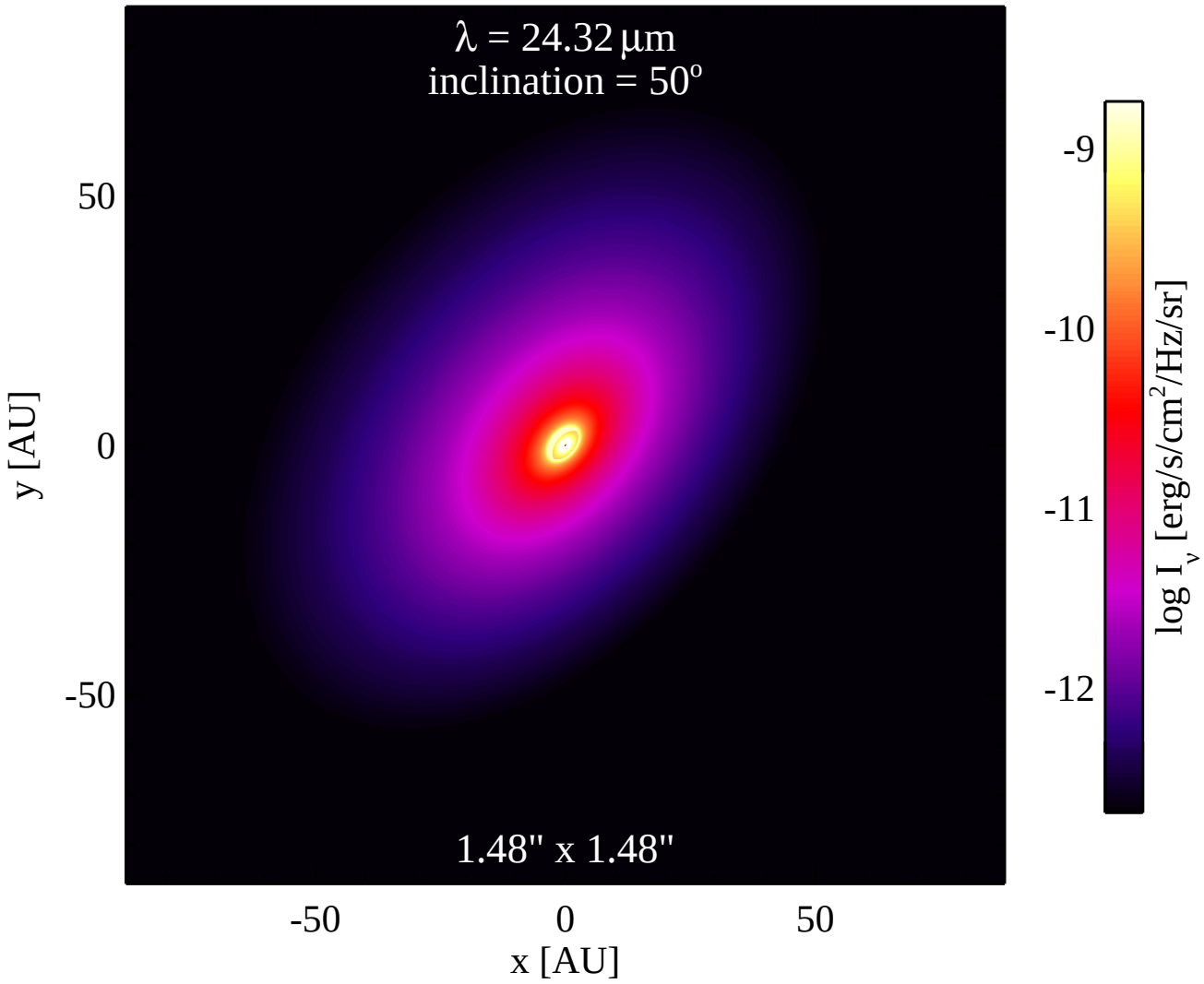

λ = 12.08 μm
inclination = 50°
0.30" x 0.30"
10
0
-10
y [AU]
-10
0
10
x [AU]
-8
-9
-10
-11
log I_ν [erg/s/cm²/Hz/sr]

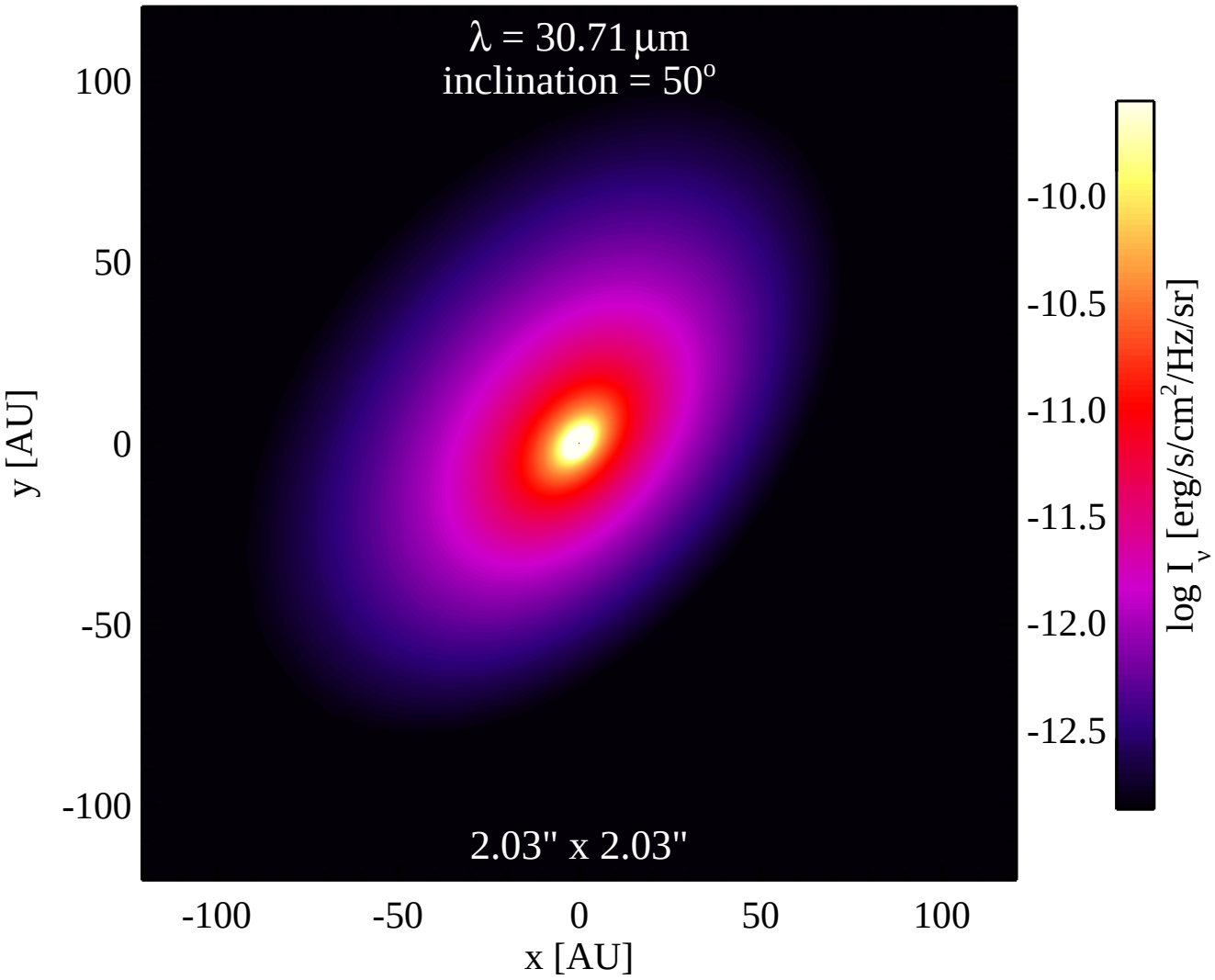

λ = 12.80 μm
inclination = 50°
0.43" x 0.43"
20
10
0
-10
-20
y [AU]
-20
-10
0
10
20
x [AU]
-9
-10
-11
-12
log I_ν [erg/s/cm²/Hz/sr]

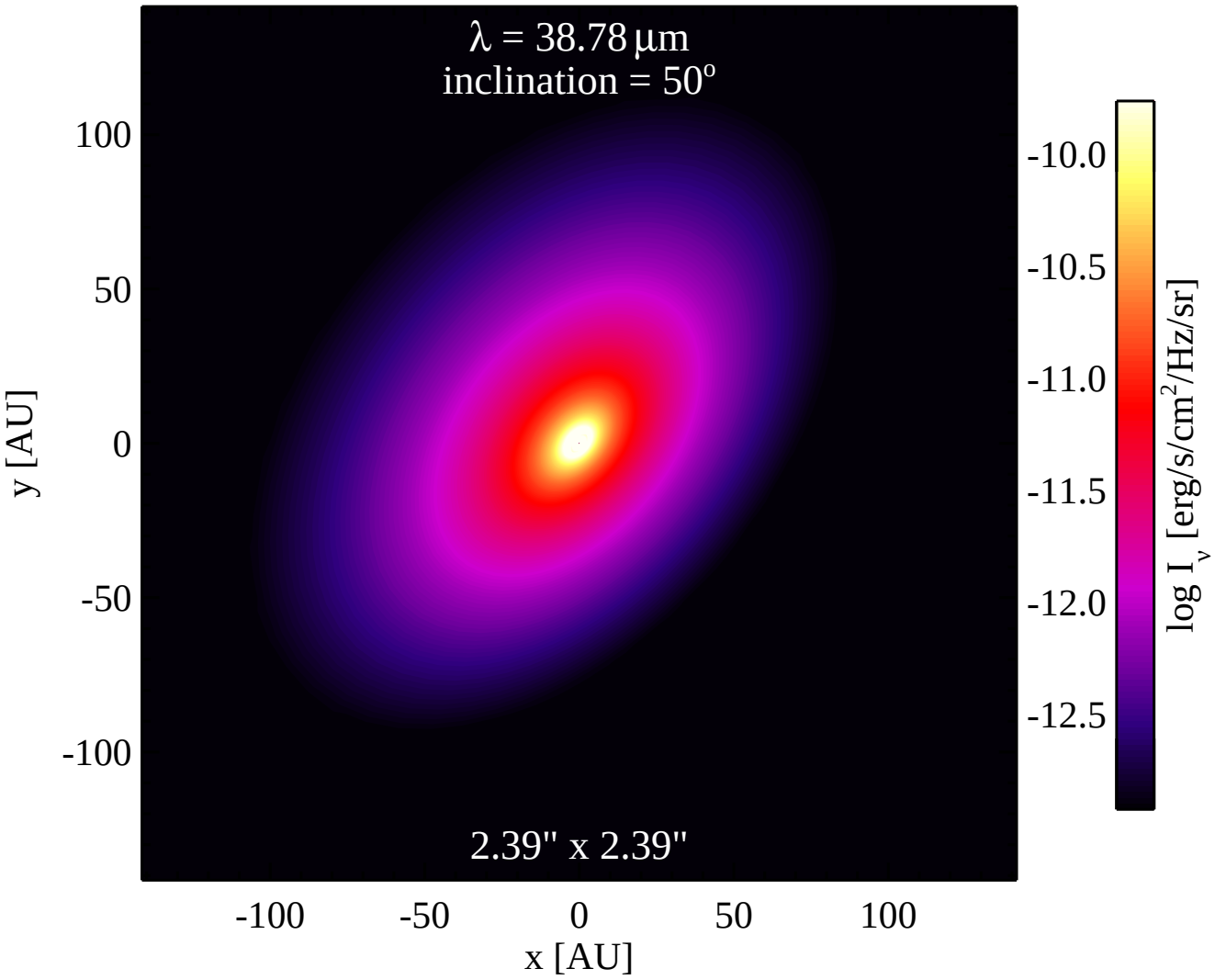

λ = 13.57 μm
inclination = 50°
0.35" x 0.35"
20
10
0
-10
-20
y [AU]
-20
-10
0
10
20
x [AU]
-9
-10
-11
-12
log I_ν [erg/s/cm²/Hz/sr]

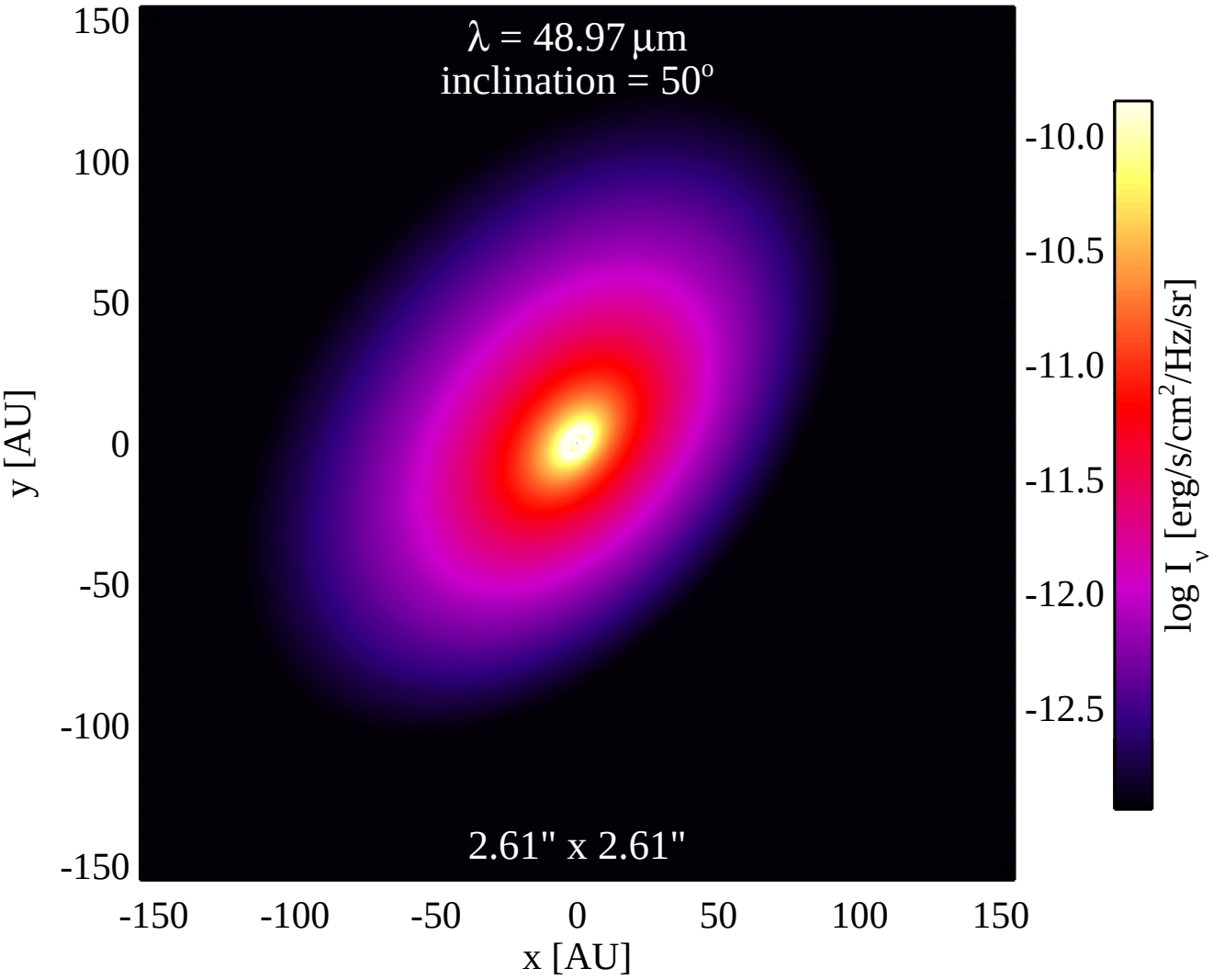

λ = 15.25 μm
inclination = 50°
0.36" x 0.36"
20
10
0
-10
-20
y [AU]
-20
-10
0
10
20
x [AU]
-9
-10
-11
log I_ν [erg/s/cm²/Hz/sr]

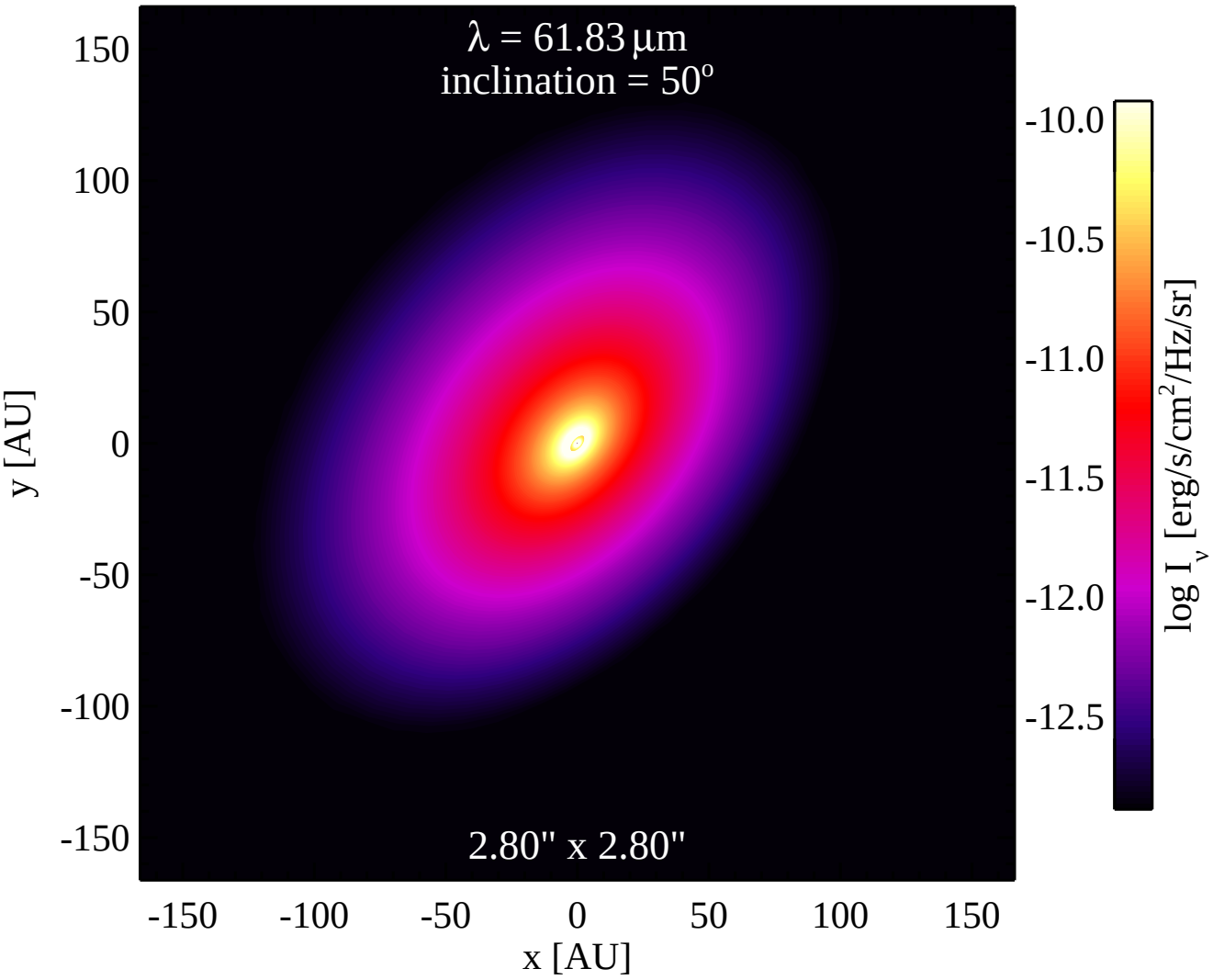

λ = 19.26 μm
inclination = 50°
0.88" x 0.88"
40
20
0
-20
-40
y [AU]
-40
-20
0
20
40
x [AU]
-9
-10
-11
-12
log I_ν [erg/s/cm²/Hz/sr]

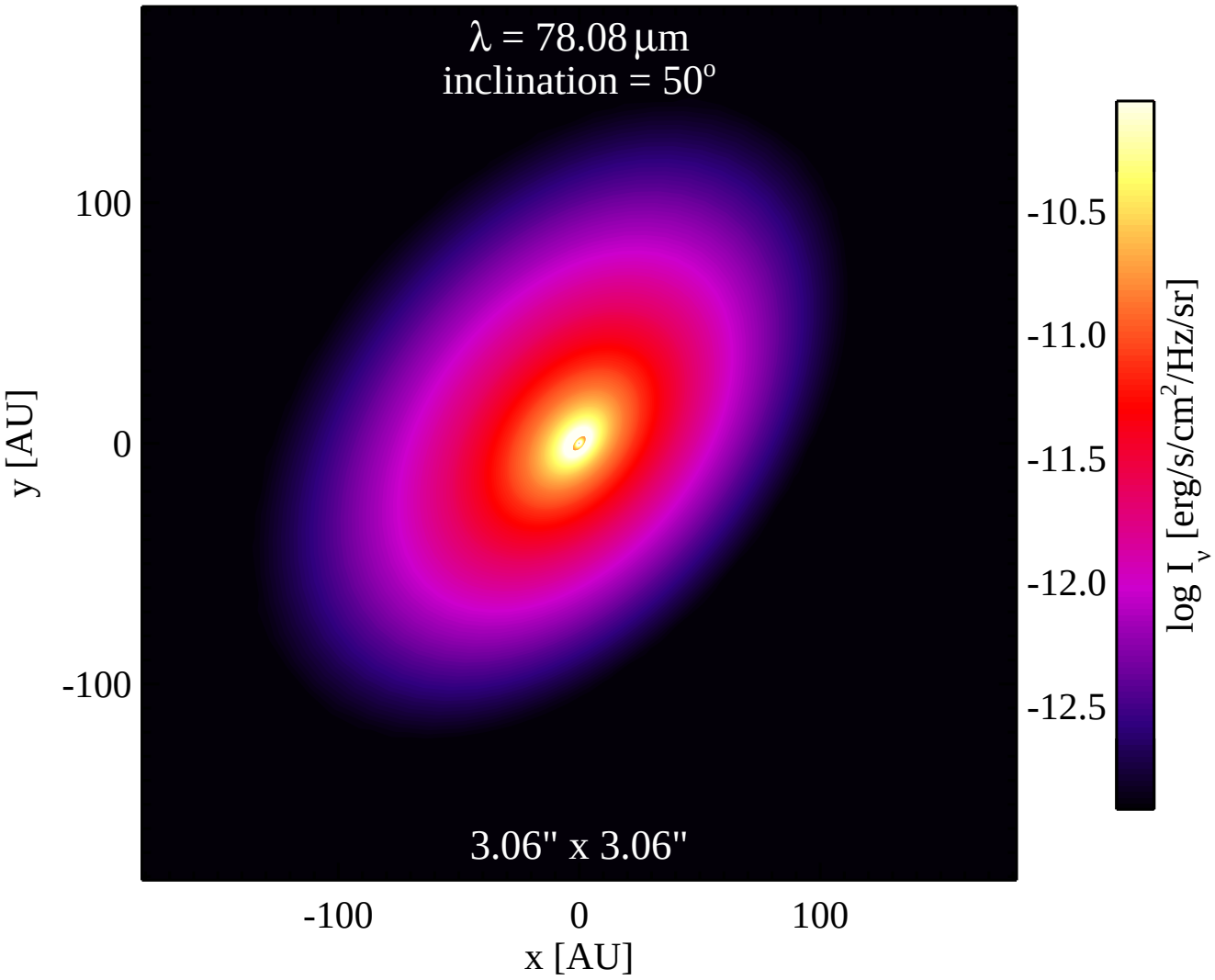

λ = 24.32 μm
inclination = 50°
1.48" x 1.48"
50
0
-50
y [AU]
-50
0
50
x [AU]
-9
-10
-11
-12
log I_ν [erg/s/cm²/Hz/sr]

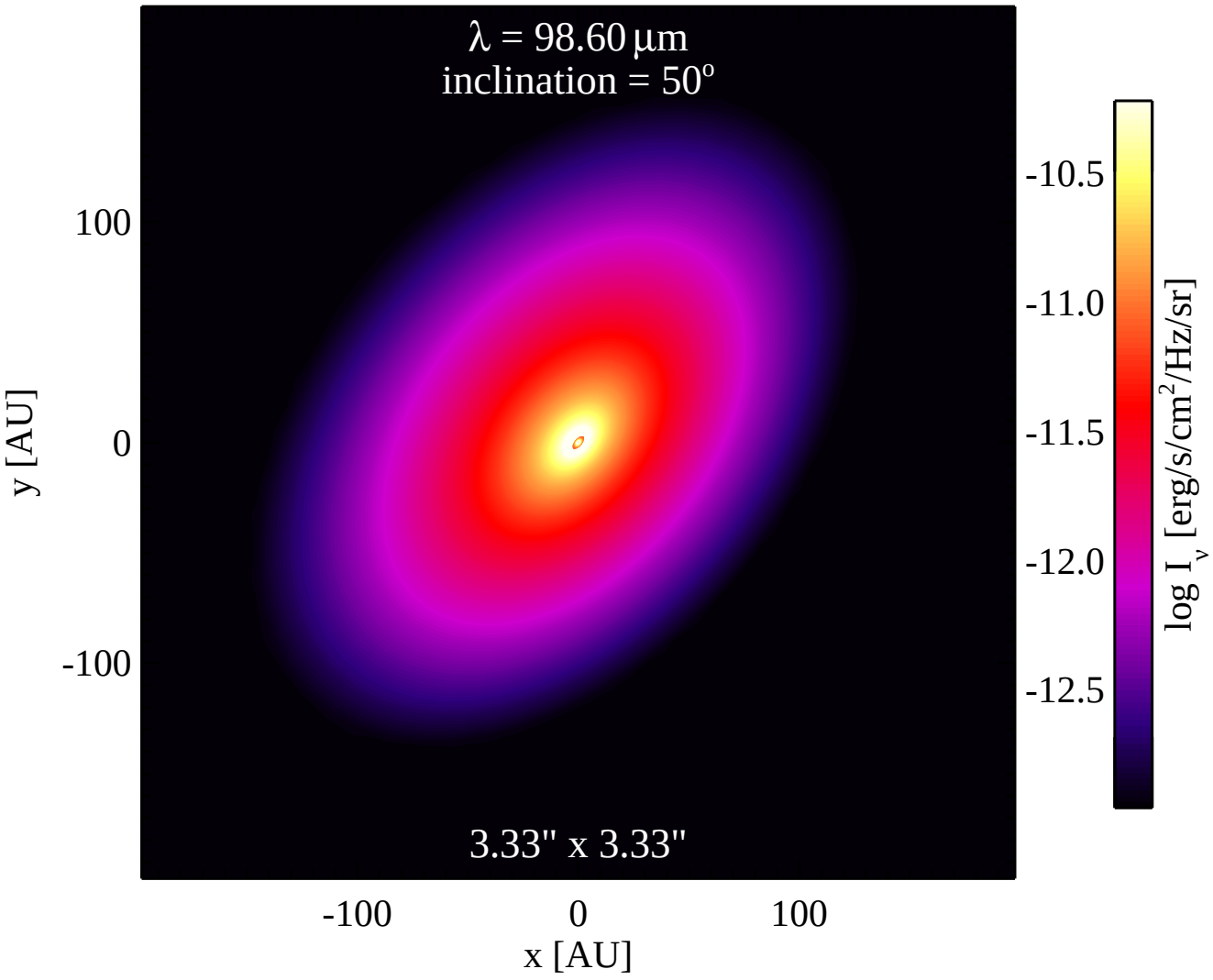

λ = 30.71 μm
inclination = 50°
2.03" x 2.03"
100
50
0
-50
-100
y [AU]
-100
-50
0
50
100
x [AU]
-10.0
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

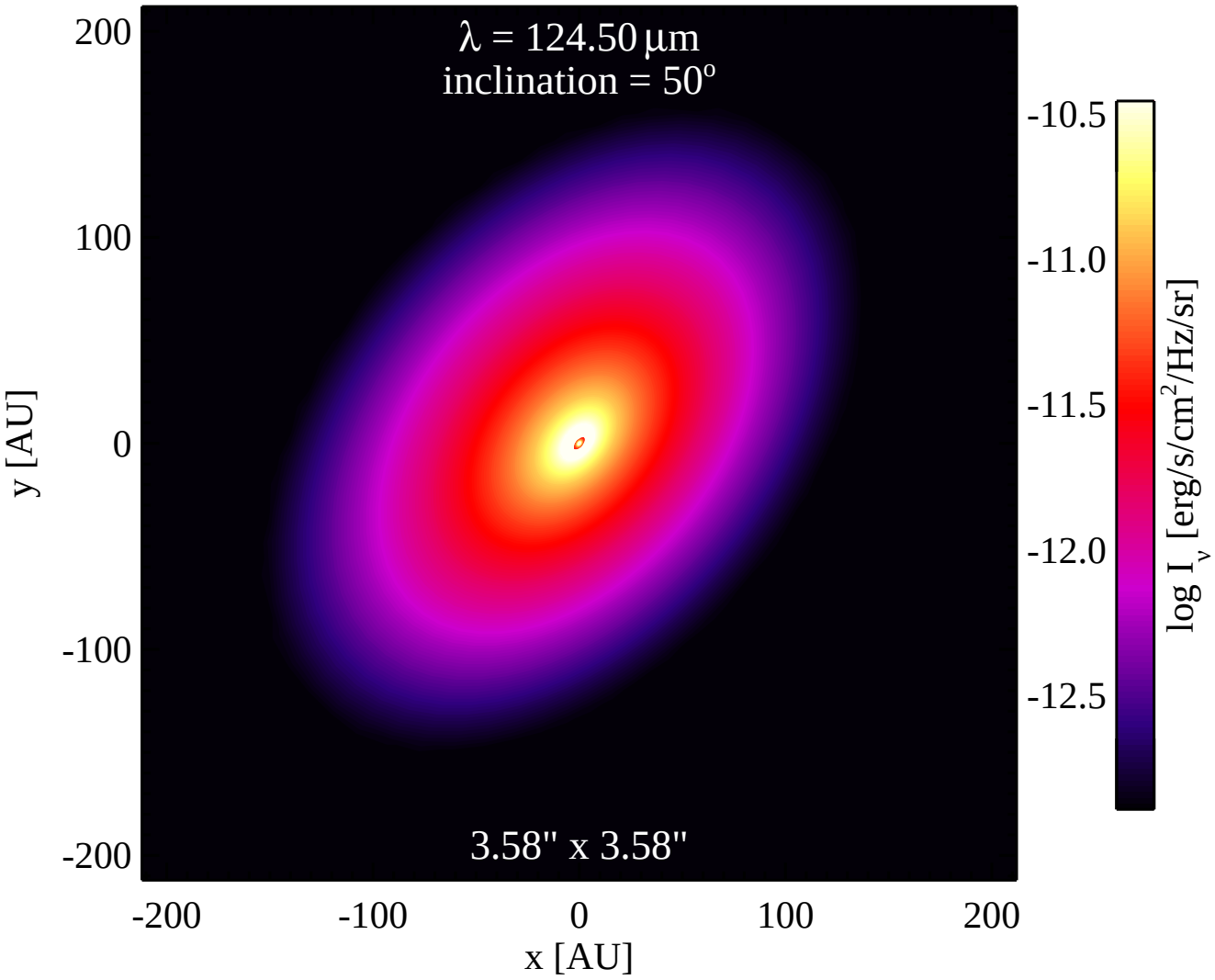

λ = 38.78 μm
inclination = 50°
2.39" x 2.39"
100
50
0
-50
-100
y [AU]
-100
-50
0
50
100
x [AU]
-10.0
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

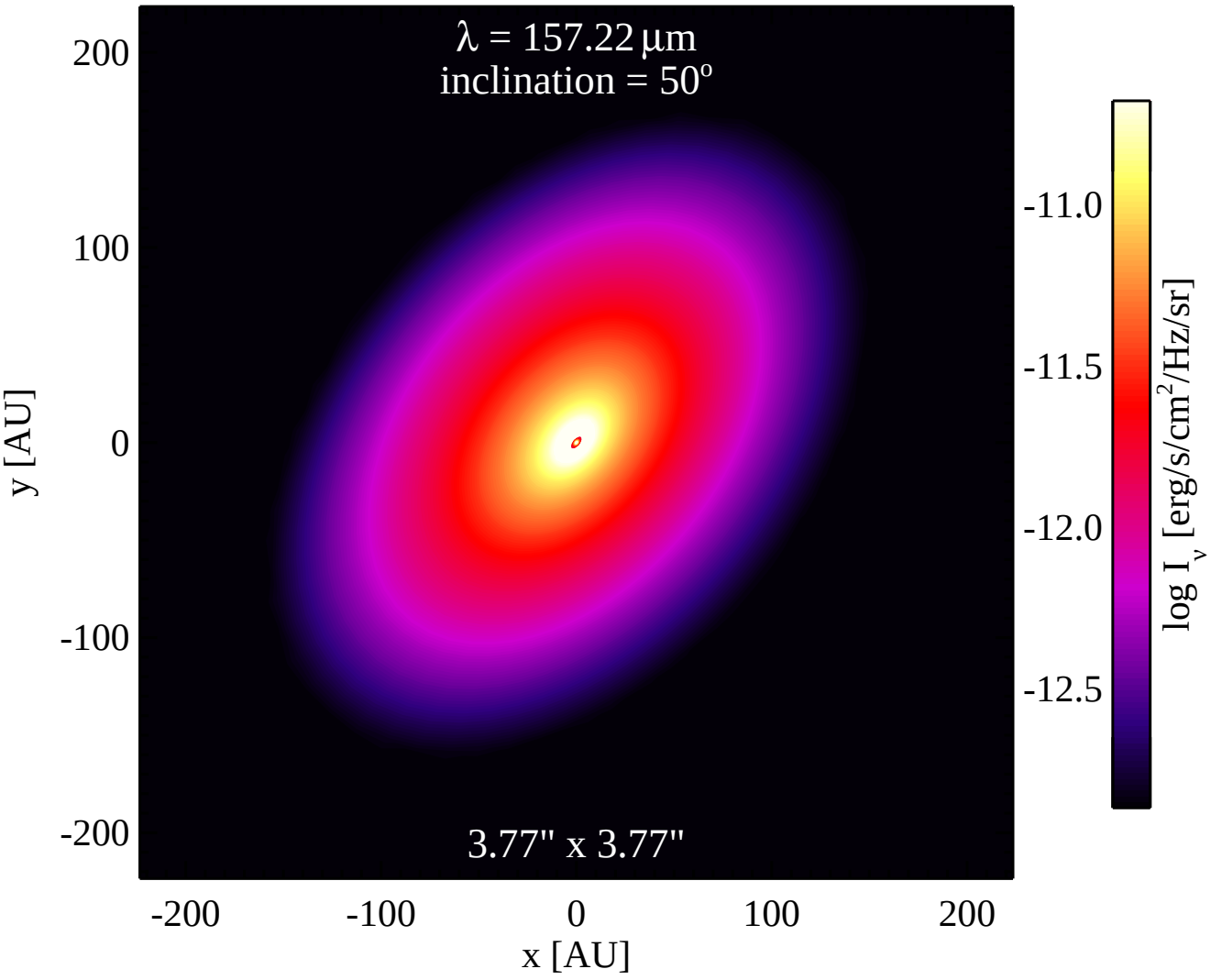

λ = 48.97 μm
inclination = 50°
2.61" x 2.61"
150
100
50
0
-50
-100
-150
y [AU]
-150
-100
-50
0
50
100
150
x [AU]
-10.0
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

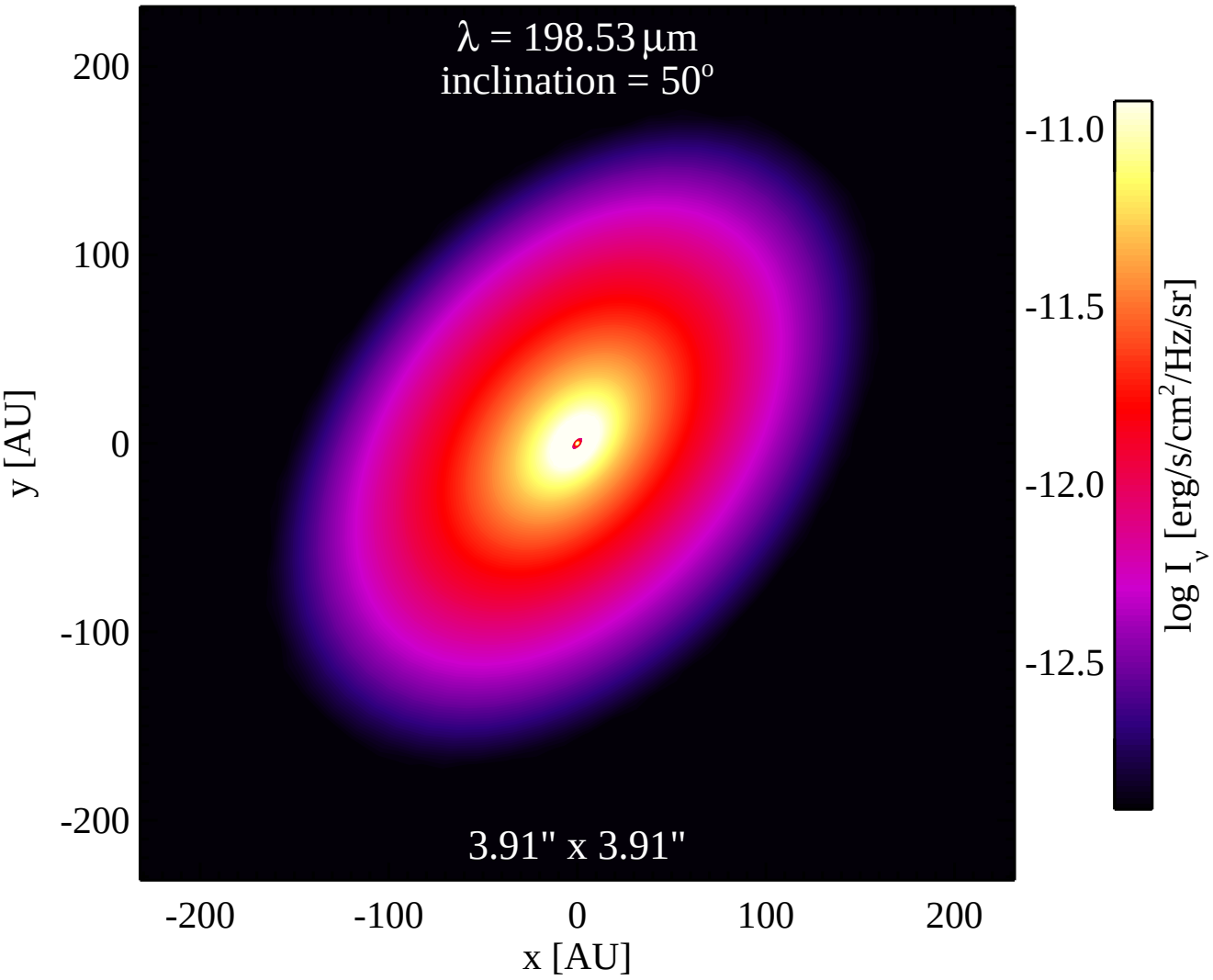

λ = 61.83 μm
inclination = 50°
2.80" x 2.80"
150
100
50
0
-50
-100
-150
y [AU]
-150
-100
-50
0
50
100
150
x [AU]
-10.0
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

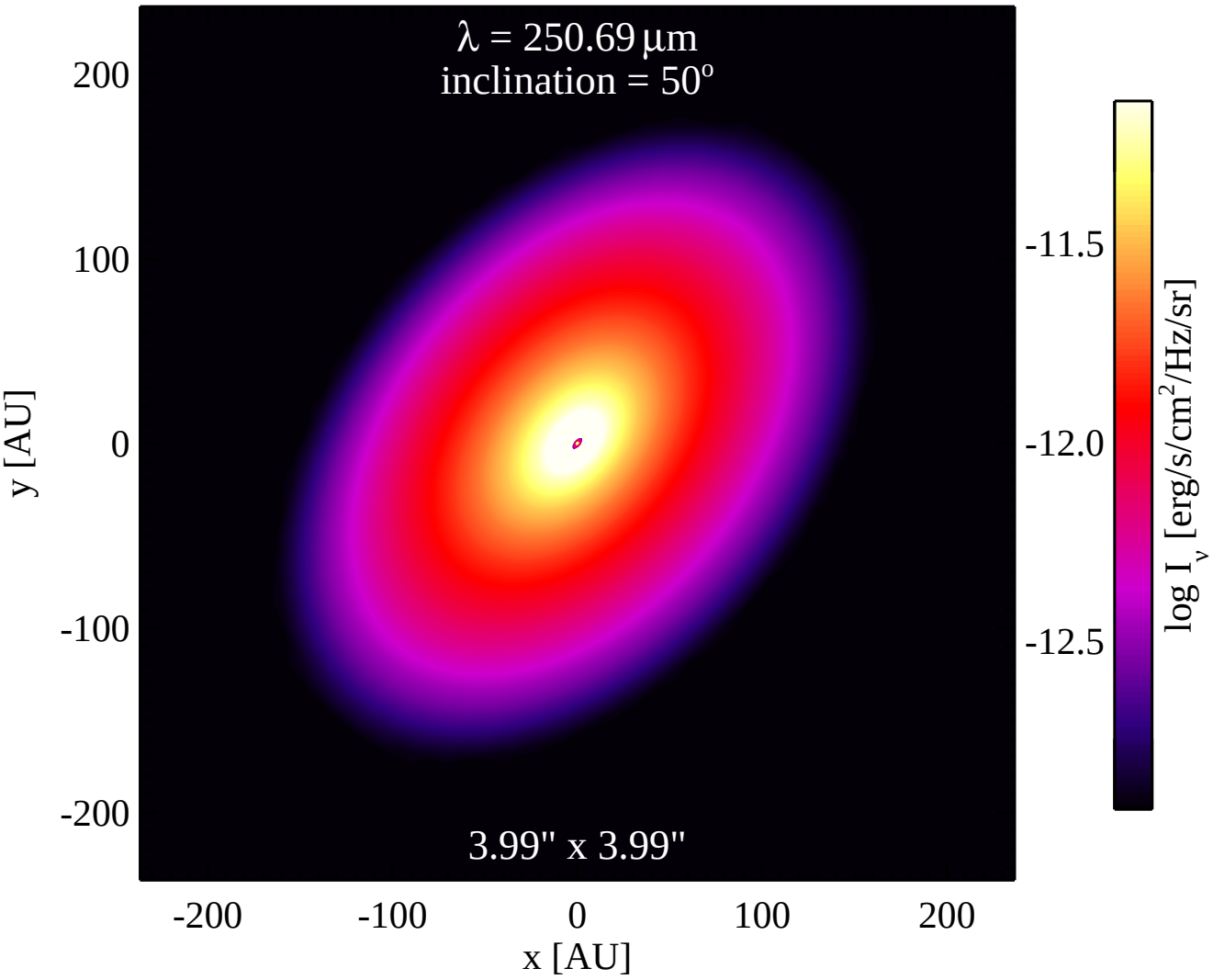

λ = 78.08 μm
inclination = 50°
3.06" x 3.06"
100
0
-100
y [AU]
-100
0
100
x [AU]
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

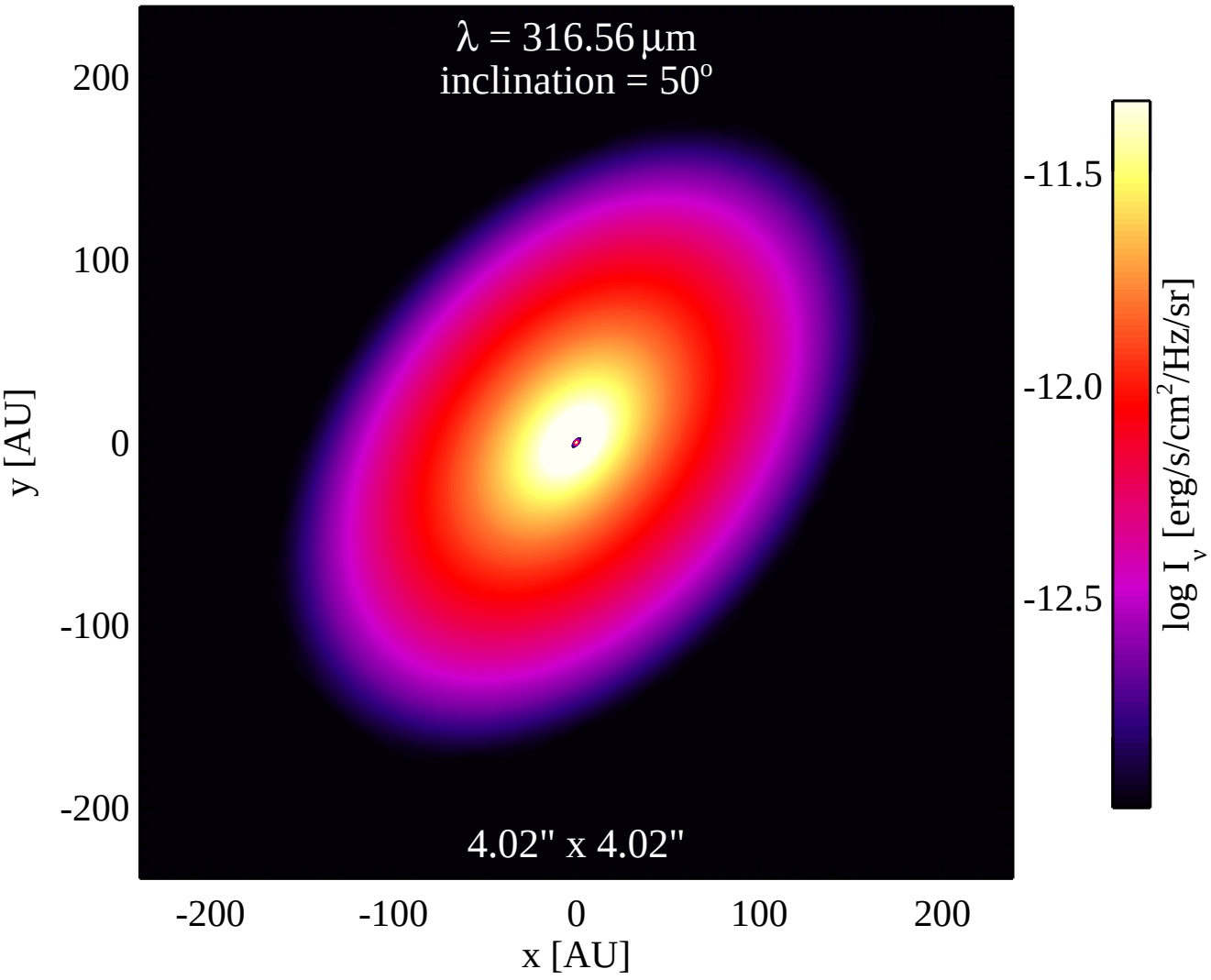

λ = 98.60 μm
inclination = 50°
3.33" x 3.33"
100
0
-100
y [AU]
-100
0
100
x [AU]
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

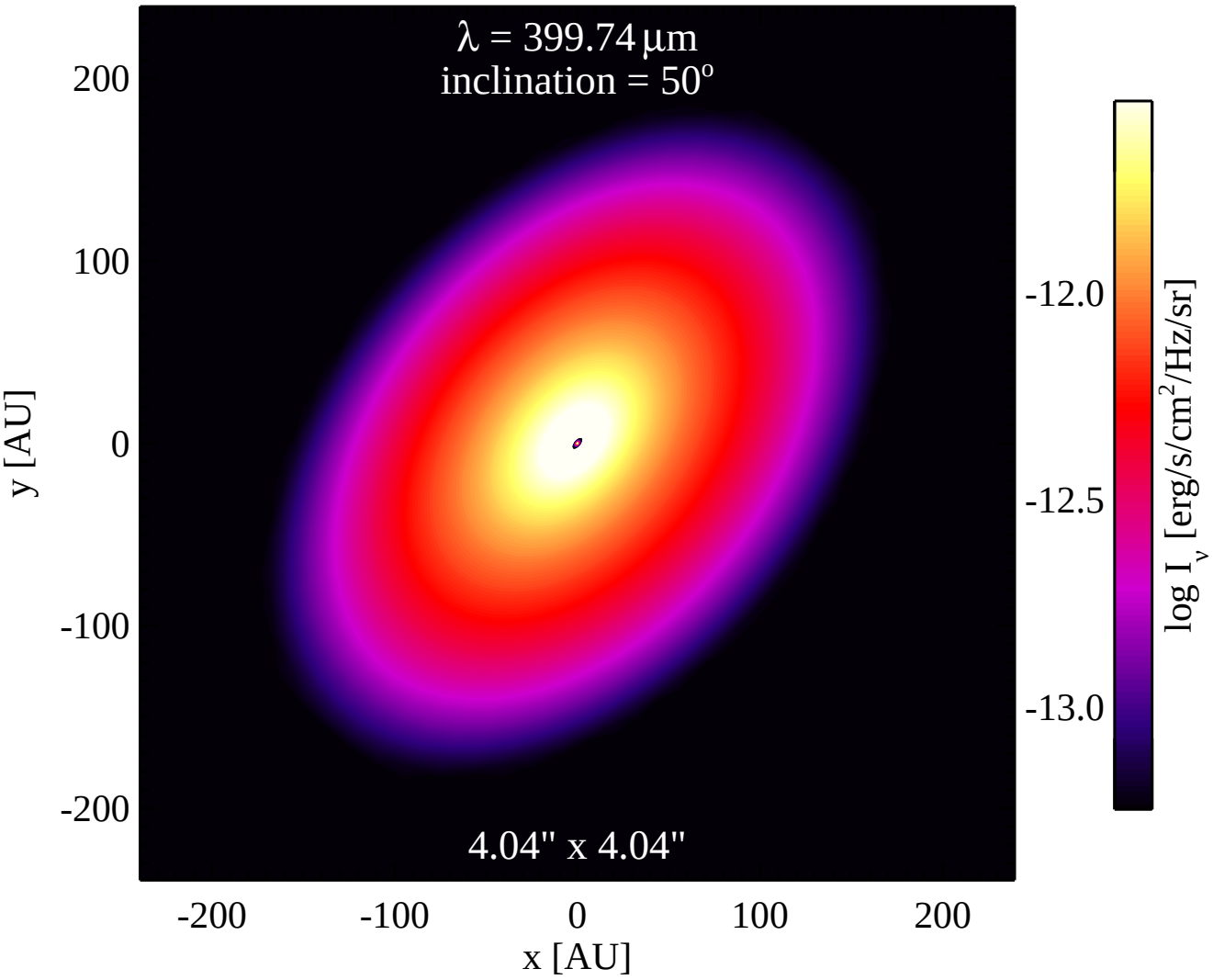

λ = 124.50 μm
inclination = 50°
3.58" x 3.58"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

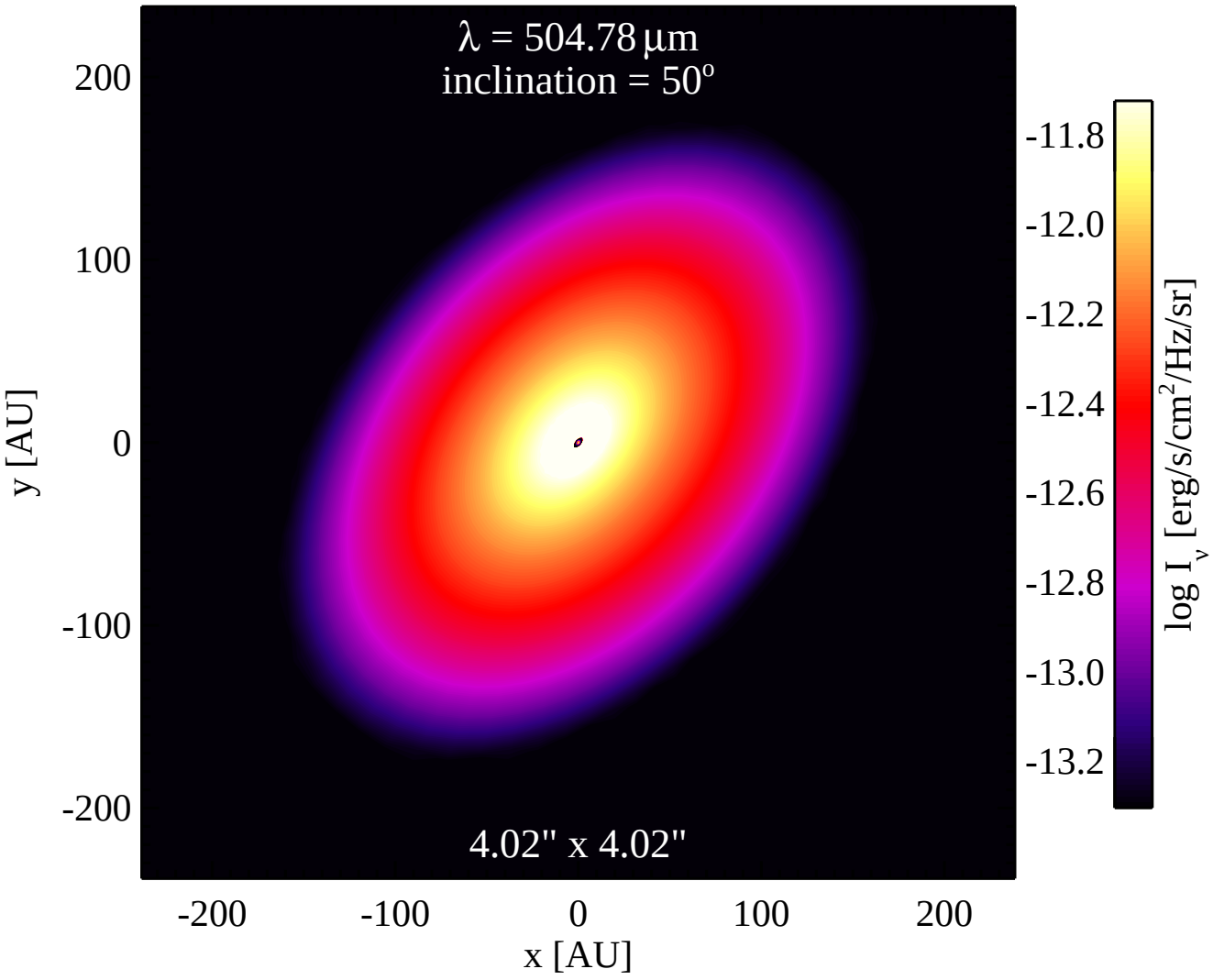

λ = 157.22 μm
inclination = 50°
3.77" x 3.77"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

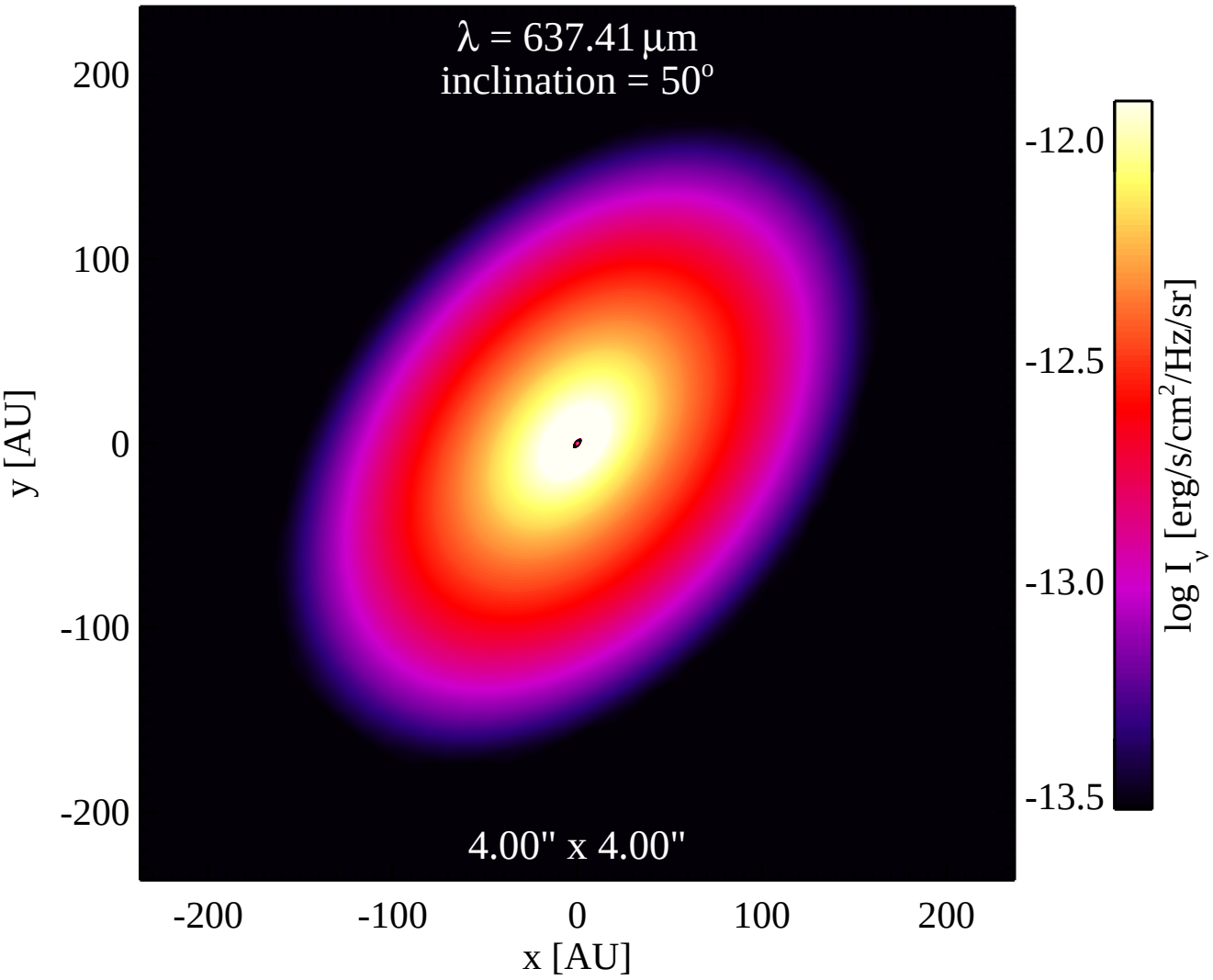

λ = 198.53 μm
inclination = 50°
3.91" x 3.91"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

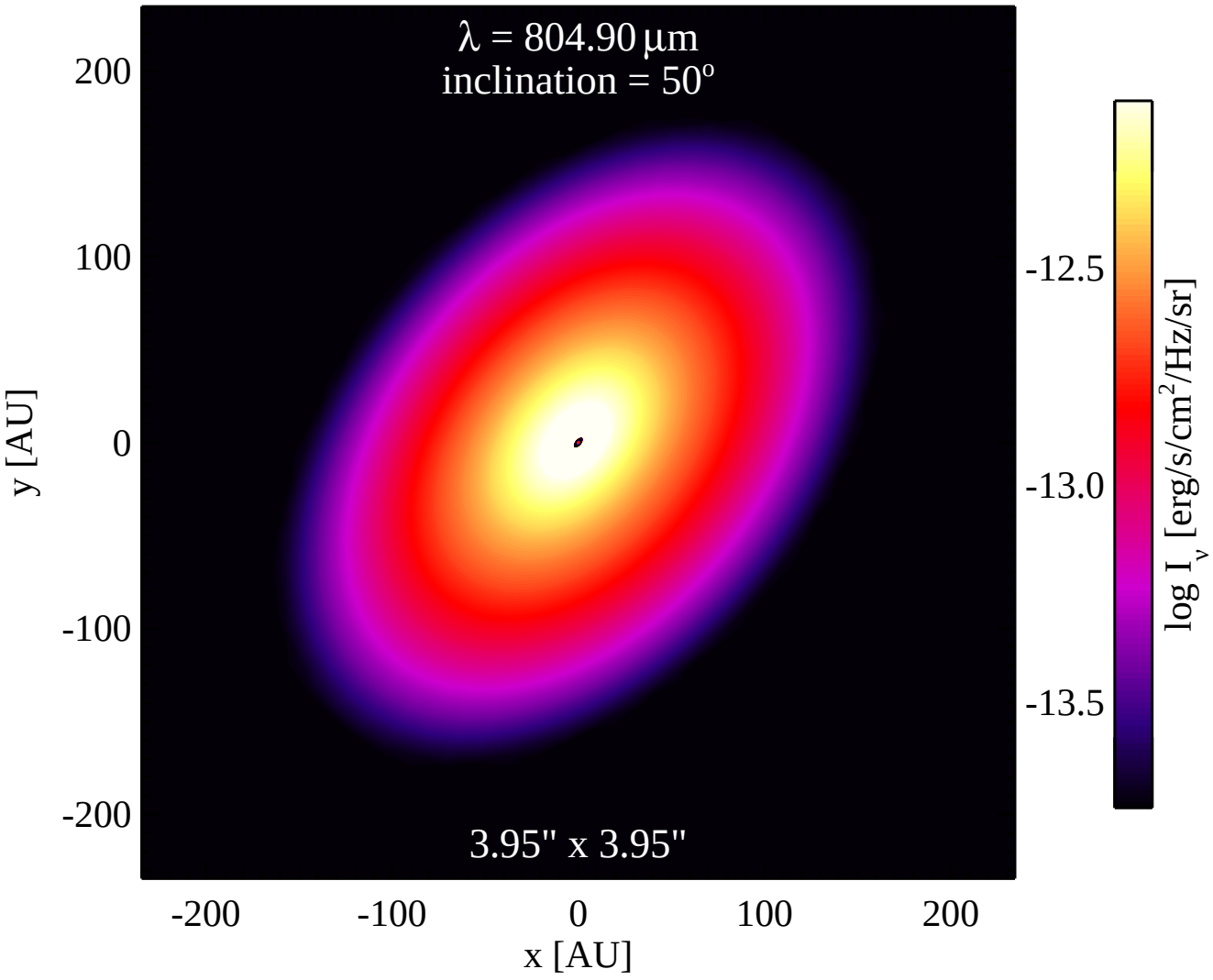

λ = 250.69 μm
inclination = 50°
3.99" x 3.99"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

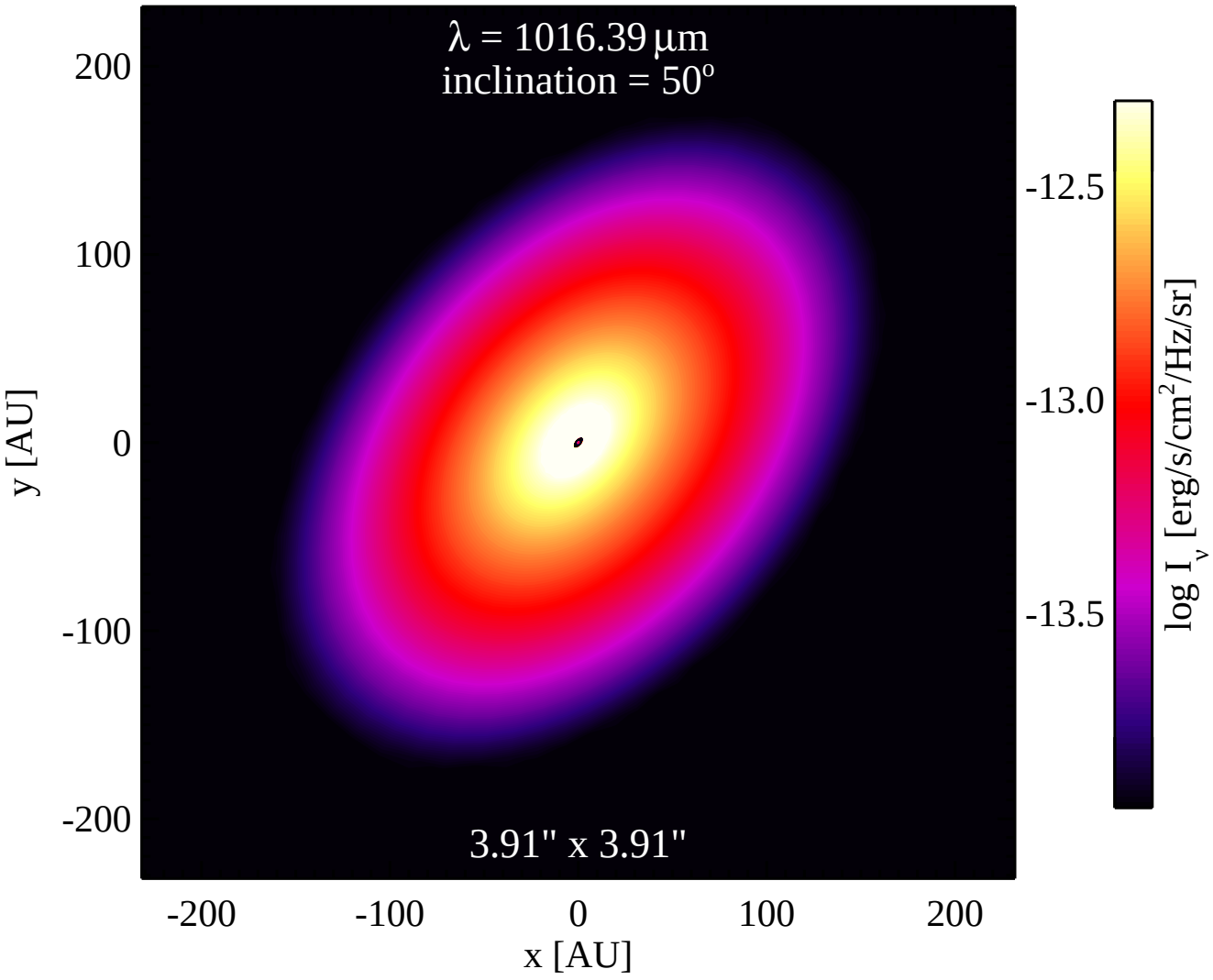

λ = 316.56 μm
inclination = 50°
4.02" x 4.02"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

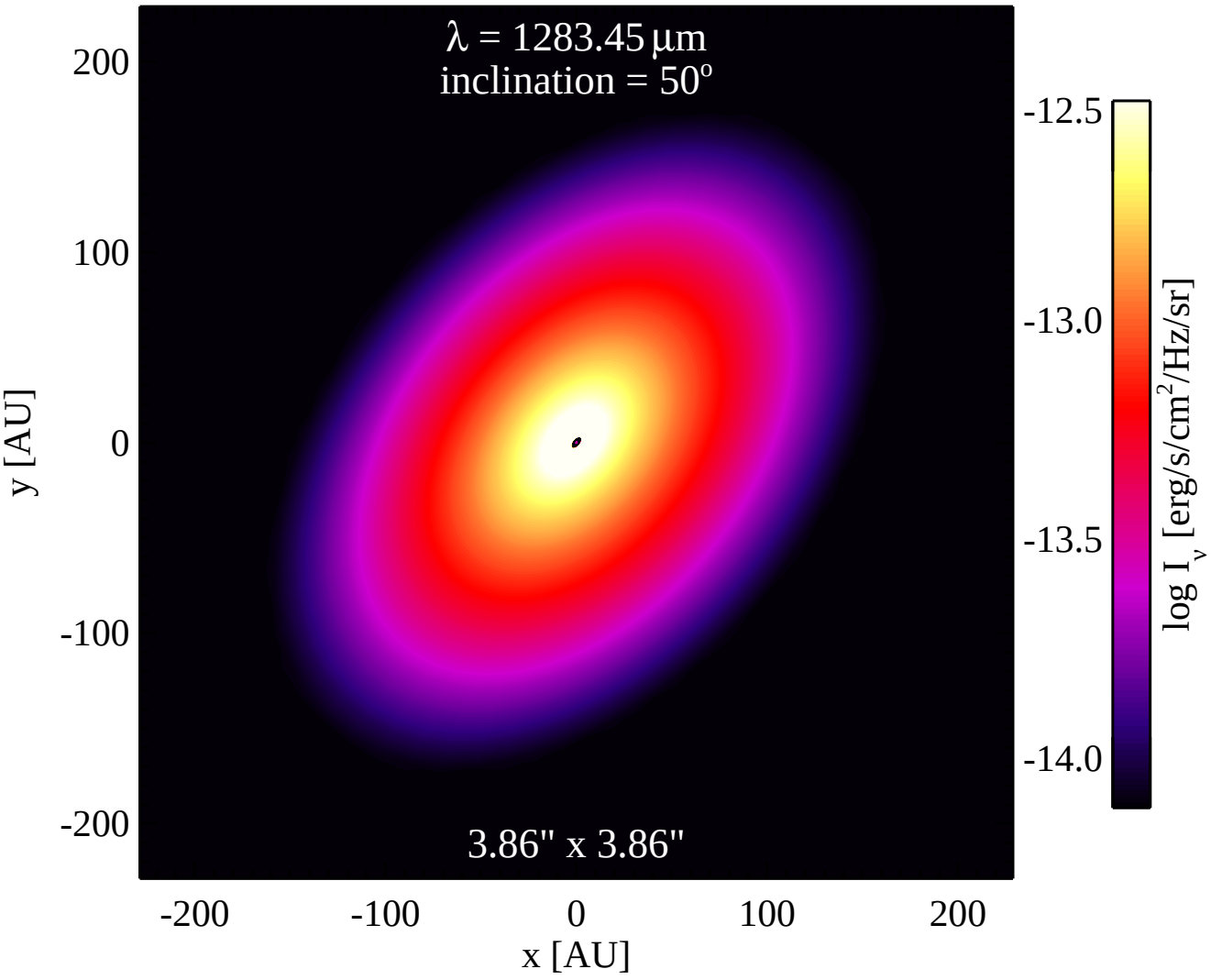

λ = 399.74 μm
inclination = 50°
4.04" x 4.04"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-12.0
-12.5
-13.0
log I_ν [erg/s/cm²/Hz/sr]

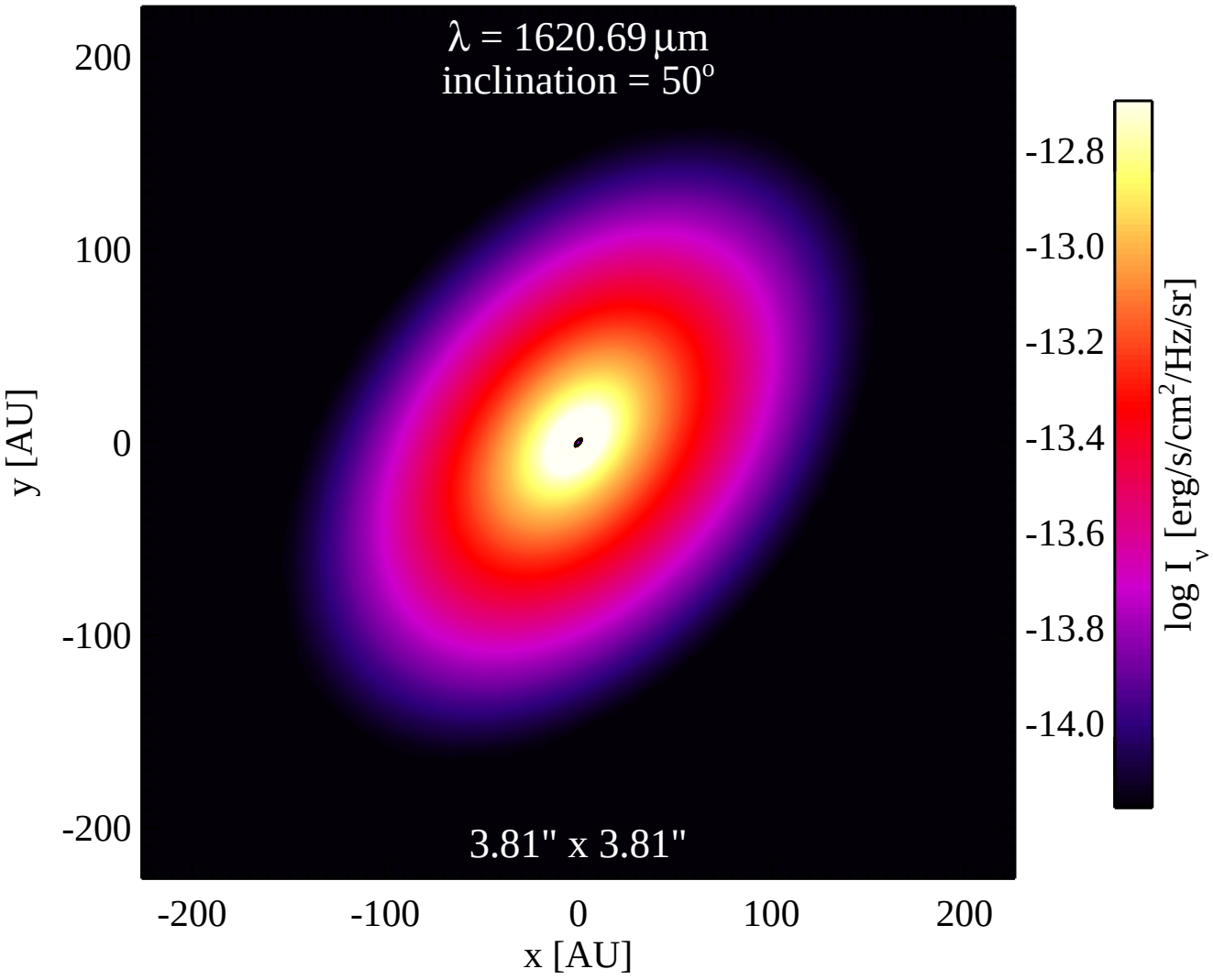

λ = 504.78 μm
inclination = 50°
4.02" x 4.02"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-11.8
-12.0
-12.2
-12.4
-12.6
-12.8
-13.0
-13.2
log I_ν [erg/s/cm²/Hz/sr]

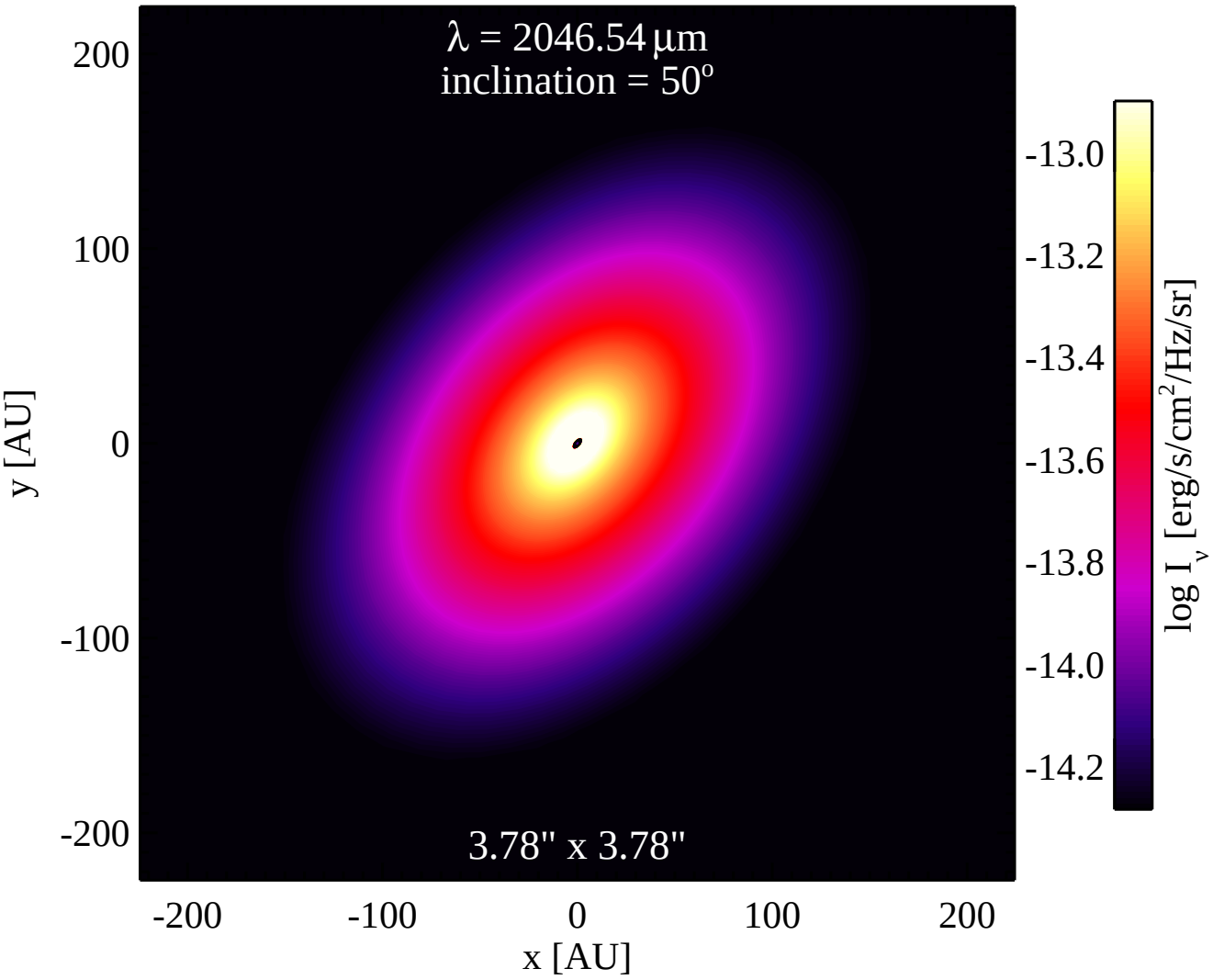

λ = 637.41 μm
inclination = 50°
4.00" x 4.00"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-12.0
-12.5
-13.0
-13.5
log I_ν [erg/s/cm²/Hz/sr]

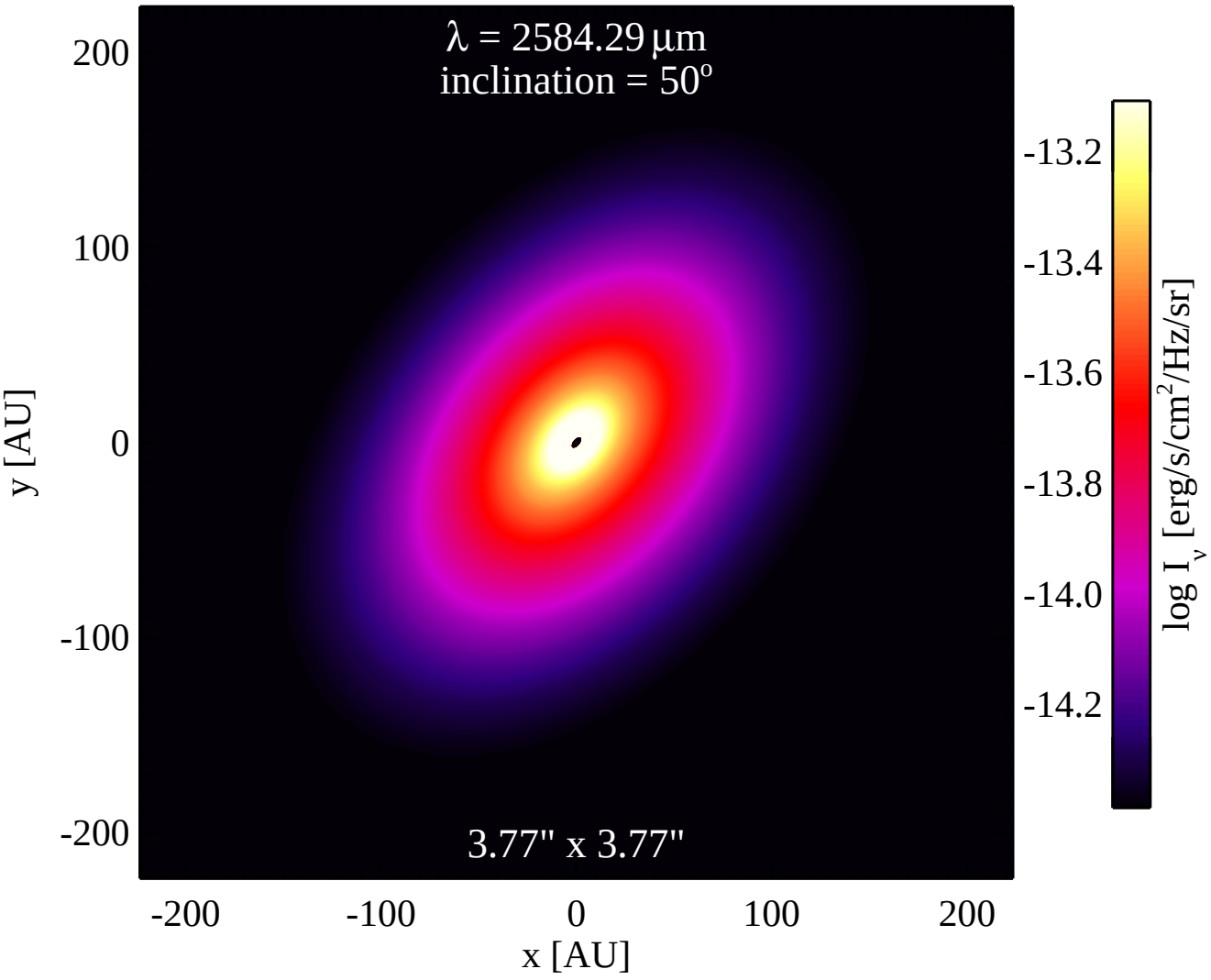

λ = 804.90 μm
inclination = 50°
3.95" x 3.95"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-12.5
-13.0
-13.5
log I_ν [erg/s/cm²/Hz/sr]

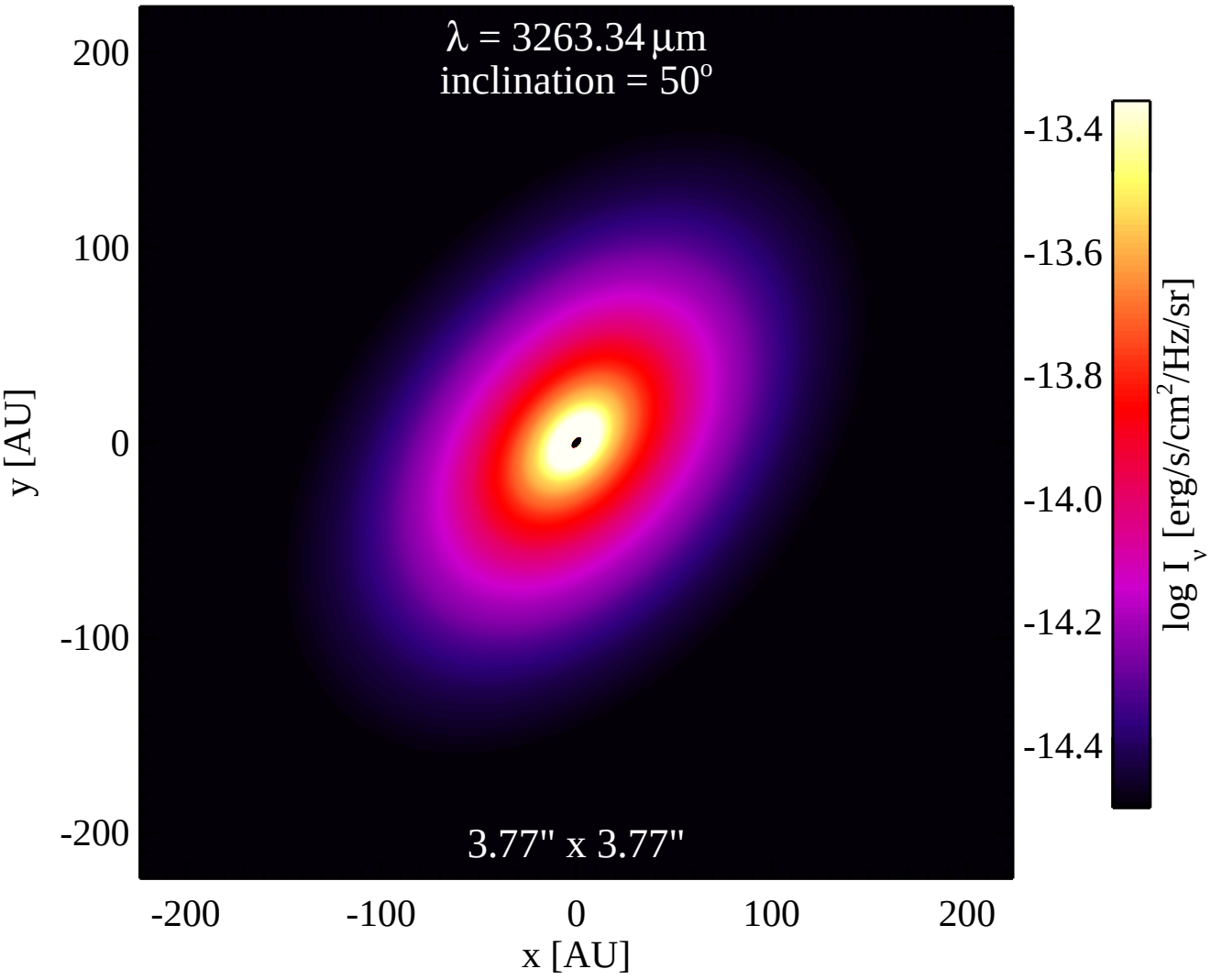

λ = 1016.39 μm
inclination = 50°
3.91" x 3.91"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-12.5
-13.0
-13.5
log I_ν [erg/s/cm²/Hz/sr]

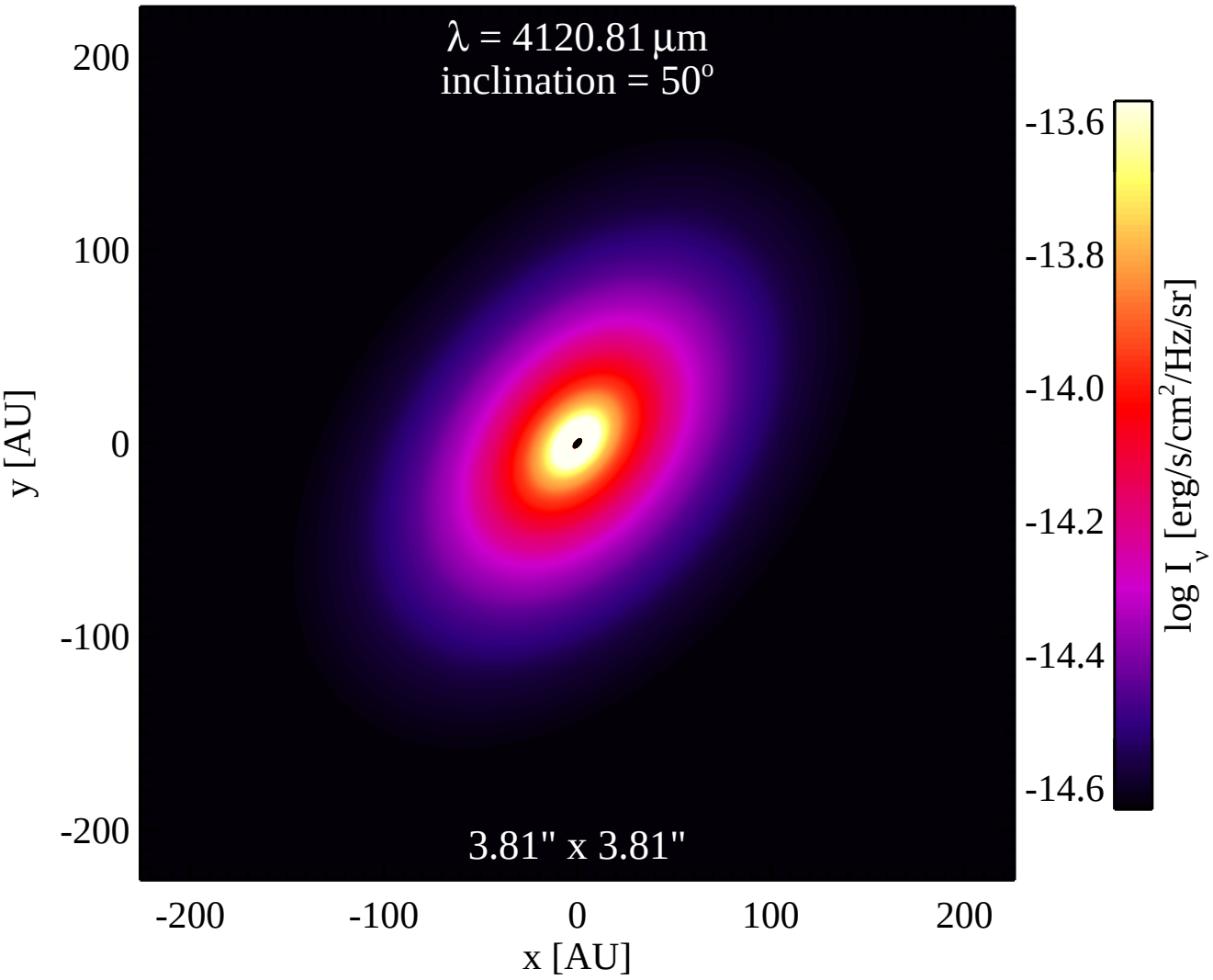

λ = 1283.45 μm
inclination = 50°
3.86" x 3.86"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-12.5
-13.0
-13.5
-14.0
log I_ν [erg/s/cm²/Hz/sr]

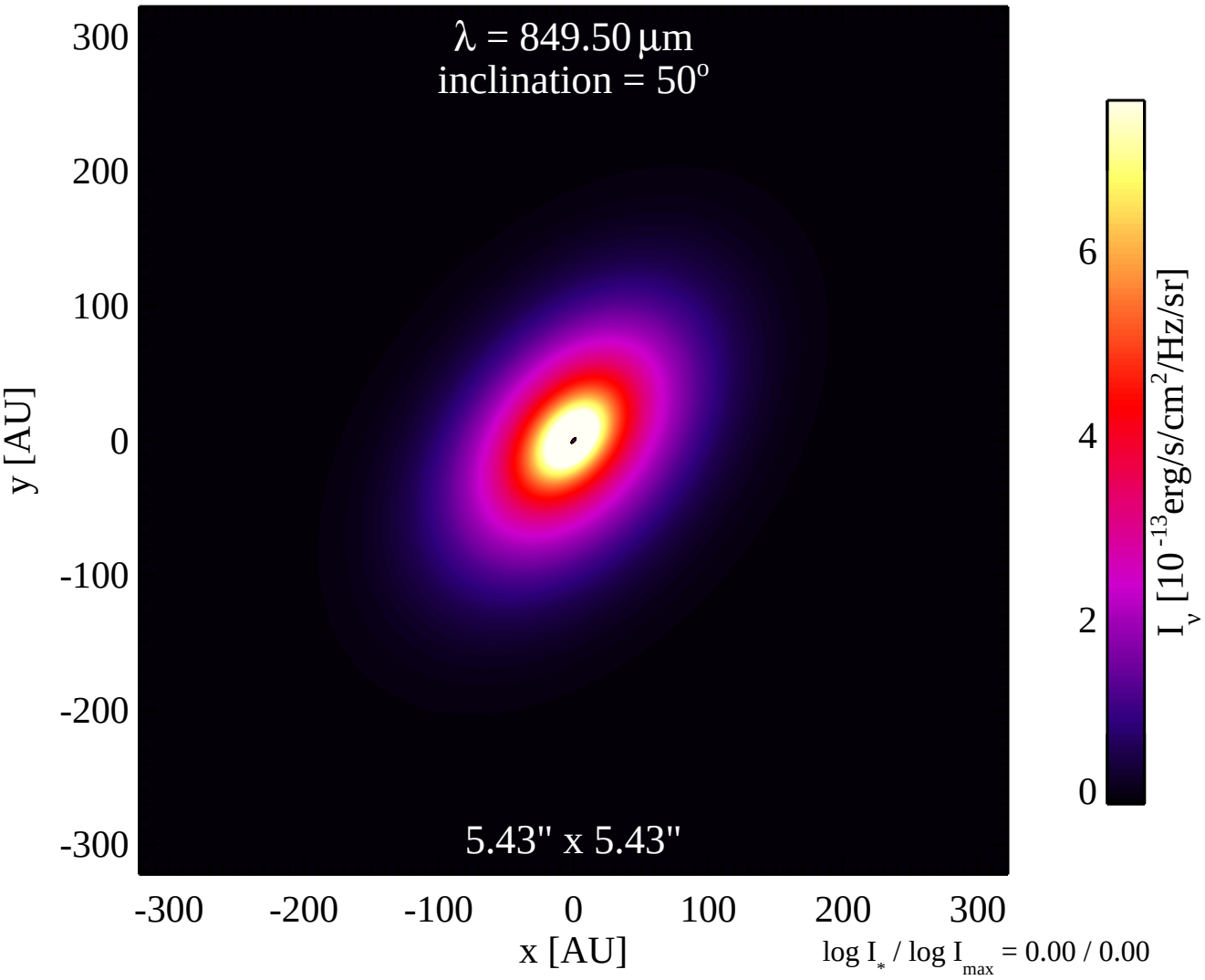

λ = 1620.69 μm
inclination = 50°
3.81" x 3.81"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-12.8
-13.0
-13.2
-13.4
-13.6
-13.8
-14.0
log I_ν [erg/s/cm²/Hz/sr]

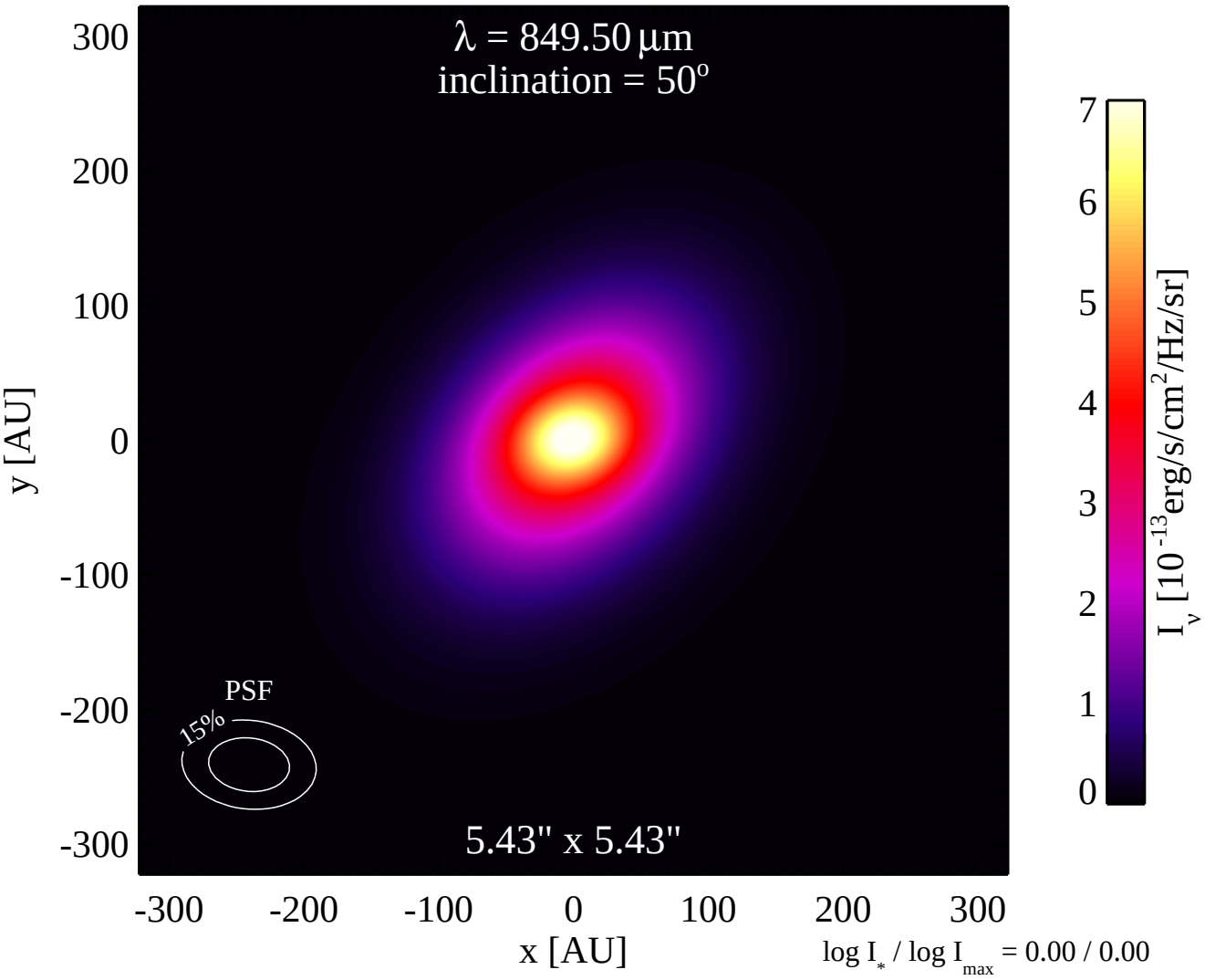

λ = 2046.54 μm
inclination = 50°
3.78" x 3.78"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-13.0
-13.2
-13.4
-13.6
-13.8
-14.0
-14.2
log I_ν [erg/s/cm²/Hz/sr]

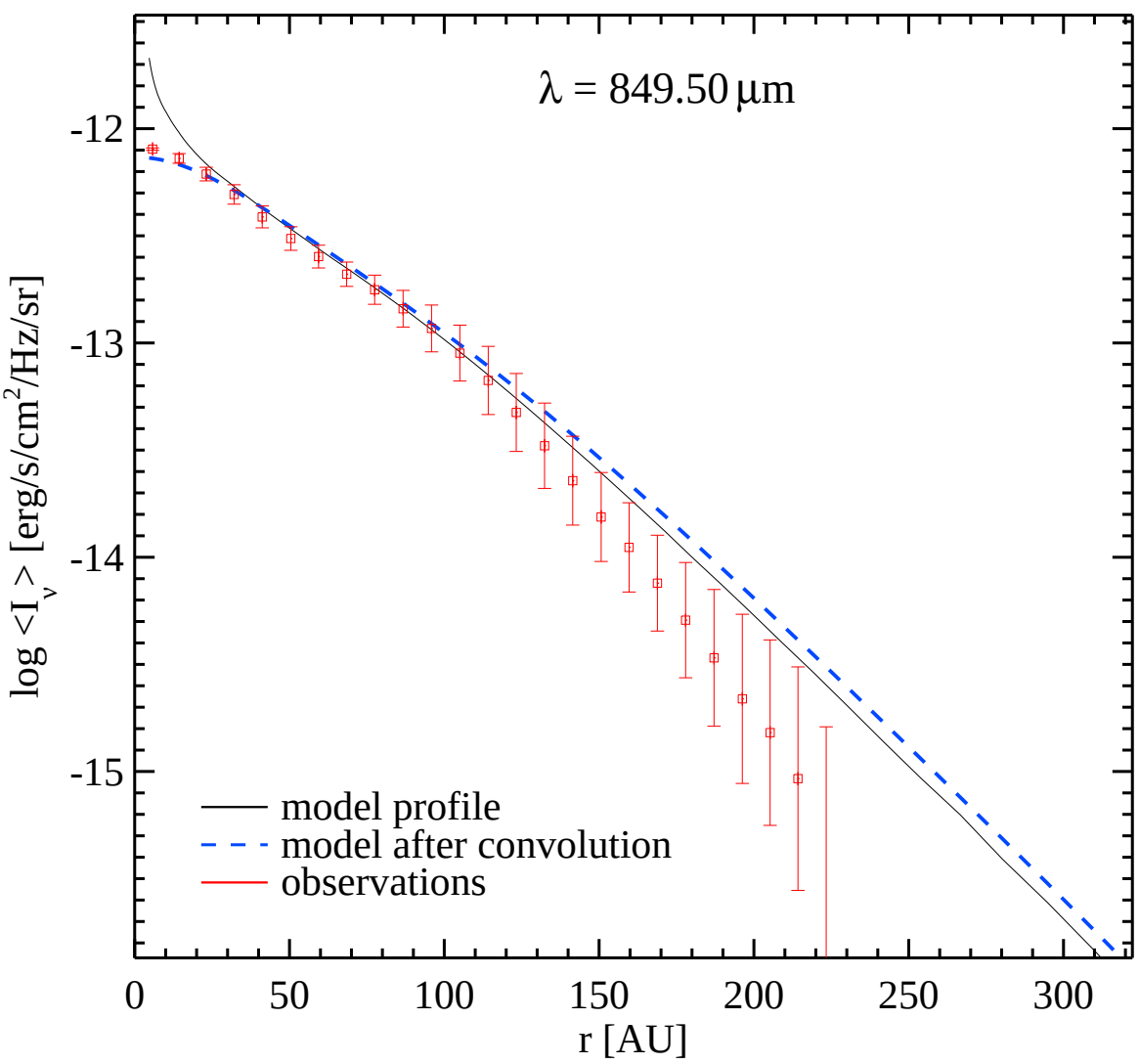

λ = 2584.29 μm
inclination = 50°
3.77" x 3.77"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-13.2
-13.4
-13.6
-13.8
-14.0
-14.2
log I_ν [erg/s/cm²/Hz/sr]

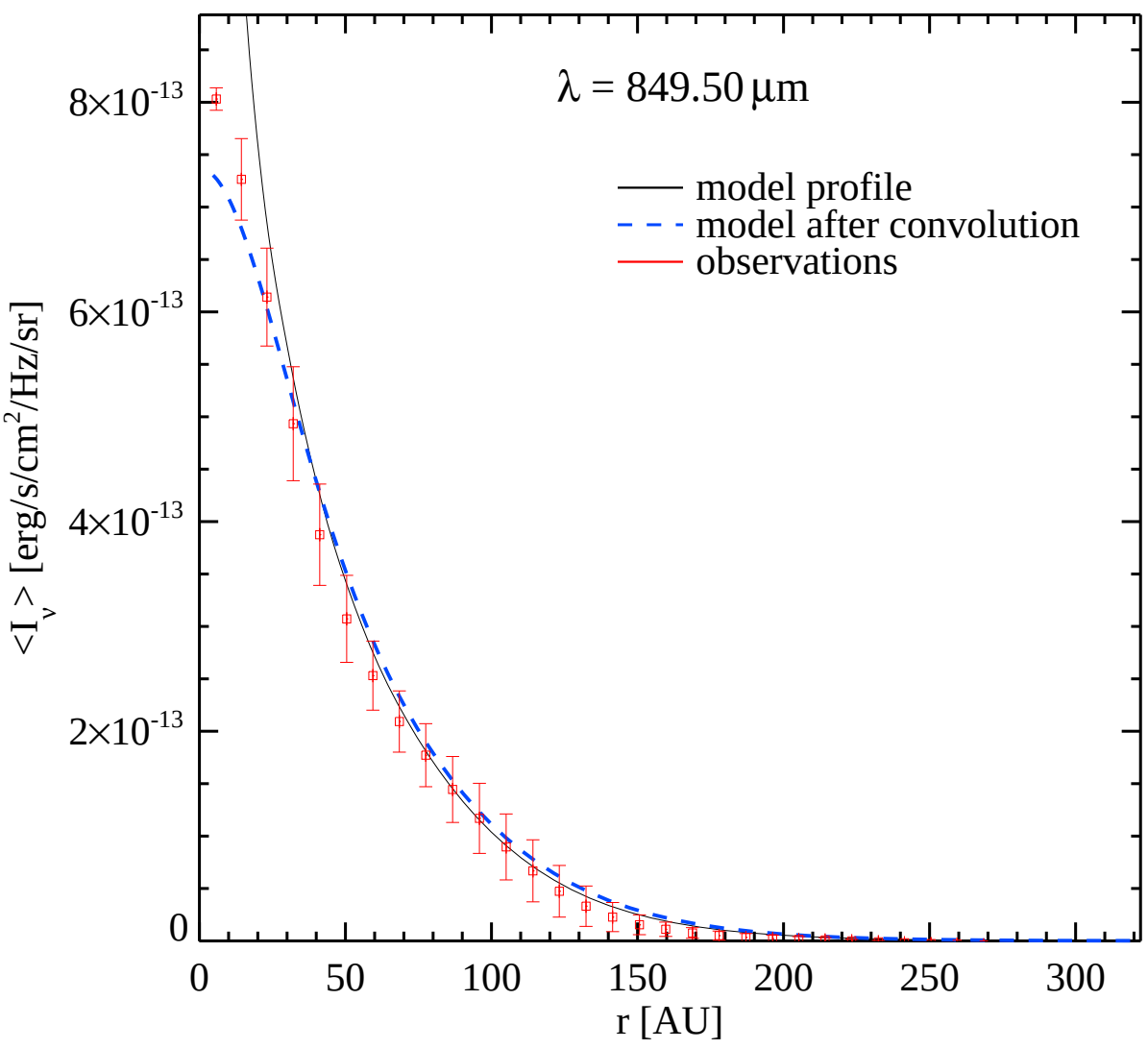

λ = 3263.34 μm
inclination = 50°
3.77" x 3.77"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-13.4
-13.6
-13.8
-14.0
-14.2
-14.4
log I_ν [erg/s/cm²/Hz/sr]

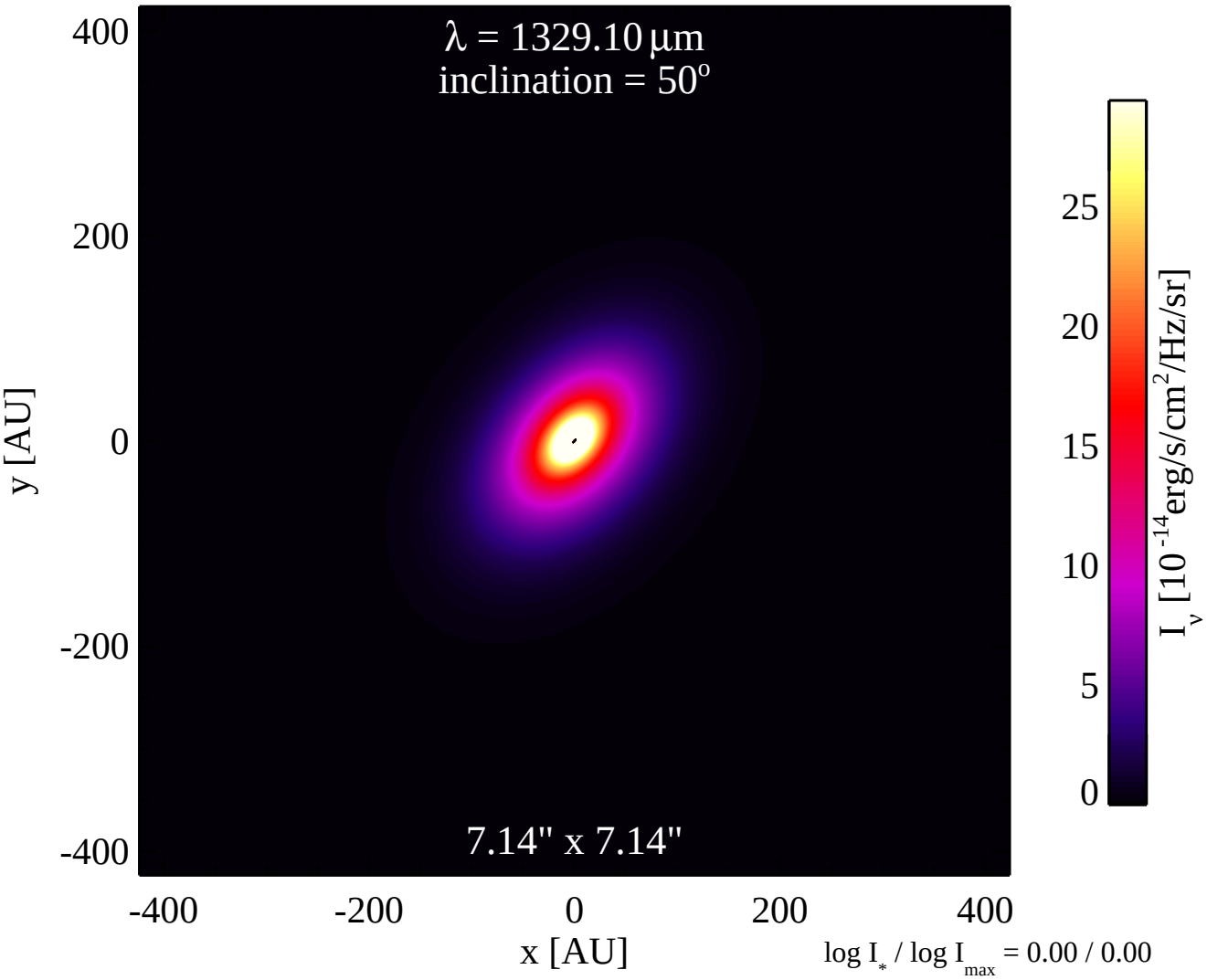

λ = 4120.81 μm
inclination = 50°
3.81" x 3.81"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-13.6
-13.8
-14.0
-14.2
-14.4
-14.6
log I_ν [erg/s/cm²/Hz/sr]

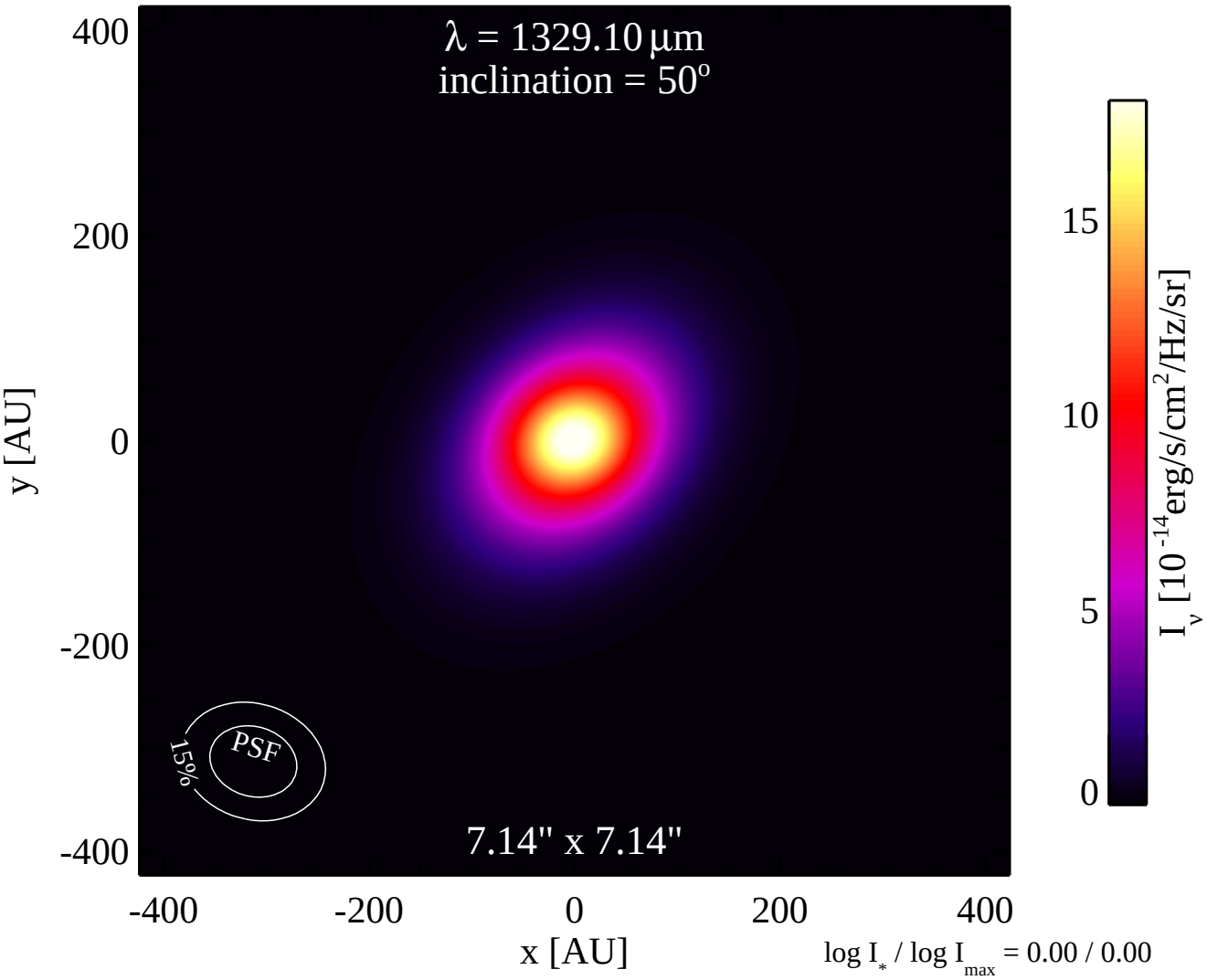

λ = 849.50 μm
inclination = 50°
5.43" x 5.43"
300
200
100
0
-100
-200
-300
y [AU]
-300
-200
-100
0
100
200
300
x [AU]
6
4
2
0
I_ν [10^-13 erg/s/cm^2/Hz/sr]
log I_* / log I_max = 0.00 / 0.00

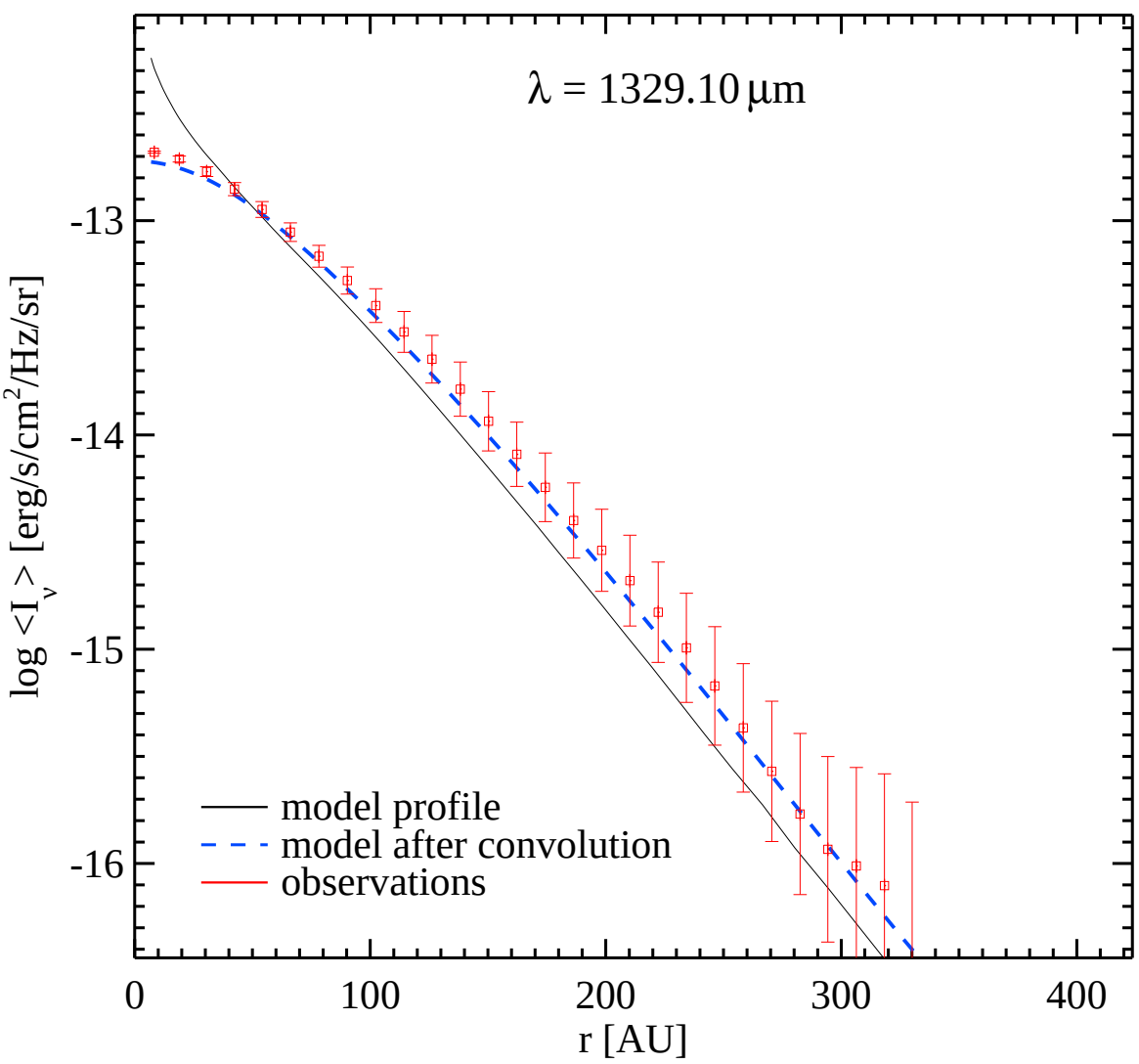

λ = 849.50 μm
inclination = 50°
PSF
15%
5.43" x 5.43"
300
200
100
0
-100
-200
-300
y [AU]
-300
-200
-100
0
100
200
300
x [AU]
7
6
5
4
3
2
1
0
I_ν [10^-13 erg/s/cm^2/Hz/sr]
log I_* / log I_max = 0.00 / 0.00

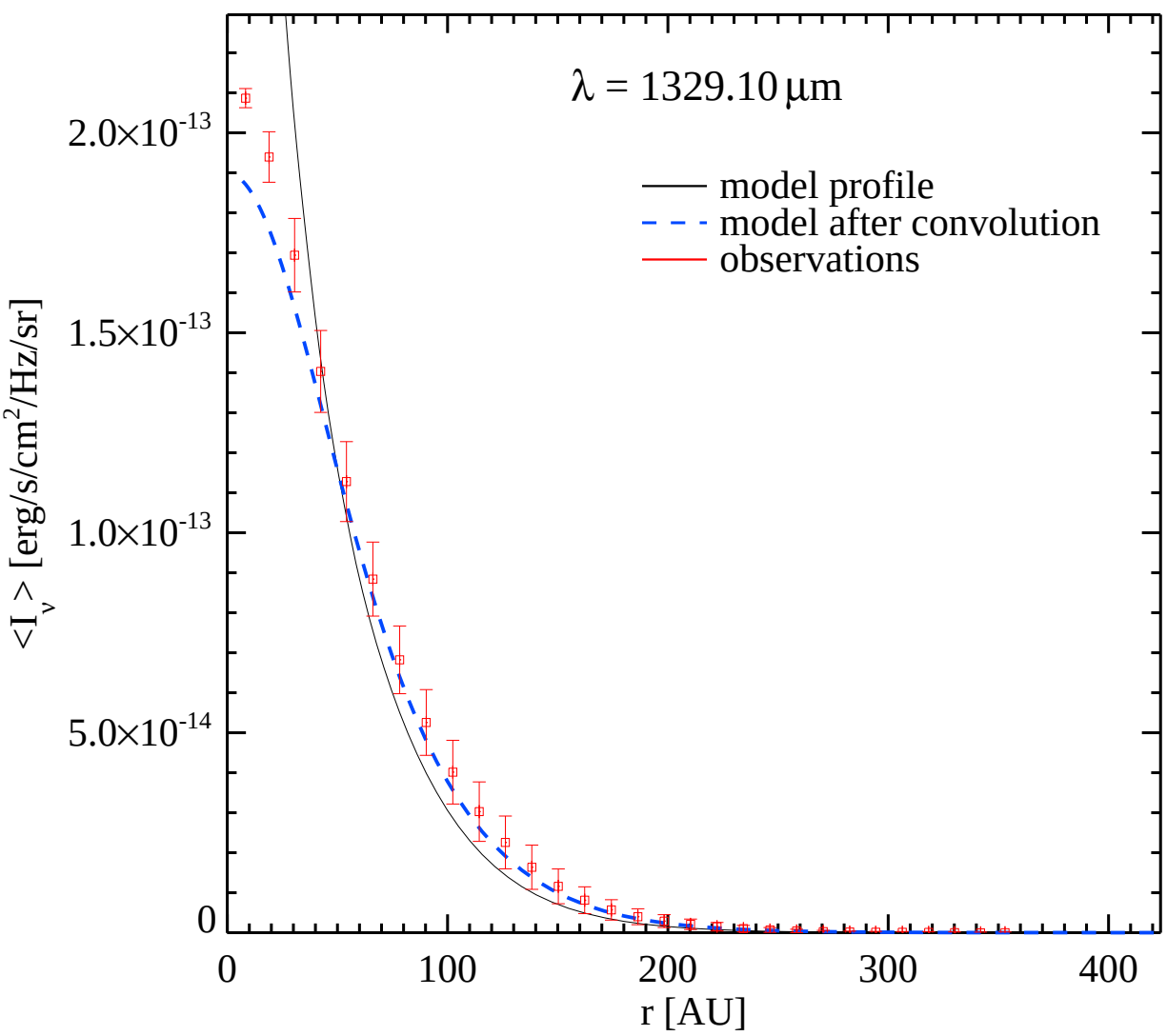

λ = 849.50 μm
-12
-13
-14
-15
log <I_ν> [erg/s/cm²/Hz/sr]
0
50
100
150
200
250
300
r [AU]
model profile
model after convolution
observations

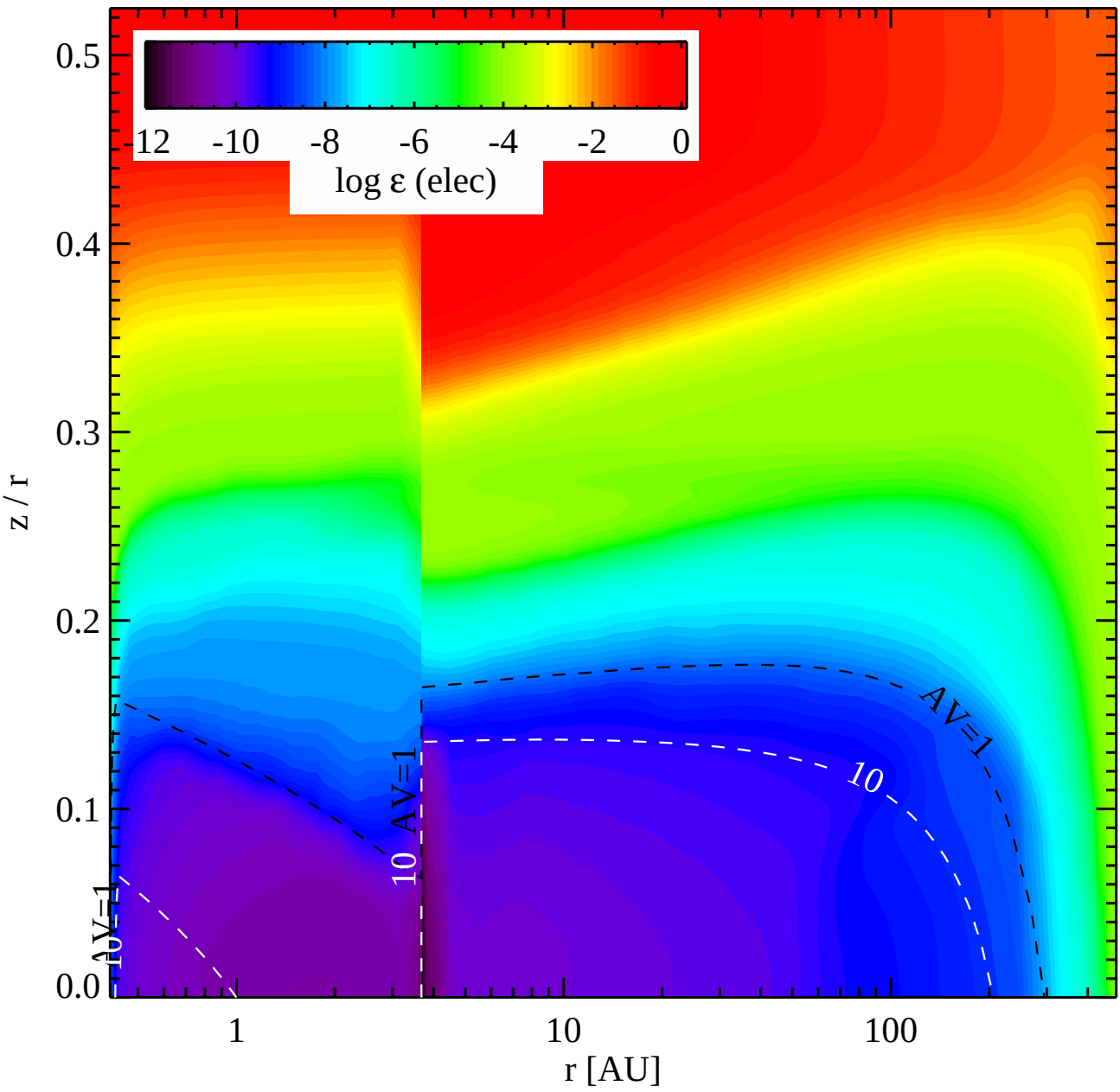

λ = 849.50 μm
model profile
model after convolution
observations
8×10-13
6×10-13
4×10-13
2×10-13
0
<I ν> [erg/s/cm2/Hz/sr]
0
50
100
150
200
250
300
r [AU]

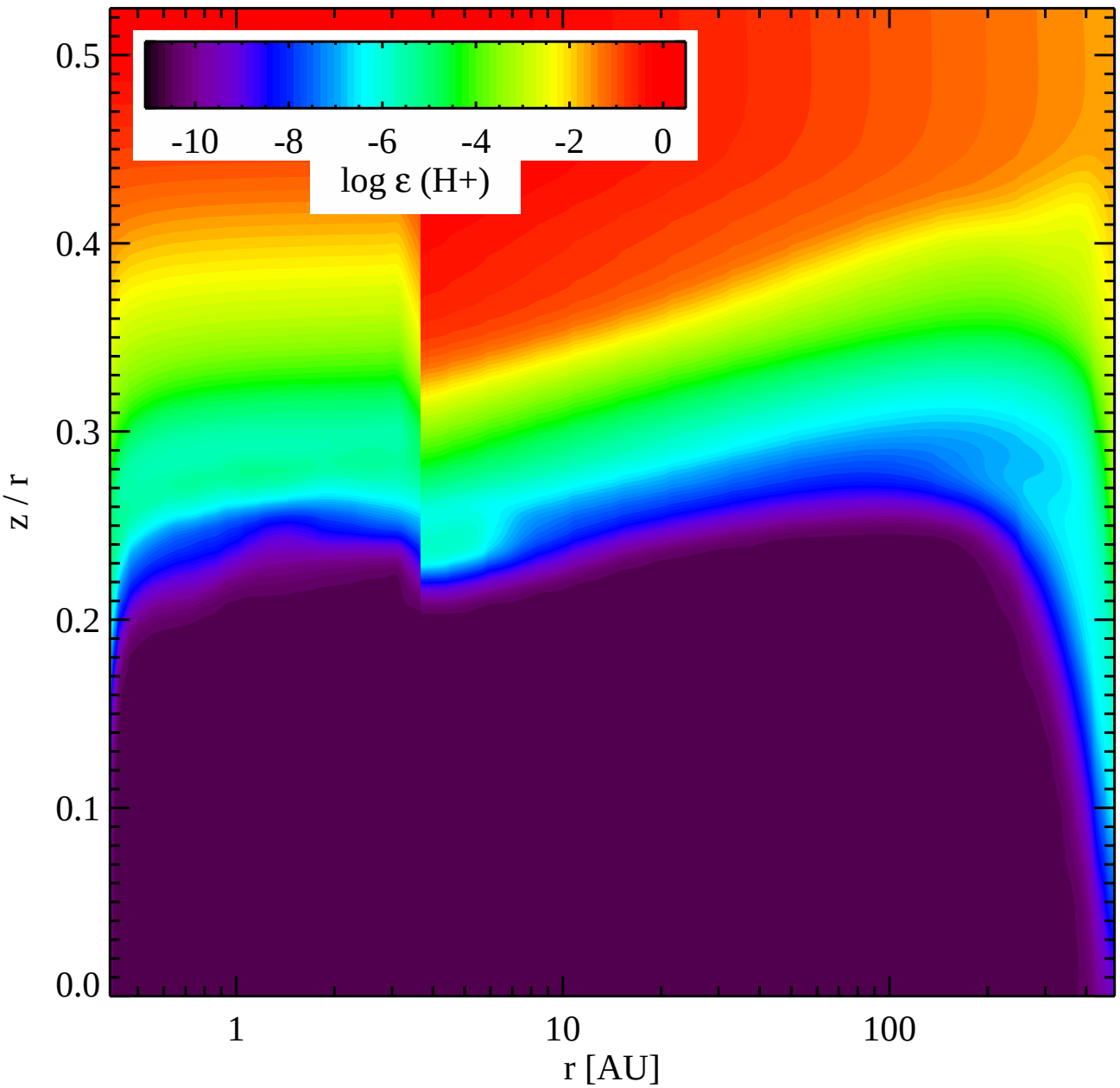

λ = 1329.10 μm
inclination = 50°
7.14" x 7.14"
400
200
0
-200
-400
y [AU]
-400
-200
0
200
400
x [AU]
25
20
15
10
5
0
I_ν [10^-14 erg/s/cm^2/Hz/sr]
log I_* / log I_max = 0.00 / 0.00

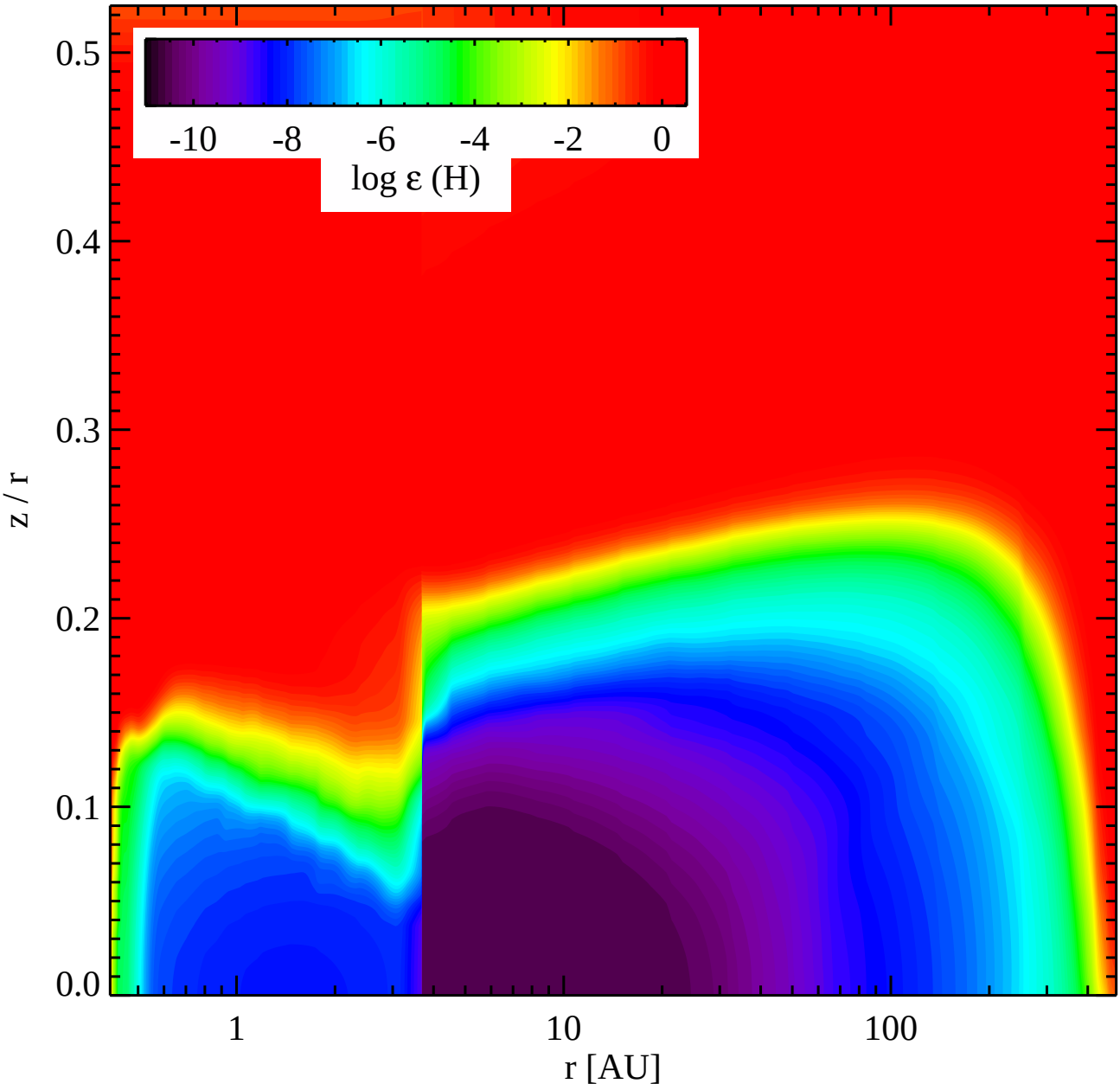

λ = 1329.10 μm
inclination = 50°
PSF
15%
7.14" x 7.14"
400
200
0
-200
-400
y [AU]
-400
-200
0
200
400
x [AU]
15
10
5
0
I_ν [10^-14 erg/s/cm^2/Hz/sr]
log I_* / log I_max = 0.00 / 0.00

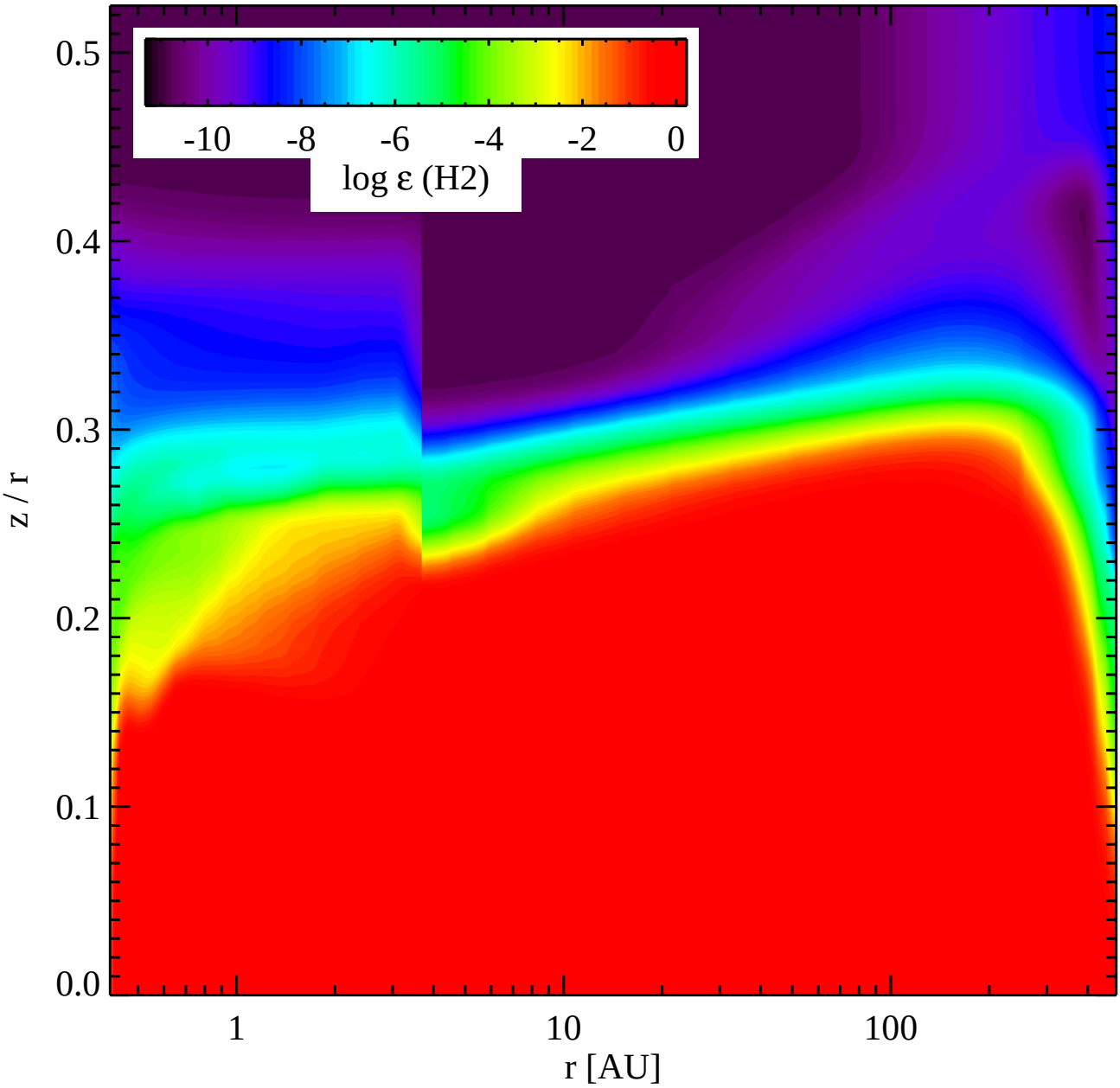

λ = 1329.10 μm
-13
-14
-15
-16
log <I_ν> [erg/s/cm²/Hz/sr]
0
100
200
300
400
r [AU]
model profile
model after convolution
observations

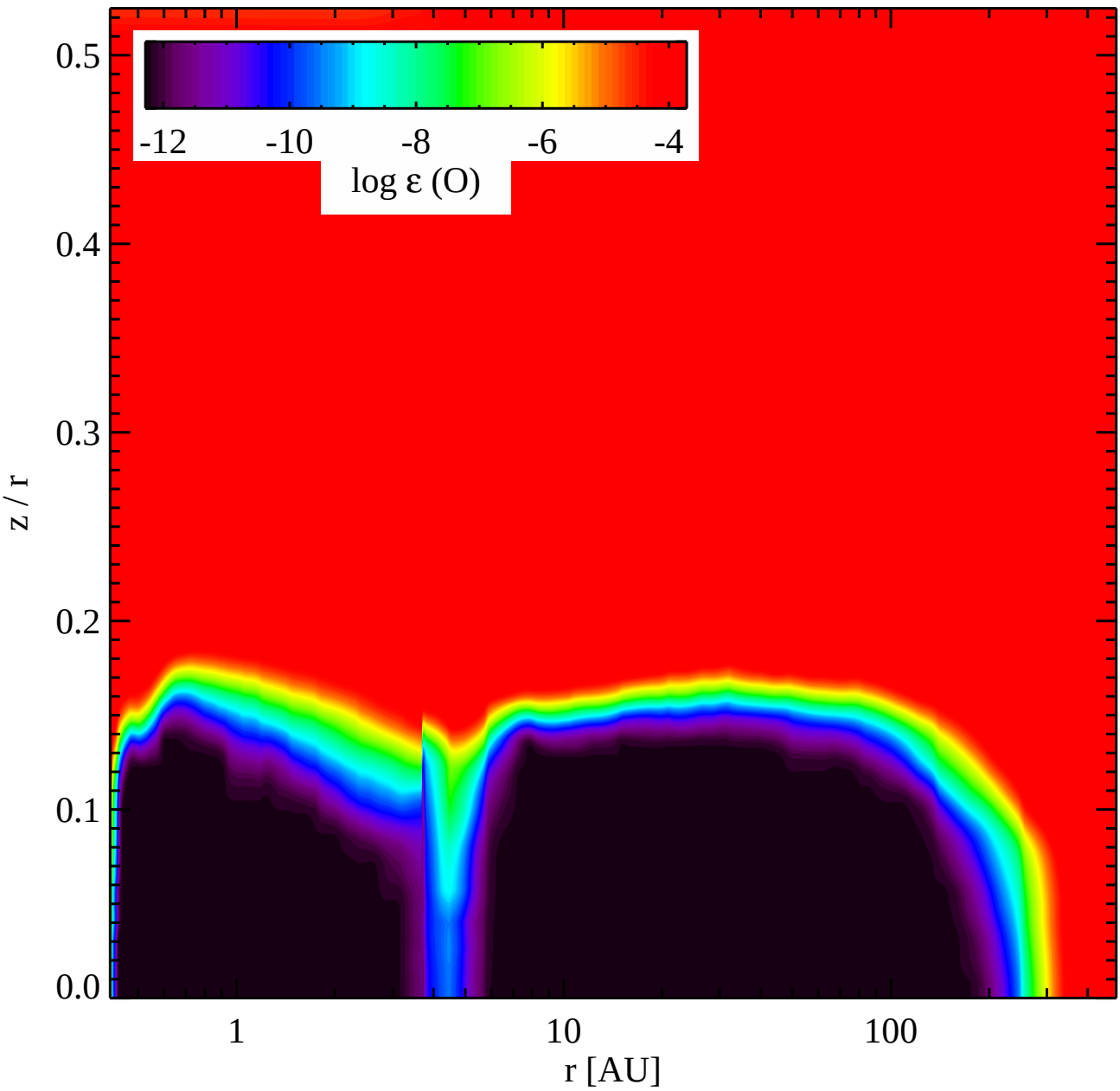

λ = 1329.10 μm
model profile
model after convolution
observations
2.0×10-13
1.5×10-13
1.0×10-13
5.0×10-14
0
0
100
200
300
400
r [AU]
<Iν> [erg/s/cm2/Hz/sr]

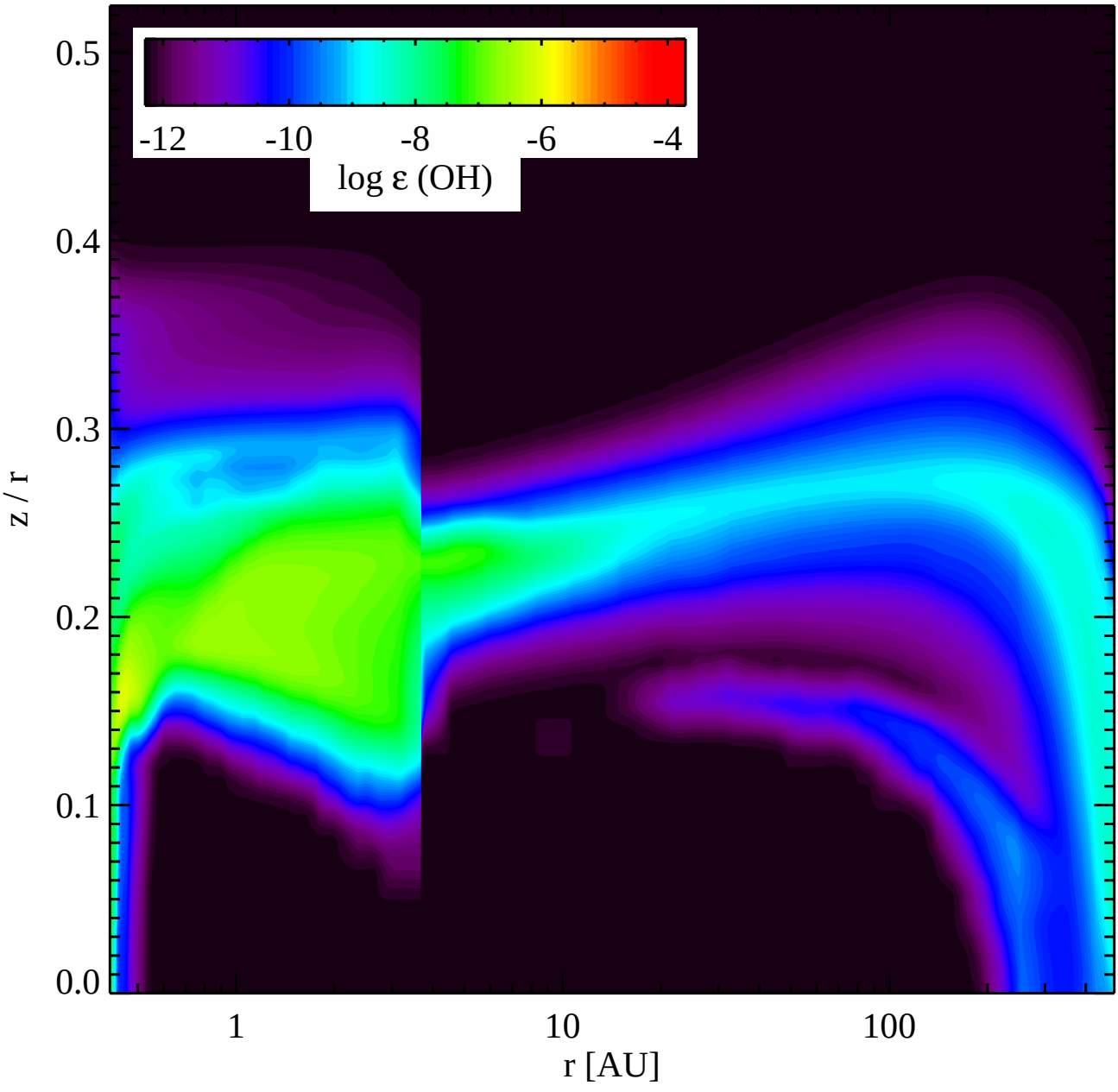

-12
-10
-8
-6
-4
-2
0
log ε (elec)
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]
AV=1
10
AV=1
10
AV=1

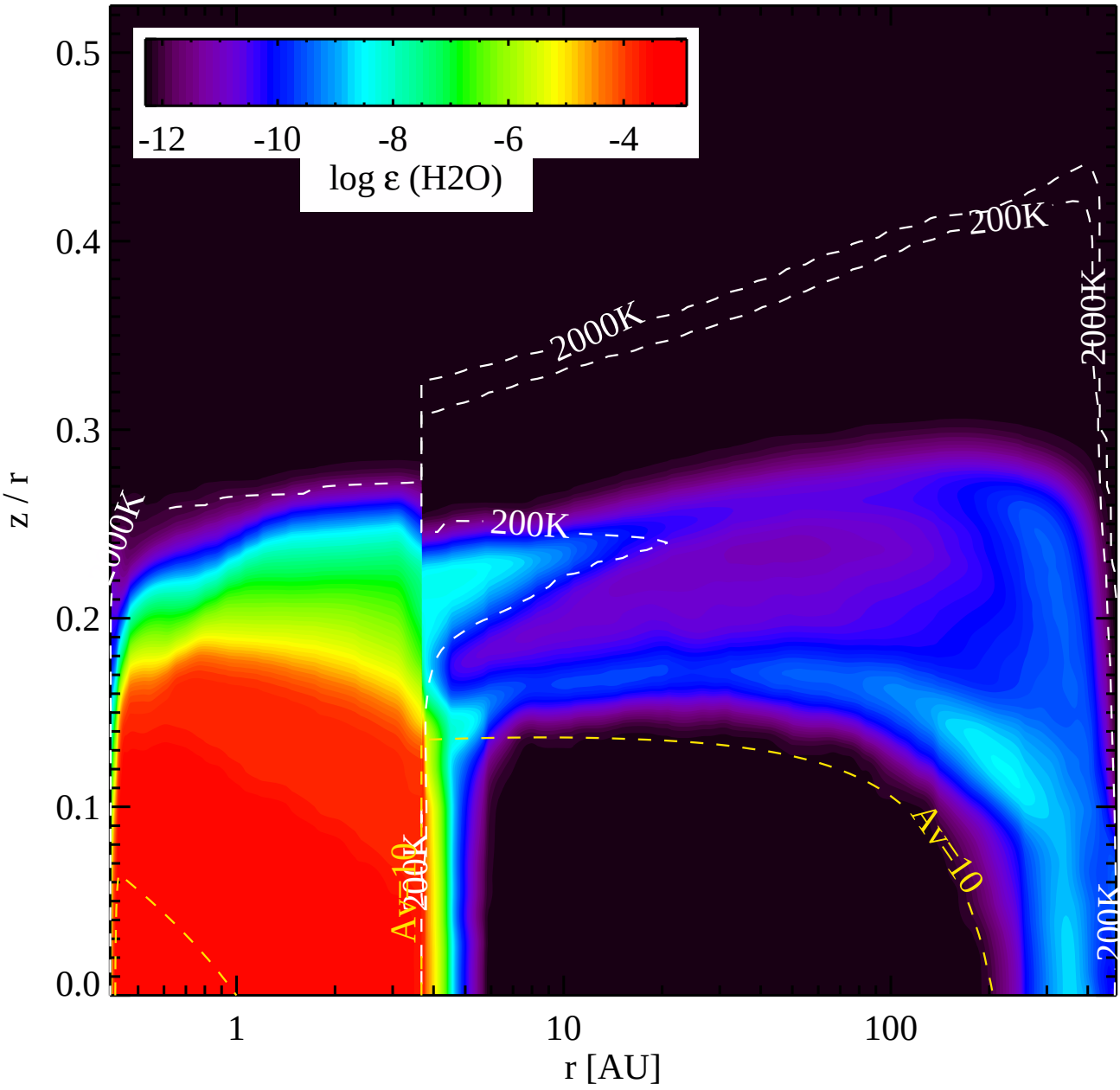

-10
-8
-6
-4
-2
0
log ε (H+)
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

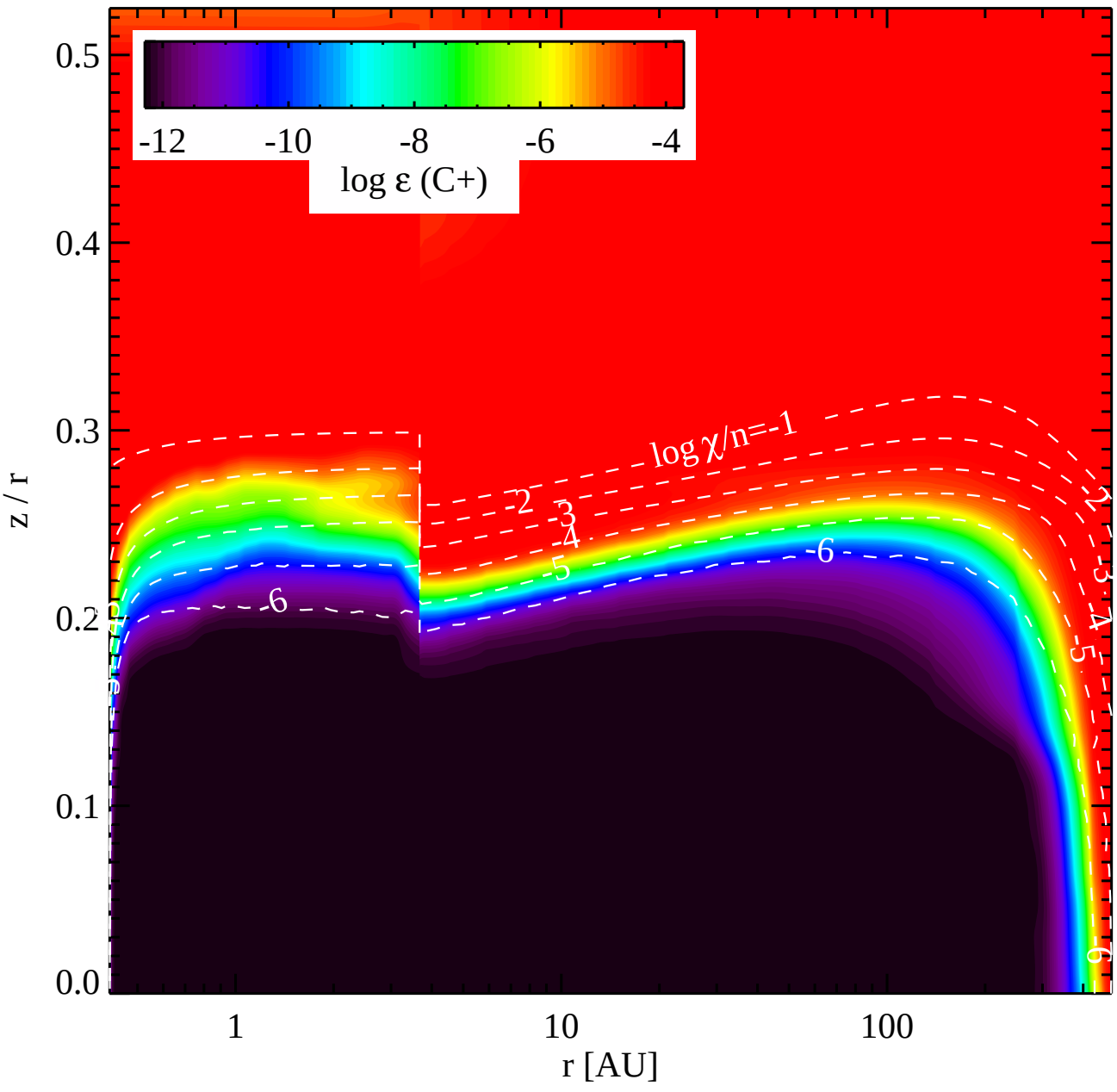

-10
-8
-6
-4
-2
0
log ε (H)
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

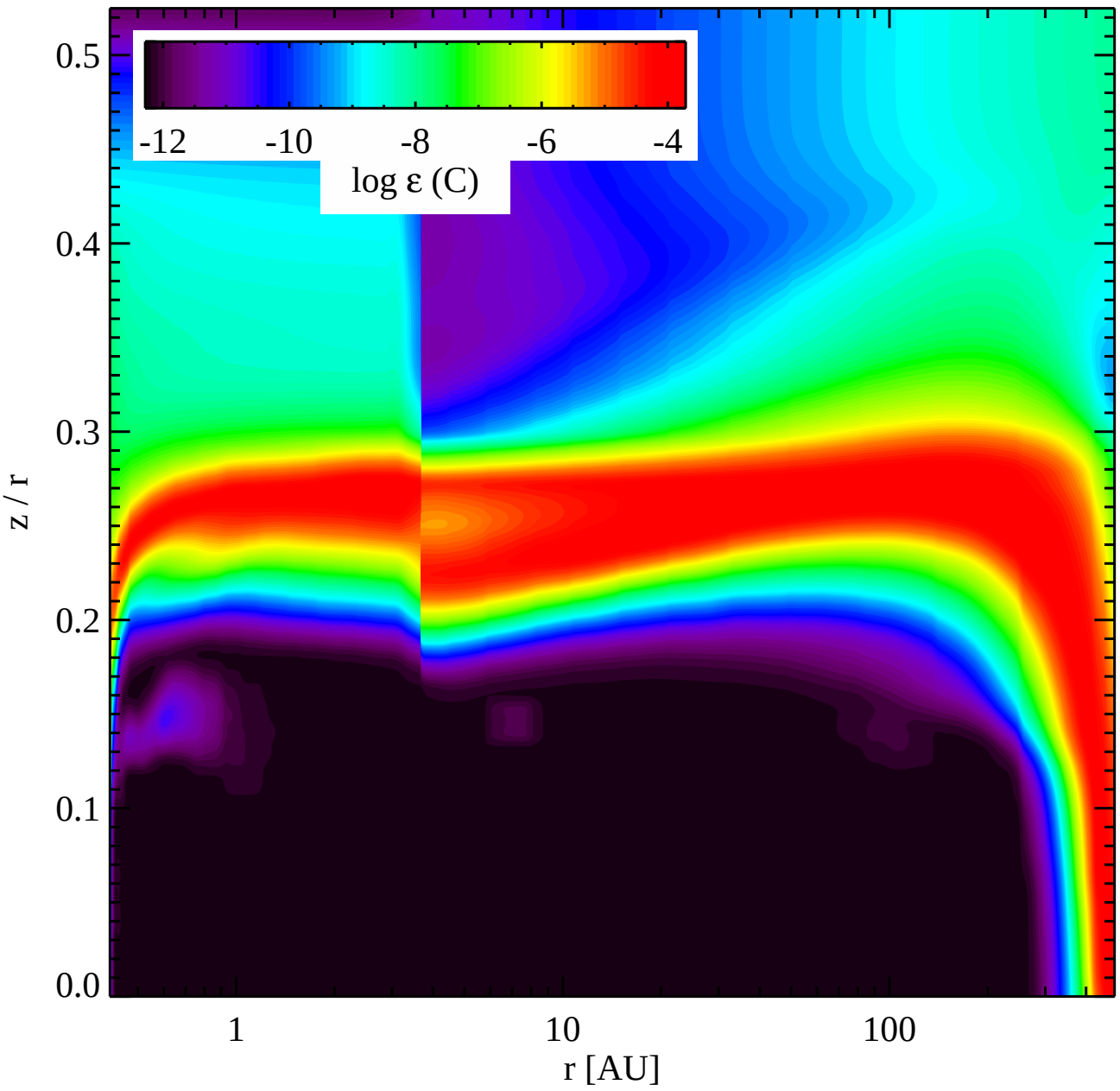

-10
-8
-6
-4
-2
0
log ε (H2)
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

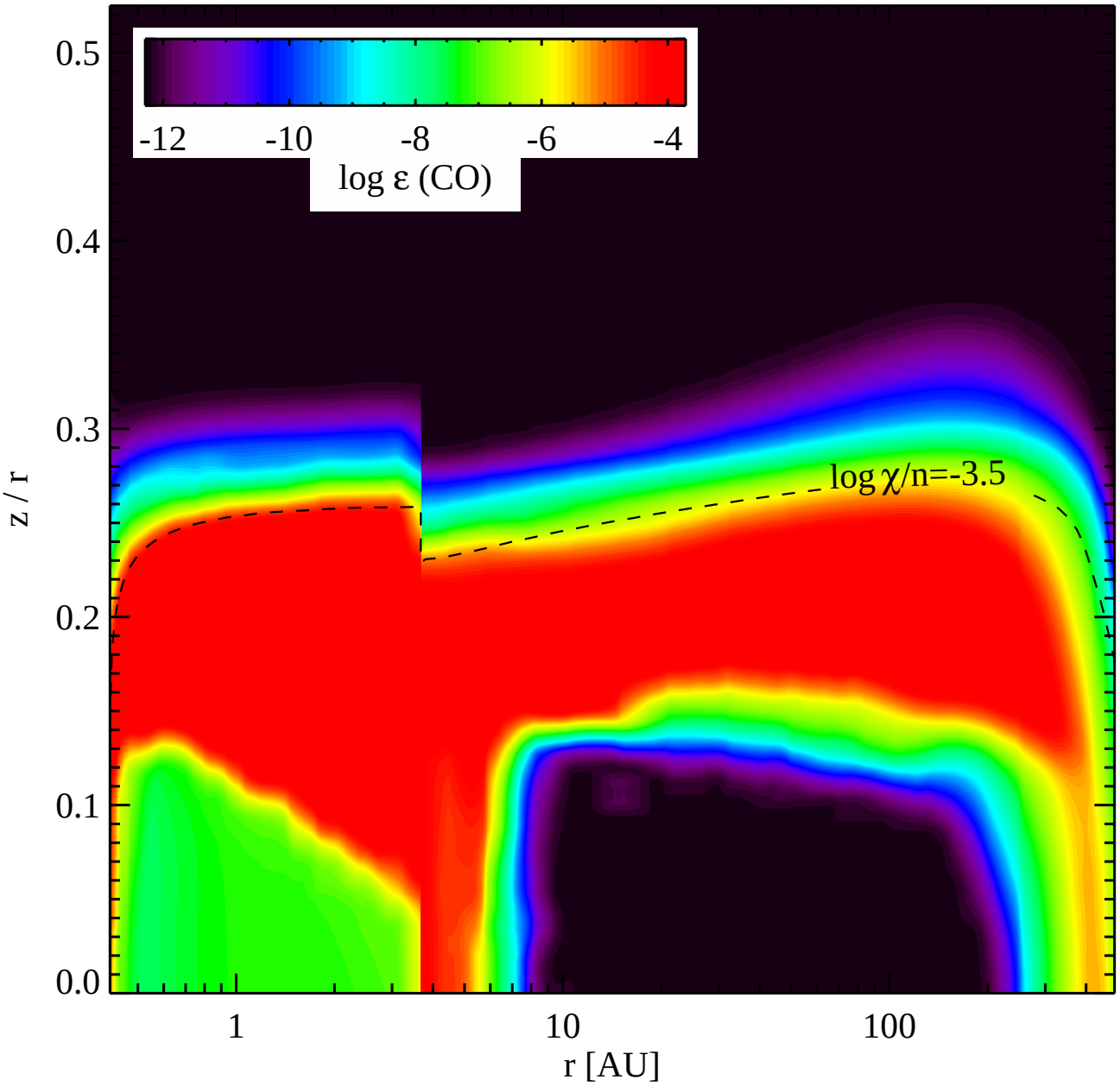

-12
-10
-8
-6
-4
log ε (O)
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

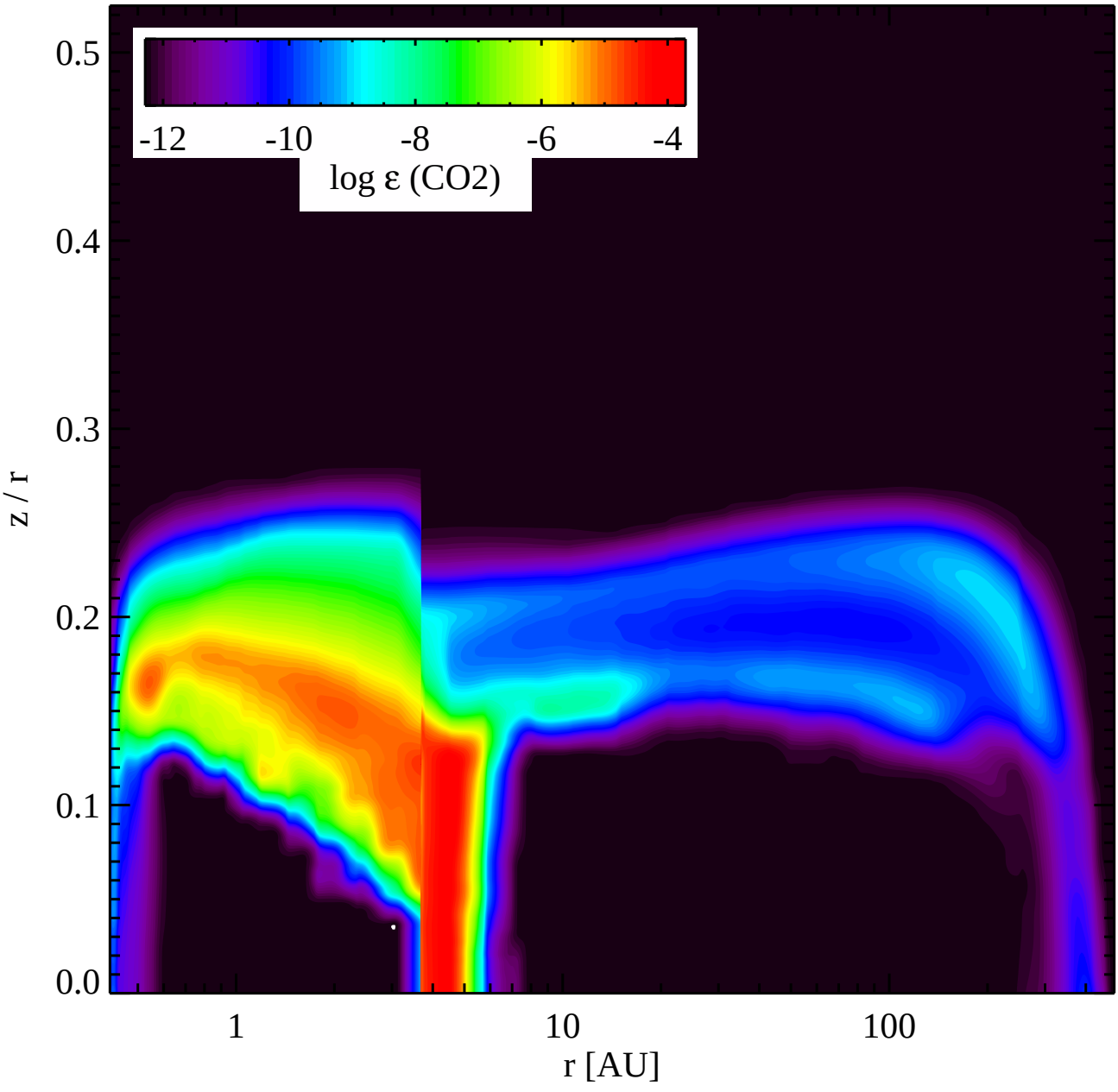

-12
-10
-8
-6
-4
log ε (OH)
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

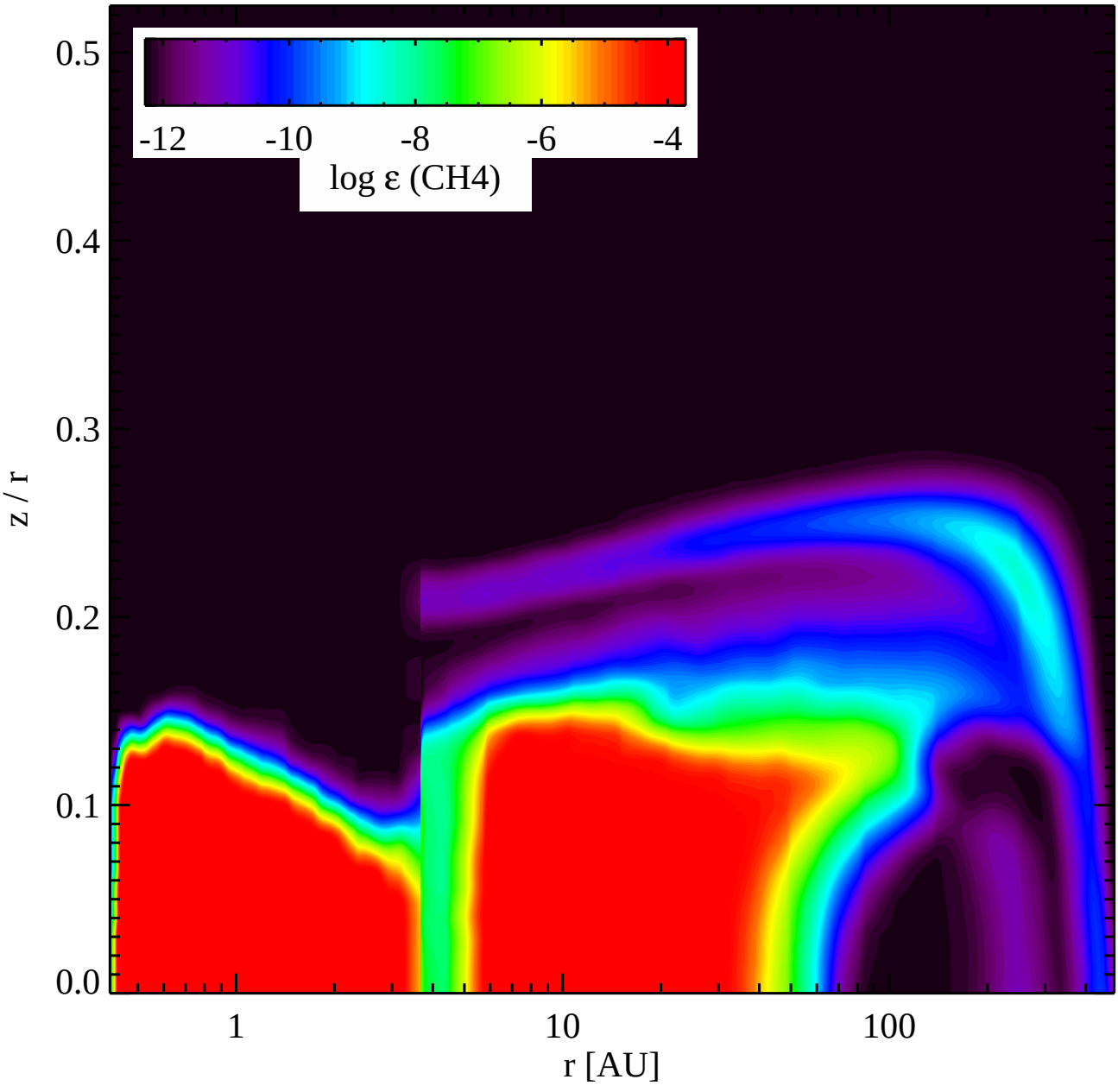

-12
-10
-8
-6
-4
log ε (H2O)
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]
2000K
200K
2000K
200K
2000K
Av=10
Av=10
200K

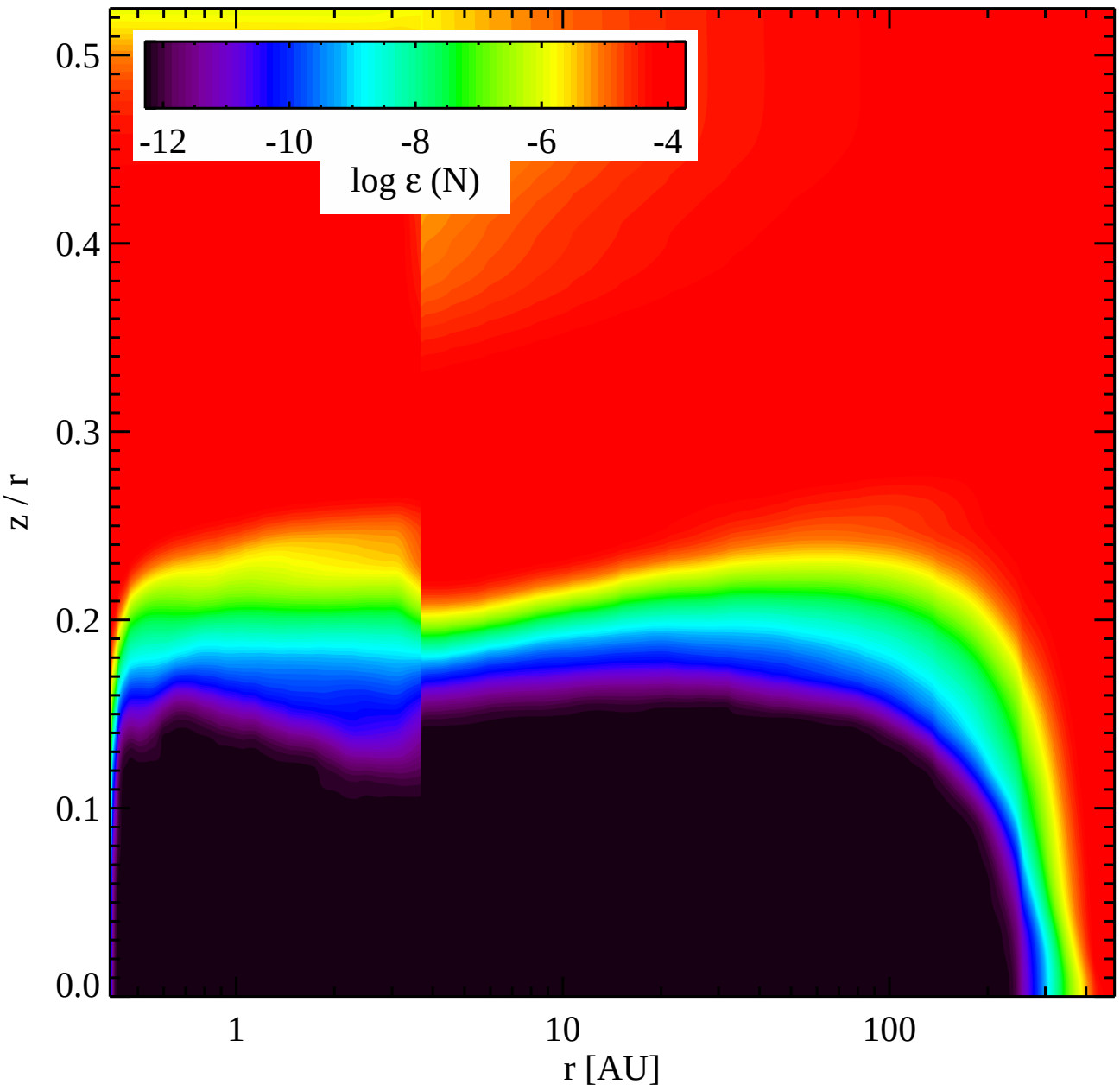

0.5
0.4
0.3
0.2
0.1
0.0
z / r
-12
-10
-8
-6
-4
log ε (C+)
log χ/n=-1
-2
-3
-4
-5
-6
-6
-6
1
10
100
r [AU]

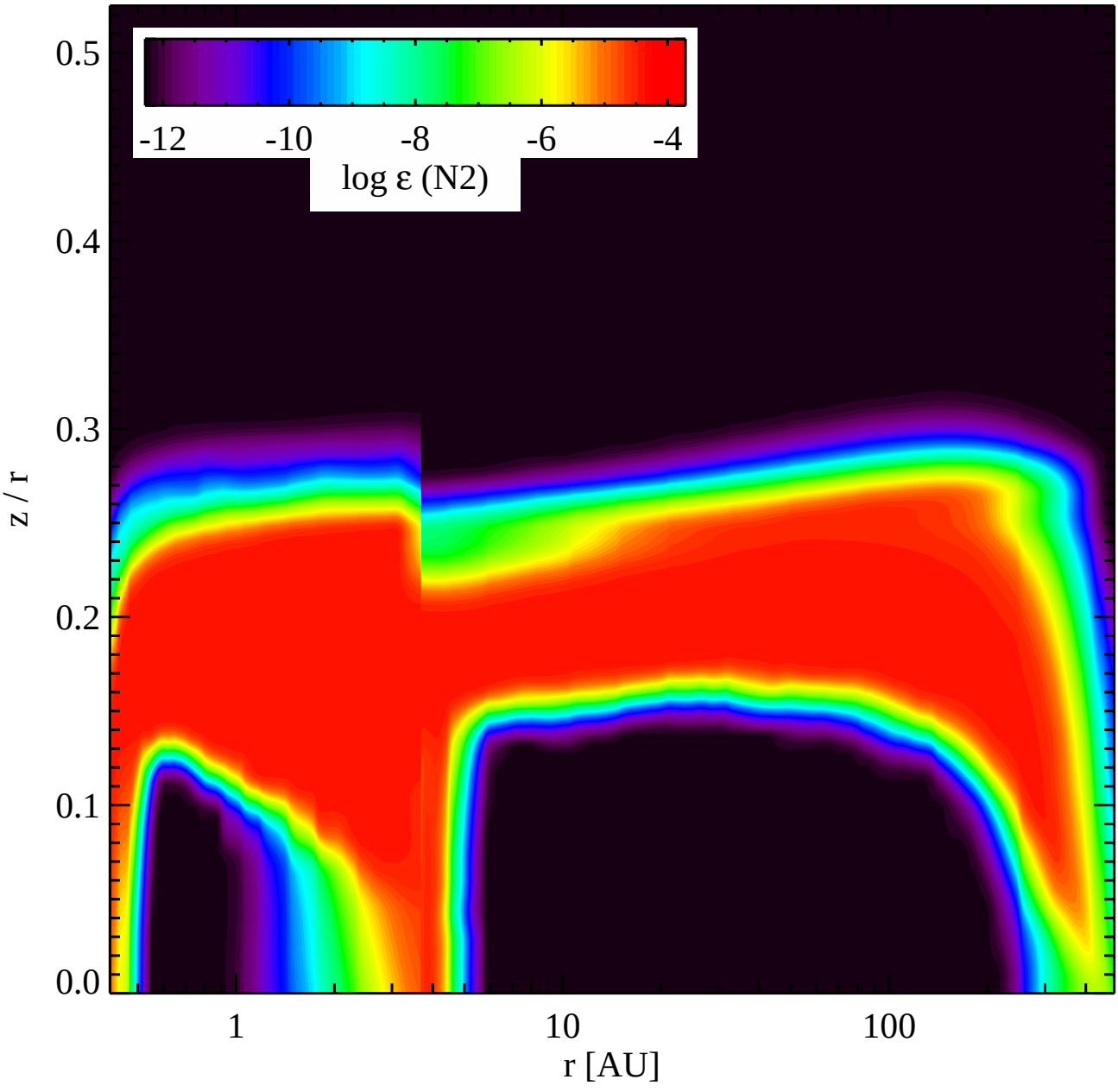

-12
-10
-8
-6
-4
log ε (C)
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

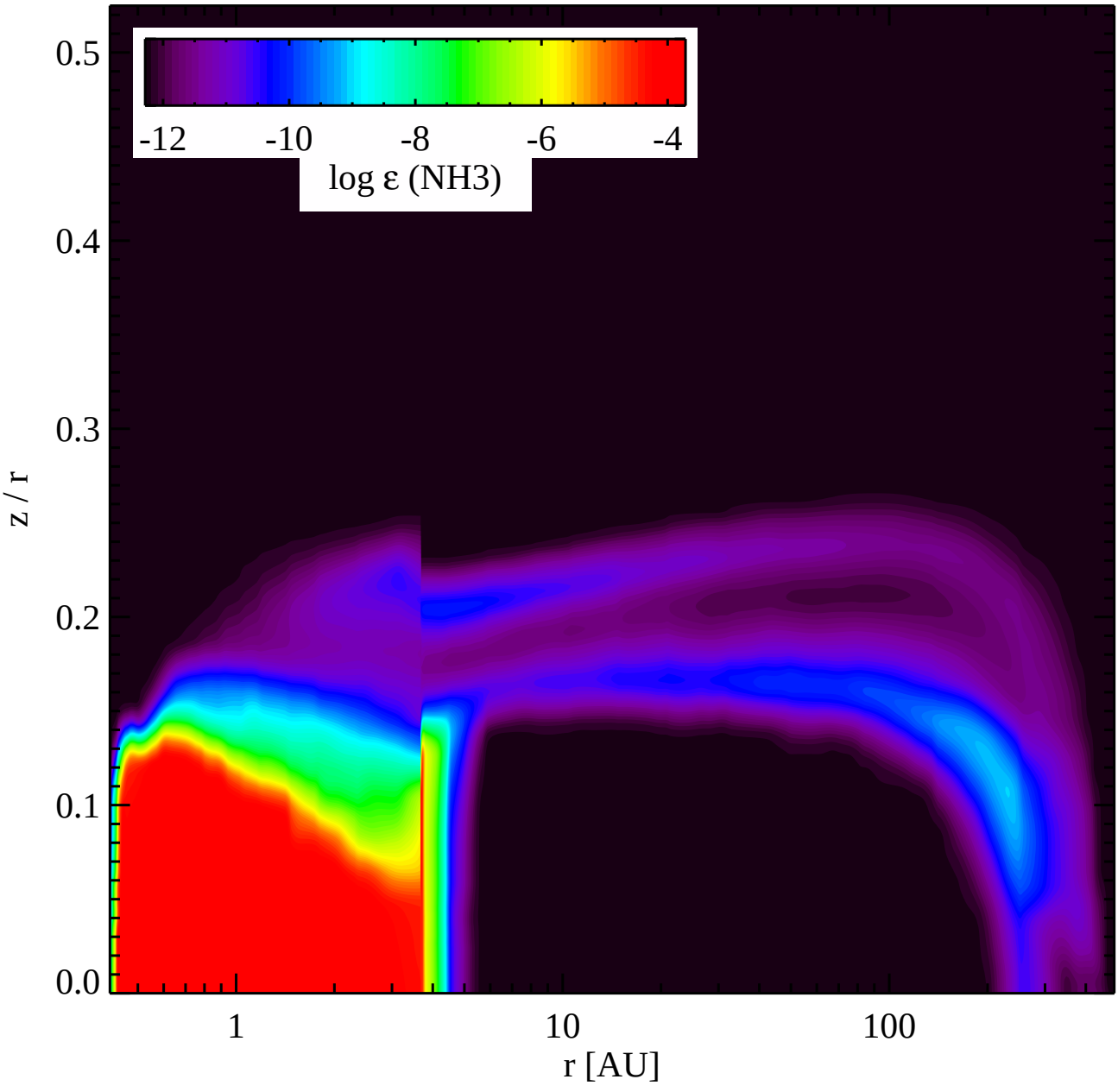

-12
-10
-8
-6
-4
log ε (CO)
log χ/n=-3.5
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

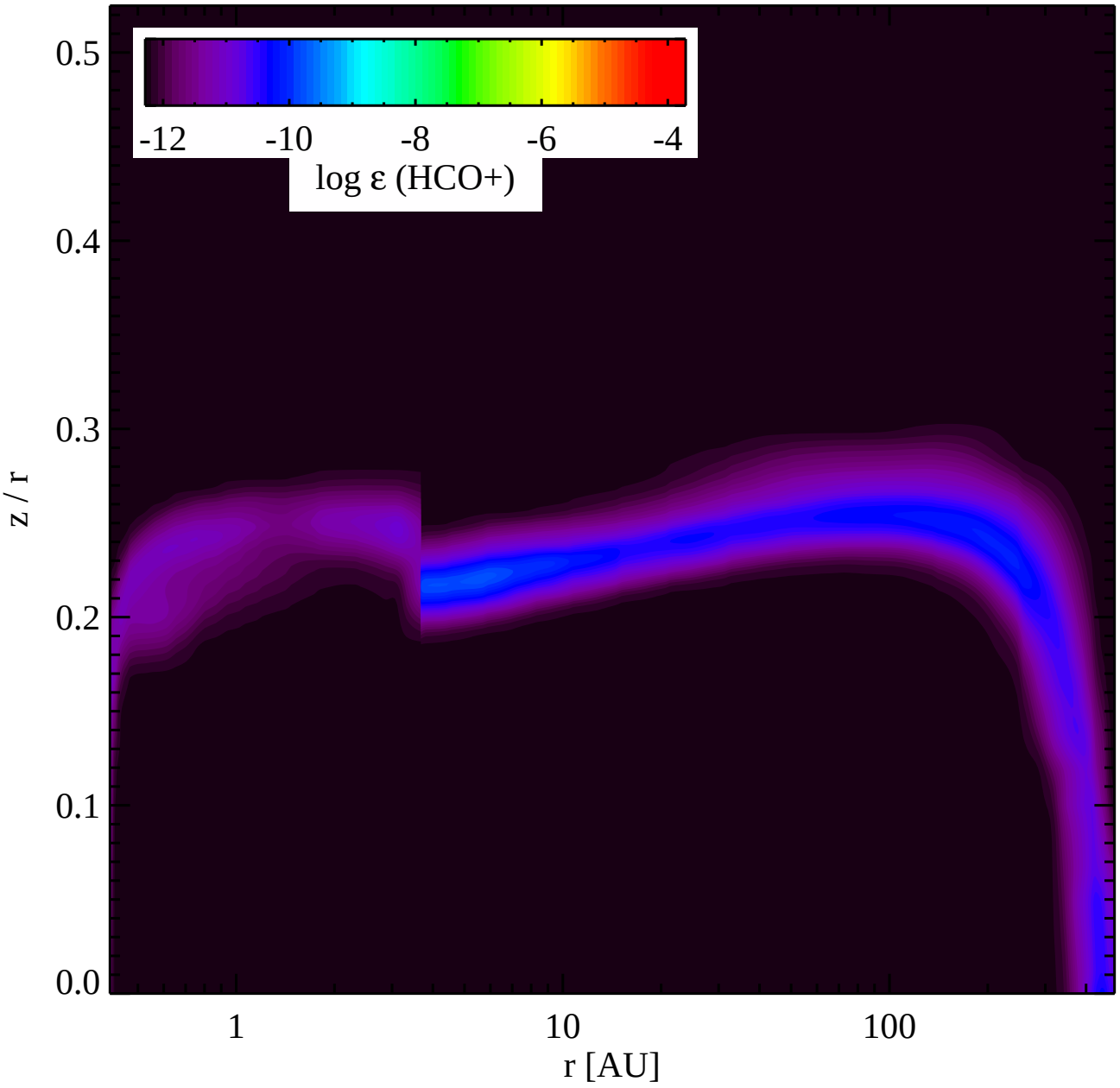

-12
-10
-8
-6
-4
log ε (CO2)
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

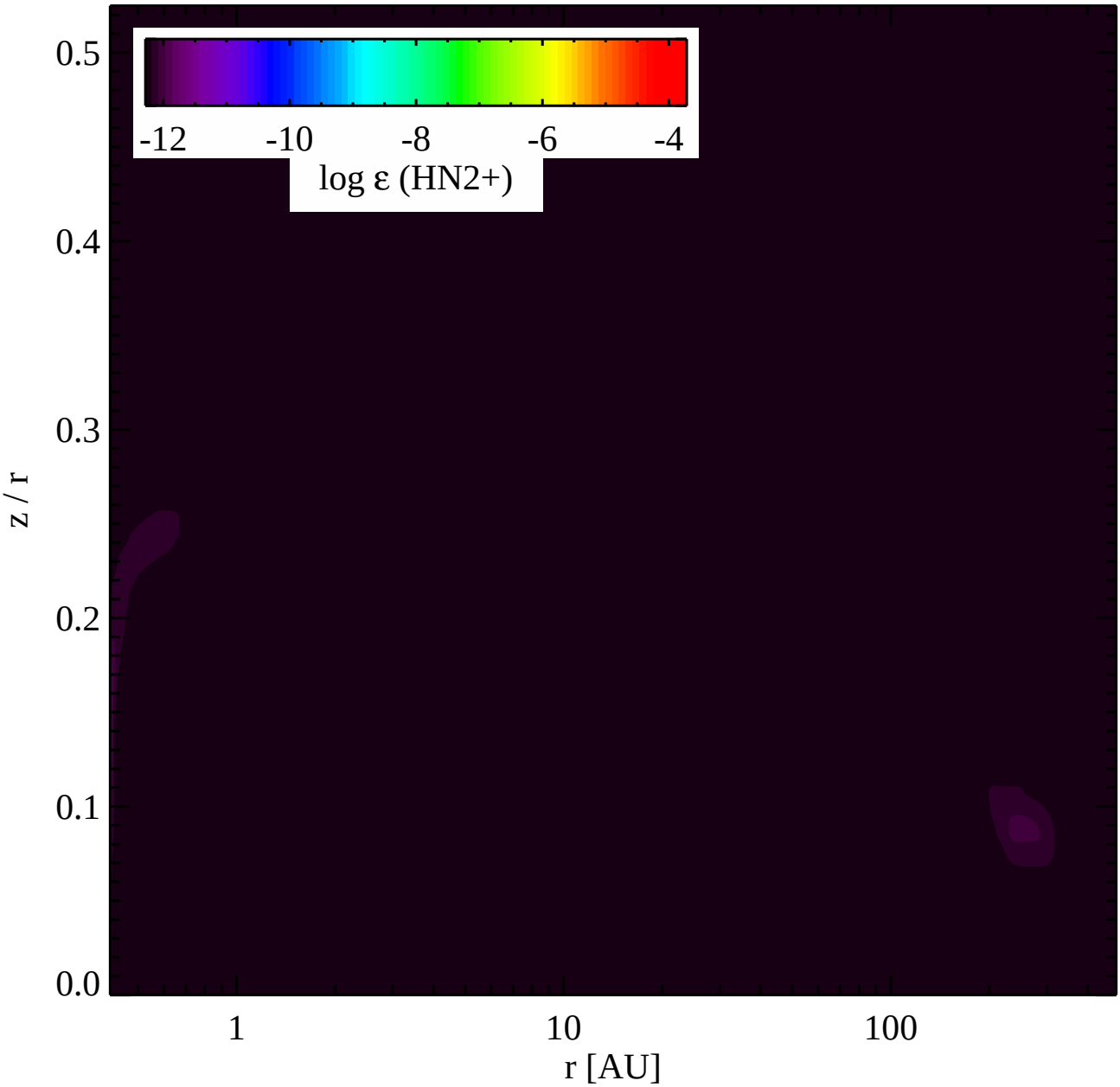

-12
-10
-8
-6
-4
log ε (CH4)
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

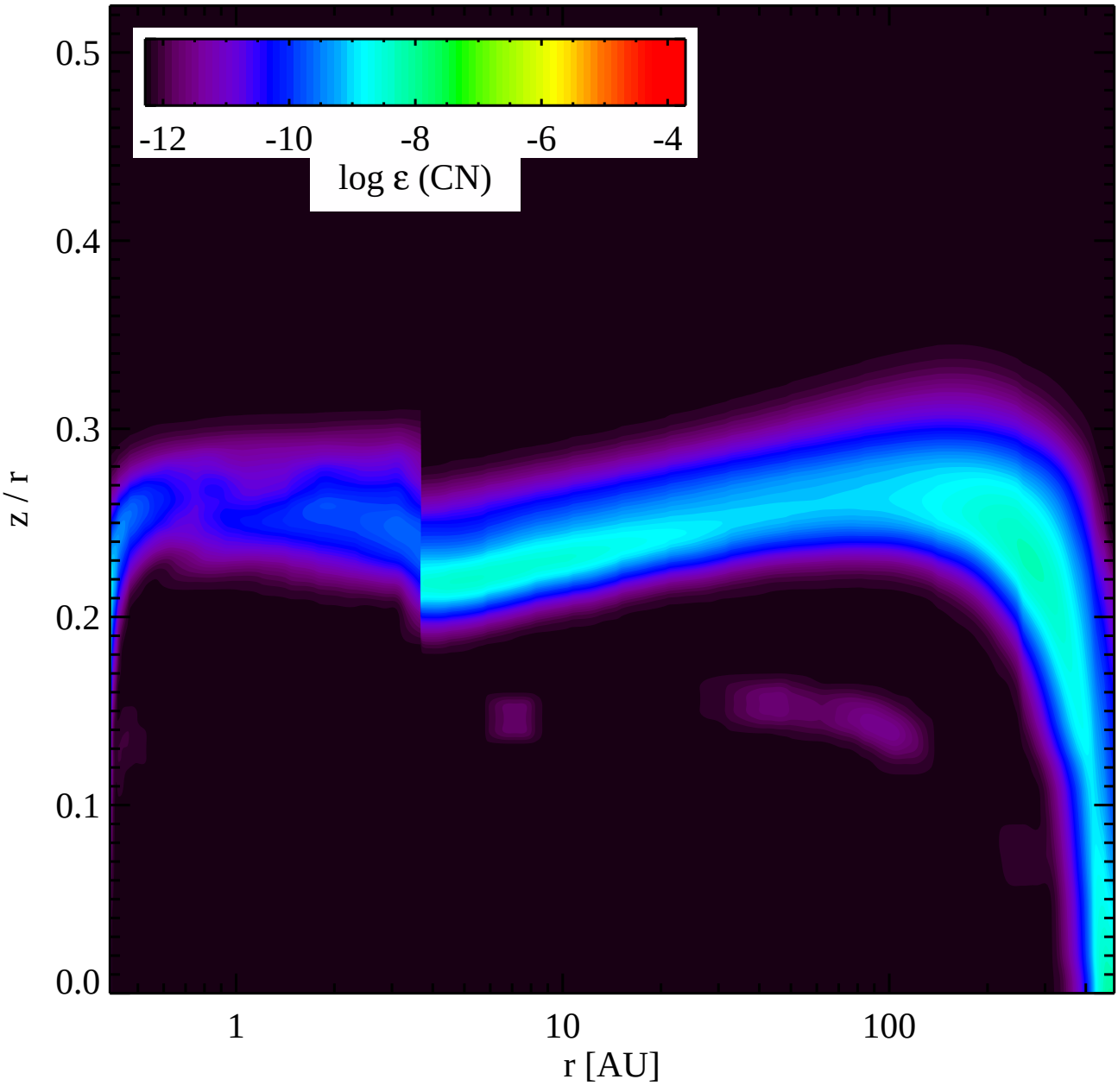

-12
-10
-8
-6
-4
log ε (N)
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

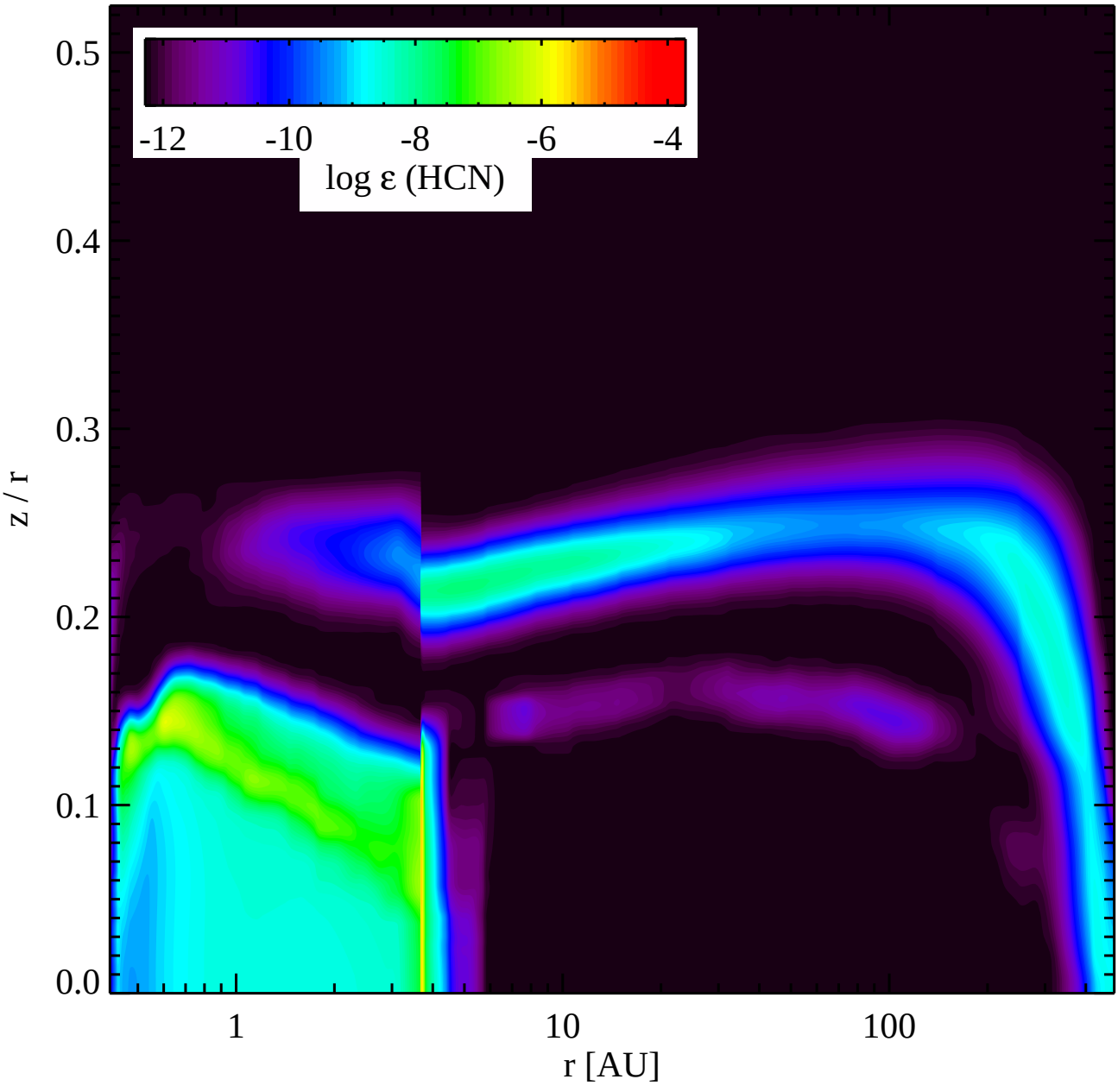

-12
-10
-8
-6
-4
log ε (N2)
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

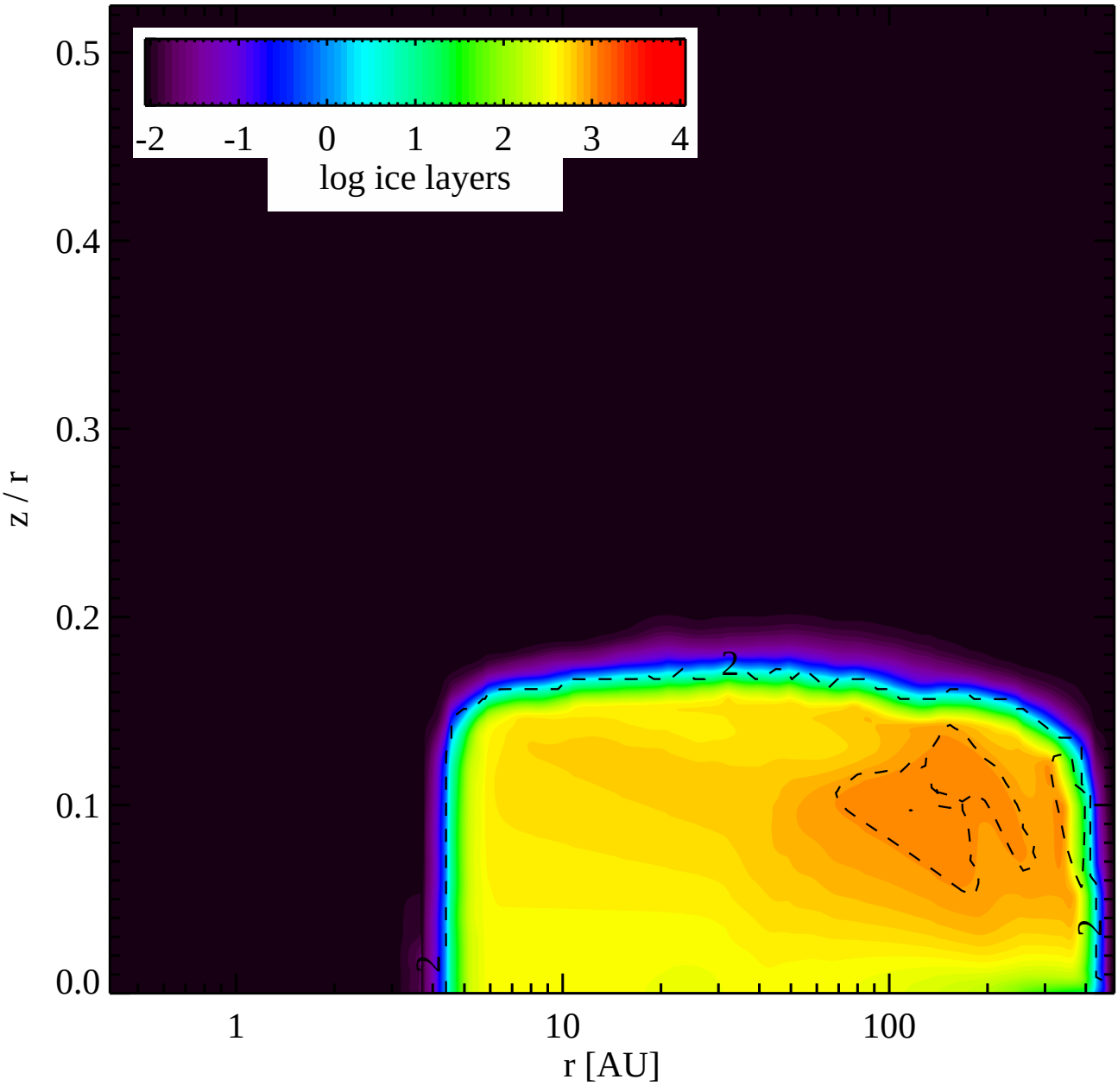

-12
-10
-8
-6
-4
log ε (NH3)
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

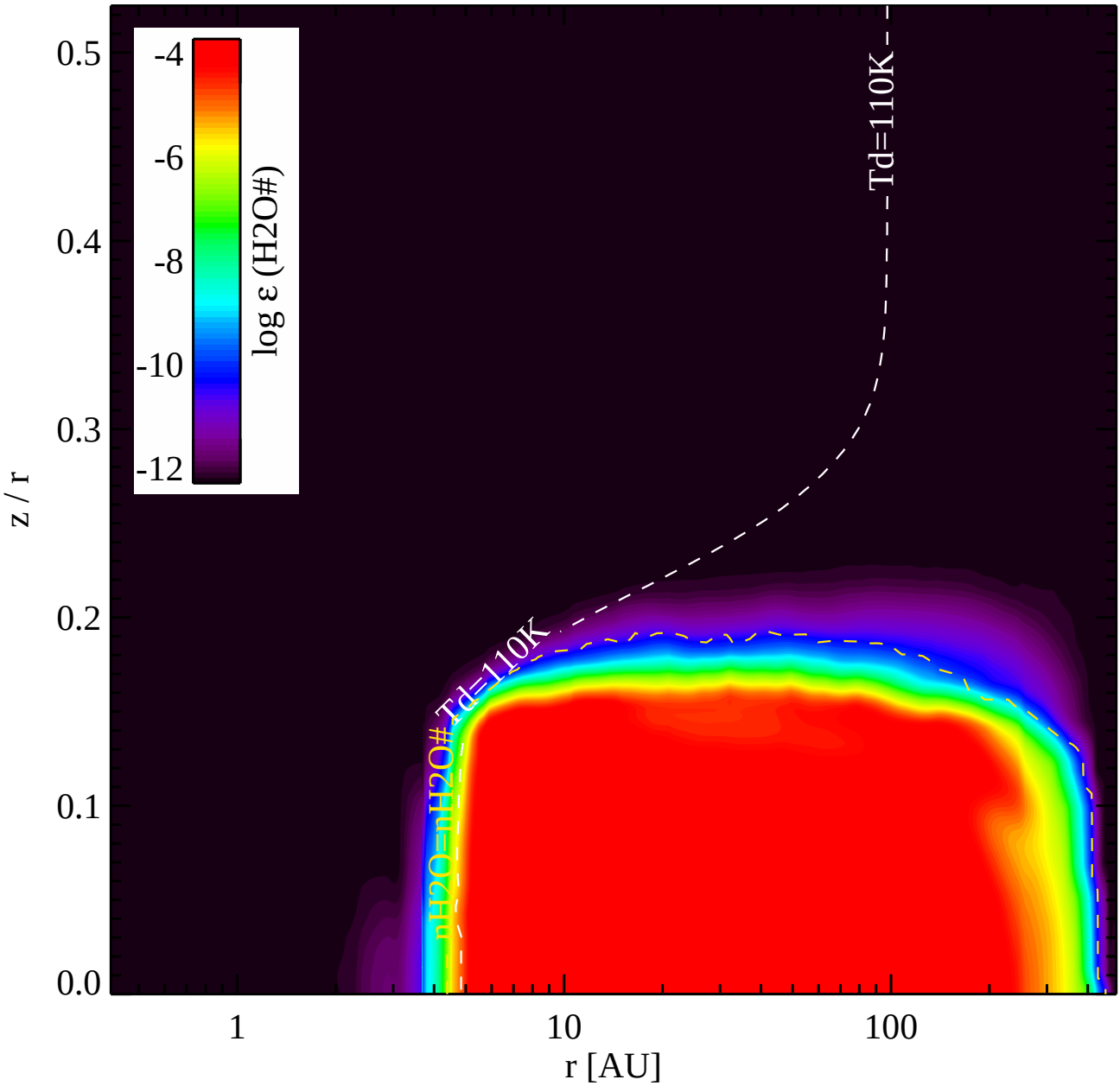

-12
-10
-8
-6
-4
log ε (HCO+)
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

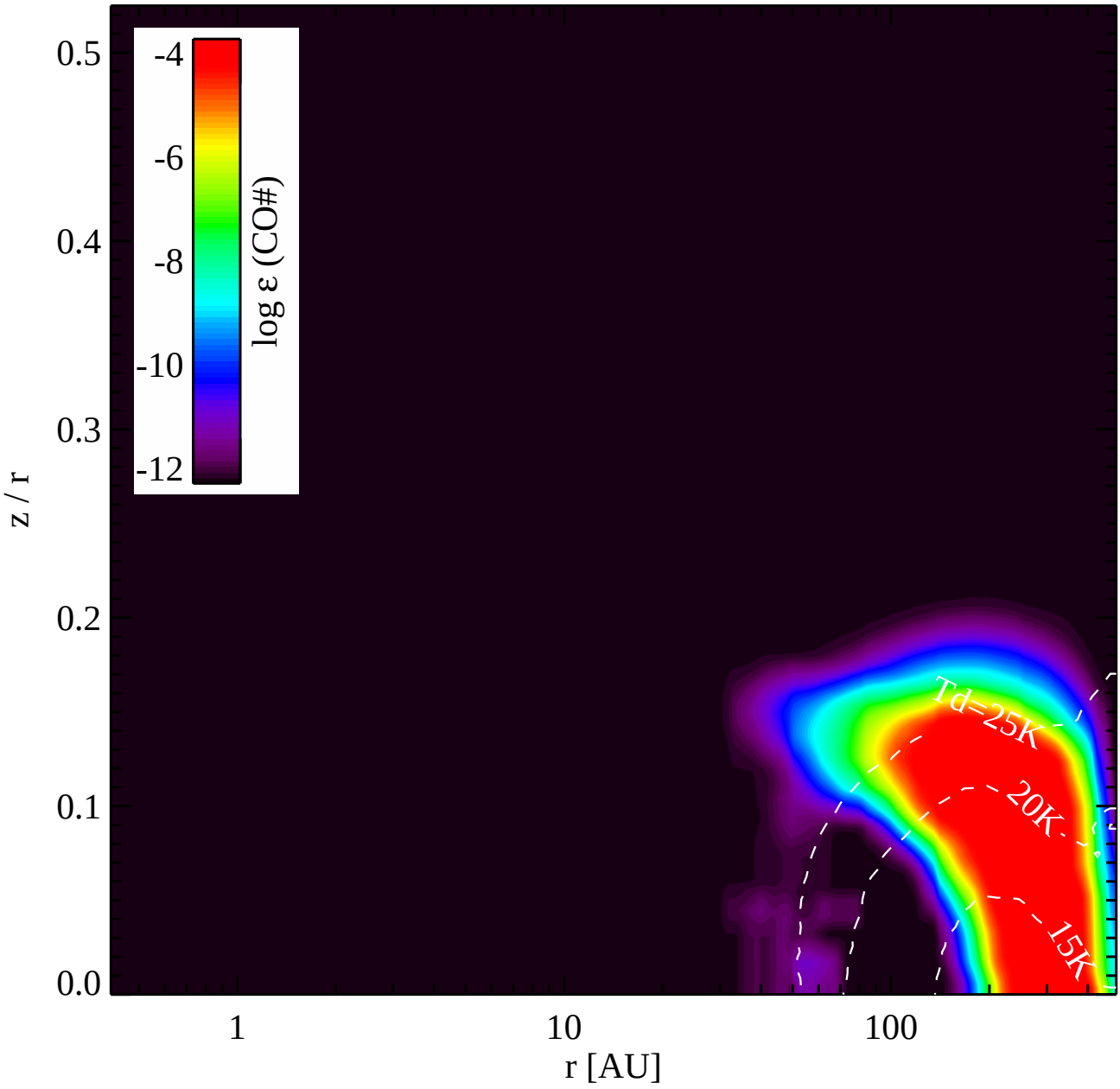

-12
-10
-8
-6
-4
log ε (HN2+)
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

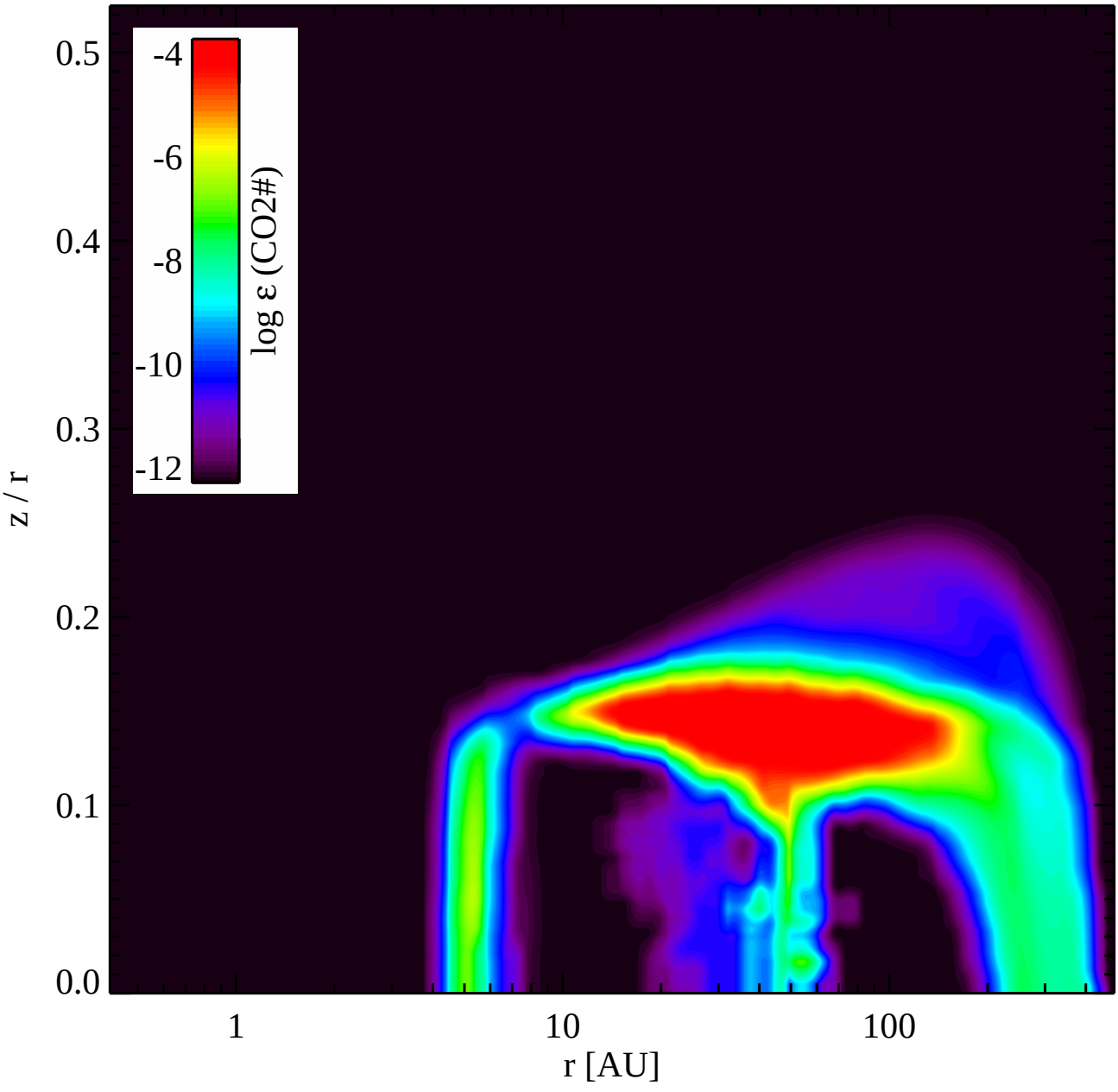

-12
-10
-8
-6
-4
log ε (CN)
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

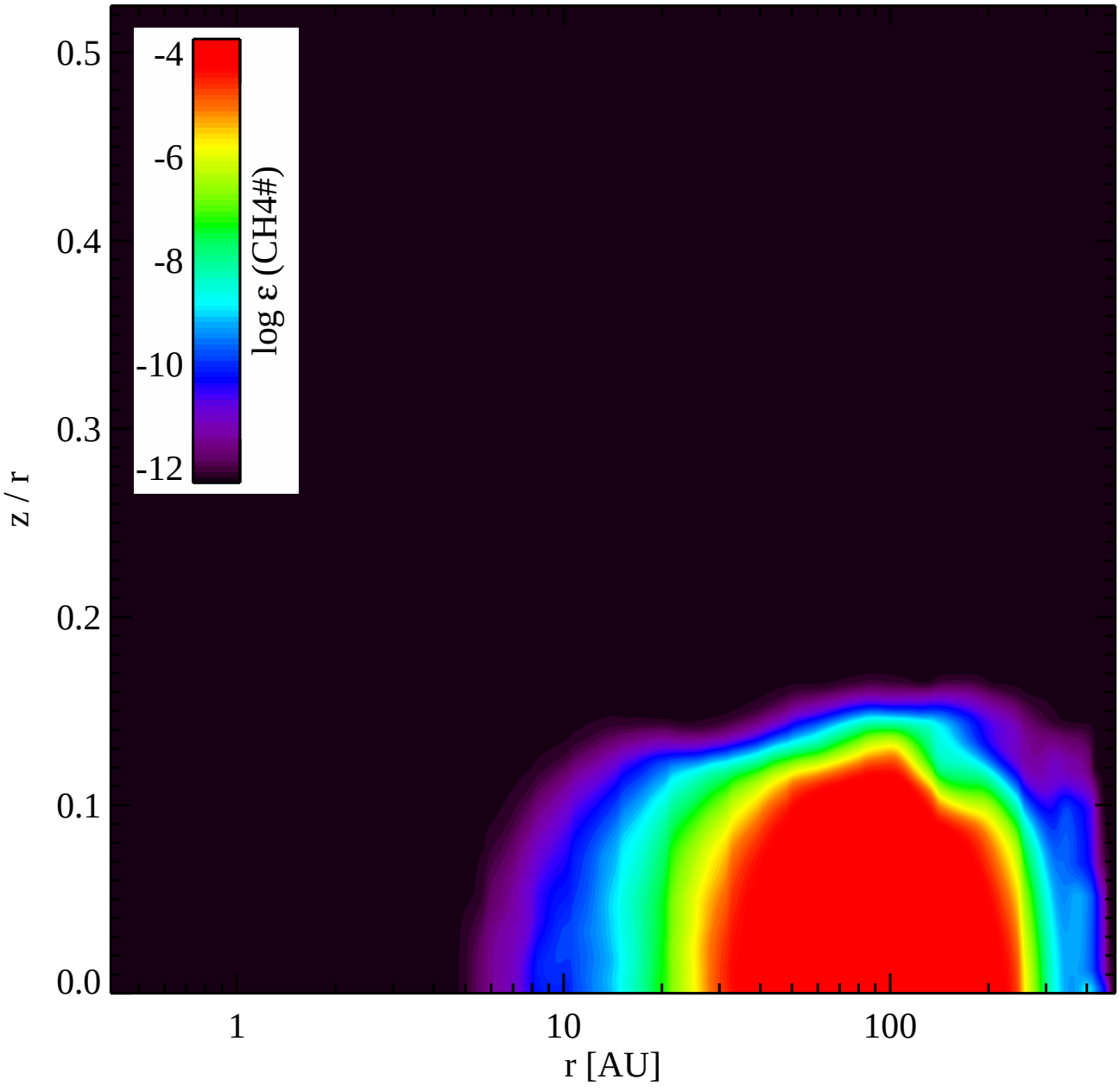

-12
-10
-8
-6
-4
log ε (HCN)
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

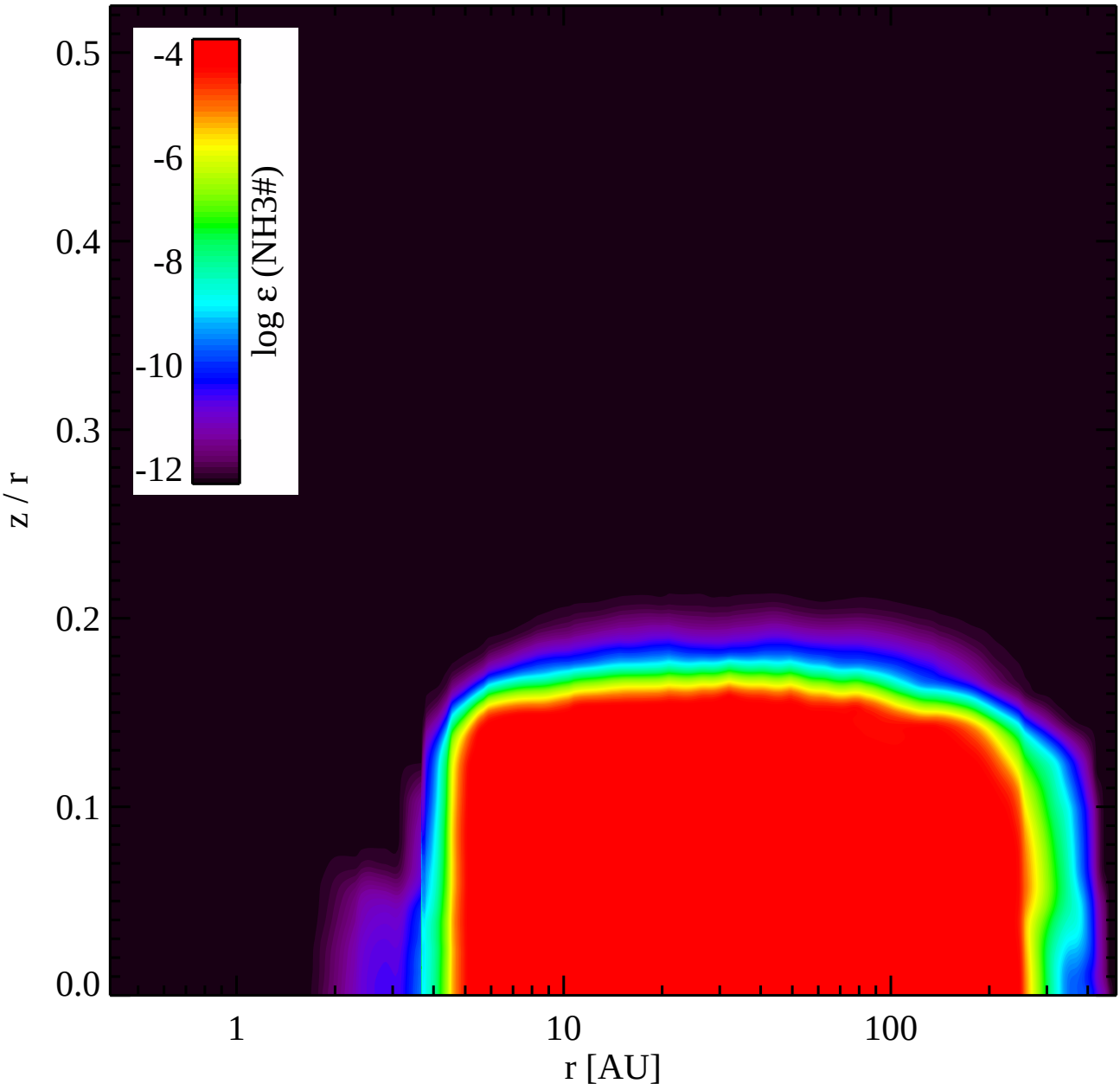

-2
-1
0
1
2
3
4
log ice layers
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]
2
2
2

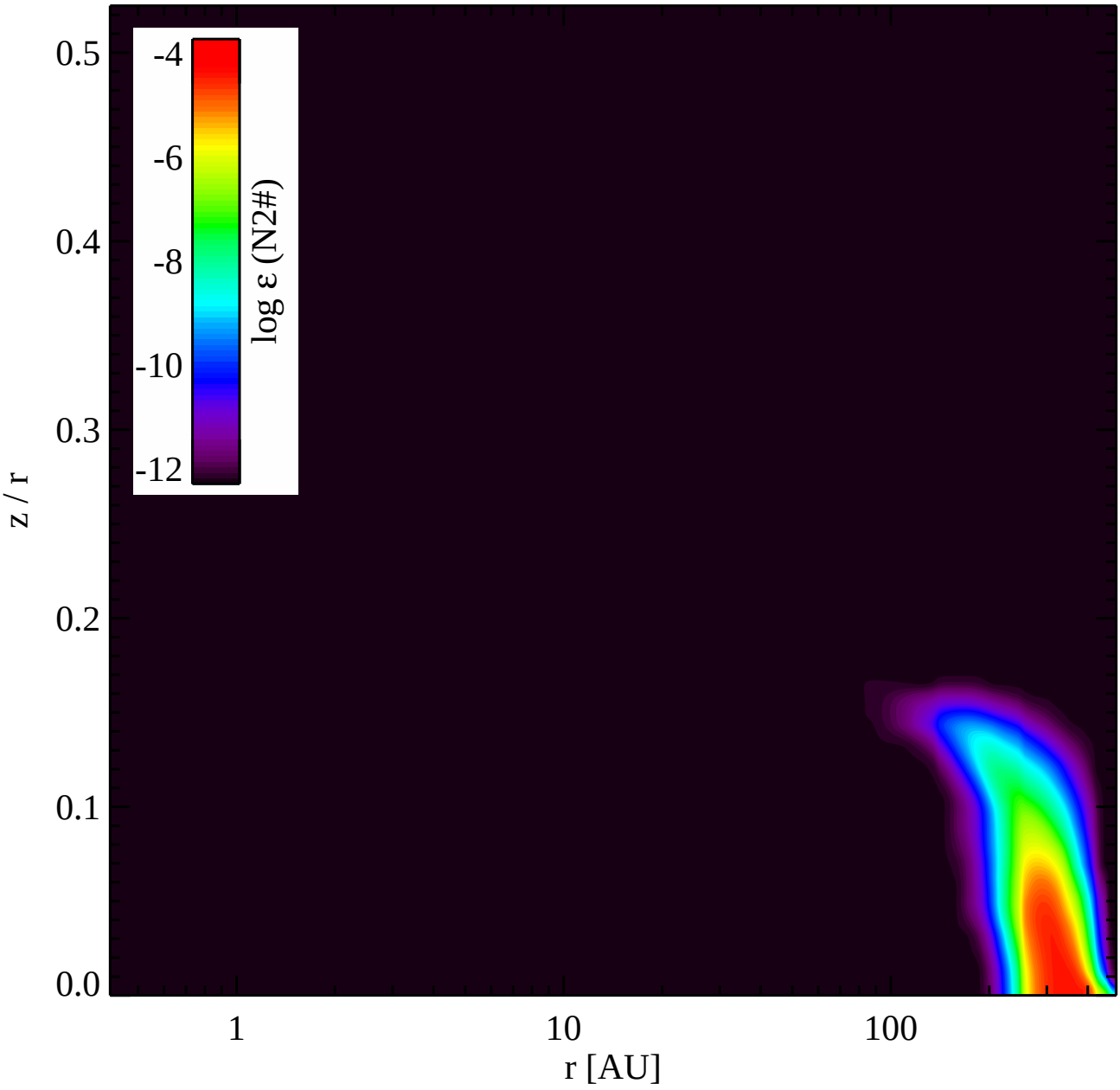

-4
-6
-8
-10
-12
log ε (H2O#)
Td=110K
Td=110K
#O2H=O2H
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

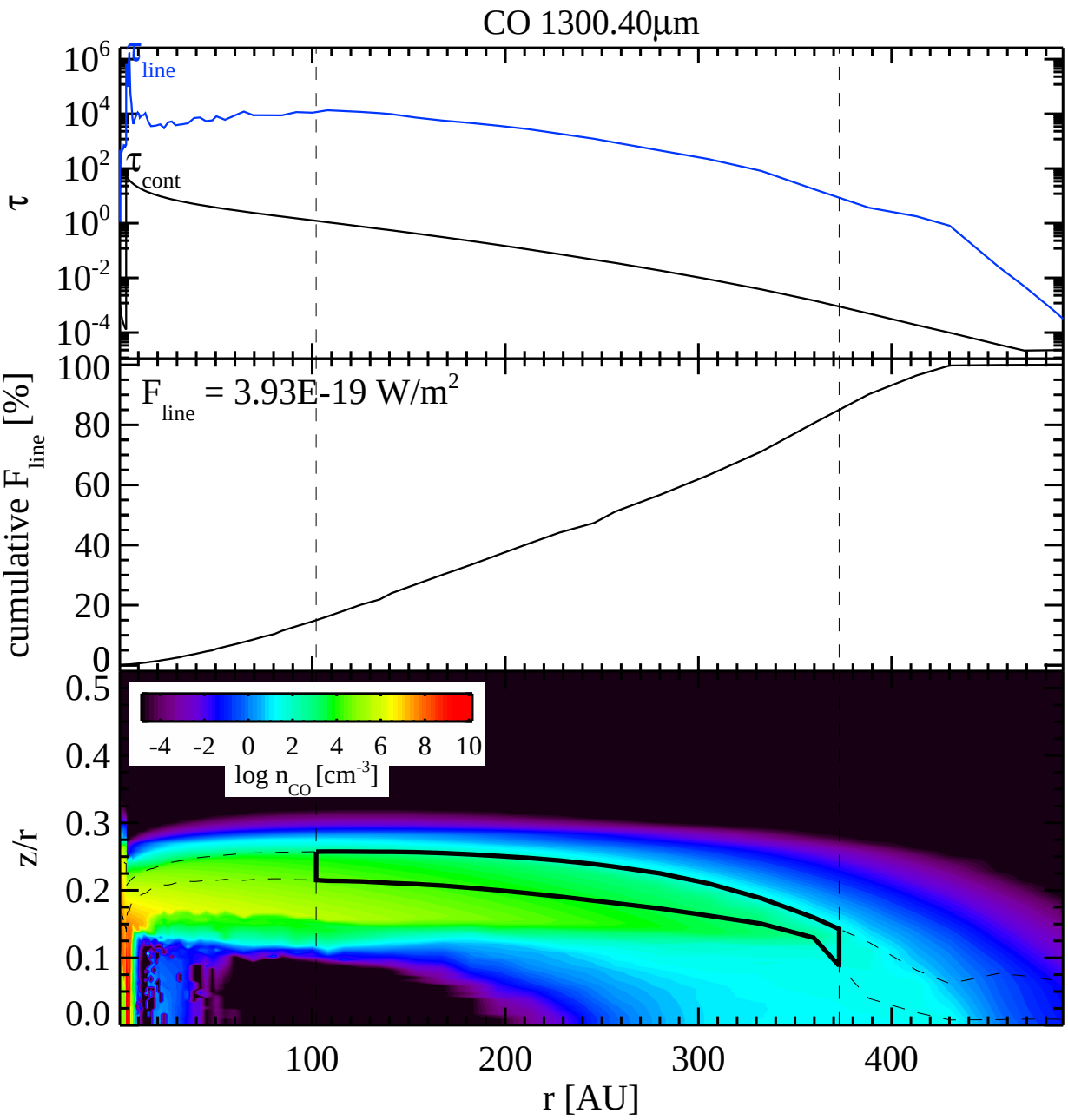

-4
-6
-8
-10
-12
log ε (CO#)
0.5
0.4
0.3
0.2
0.1
0.0
z / r
Td=25K
20K
15K
1
10
100
r [AU]

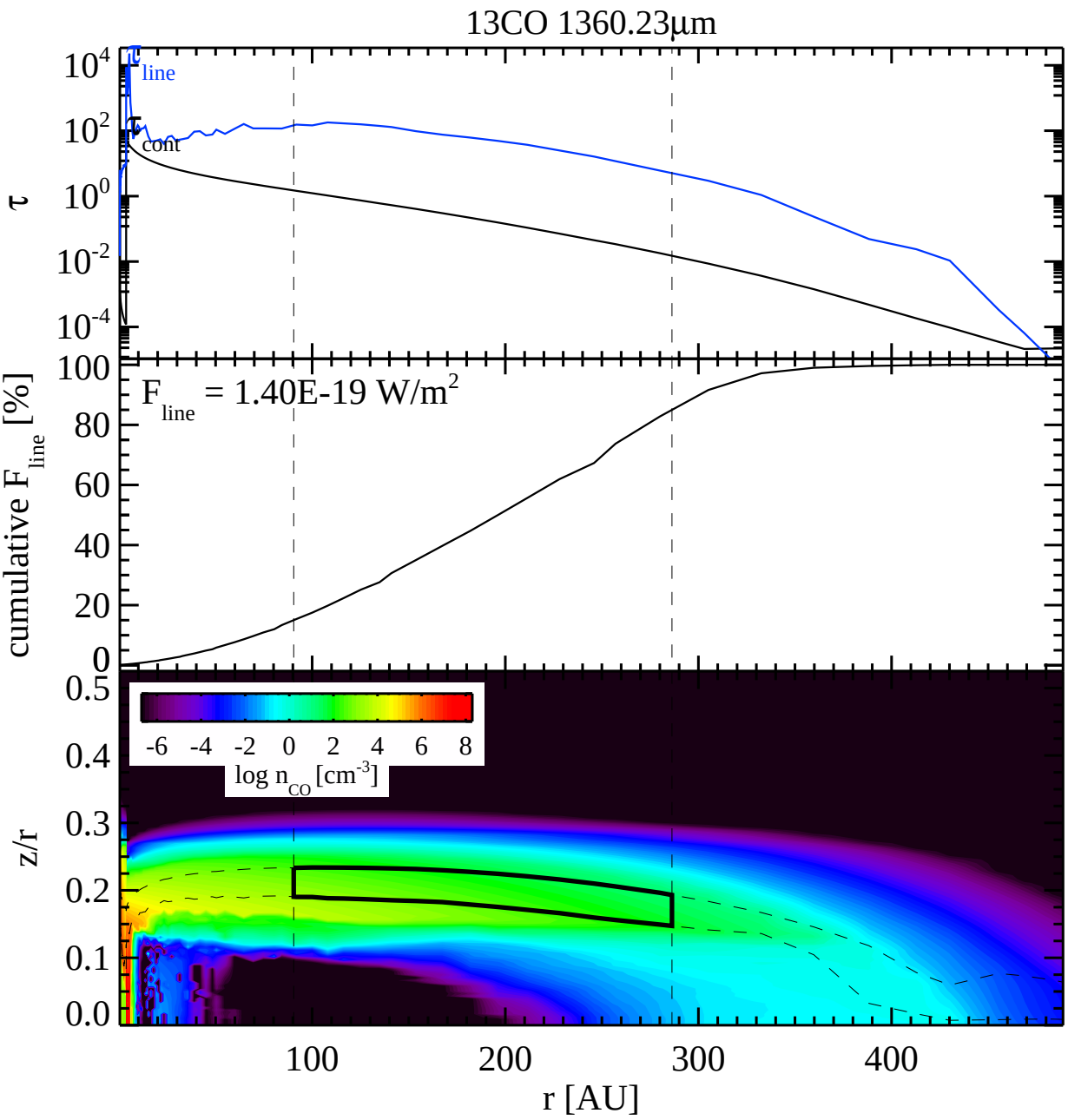

-4
-6
-8
-10
-12
log ε (CO2#)
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

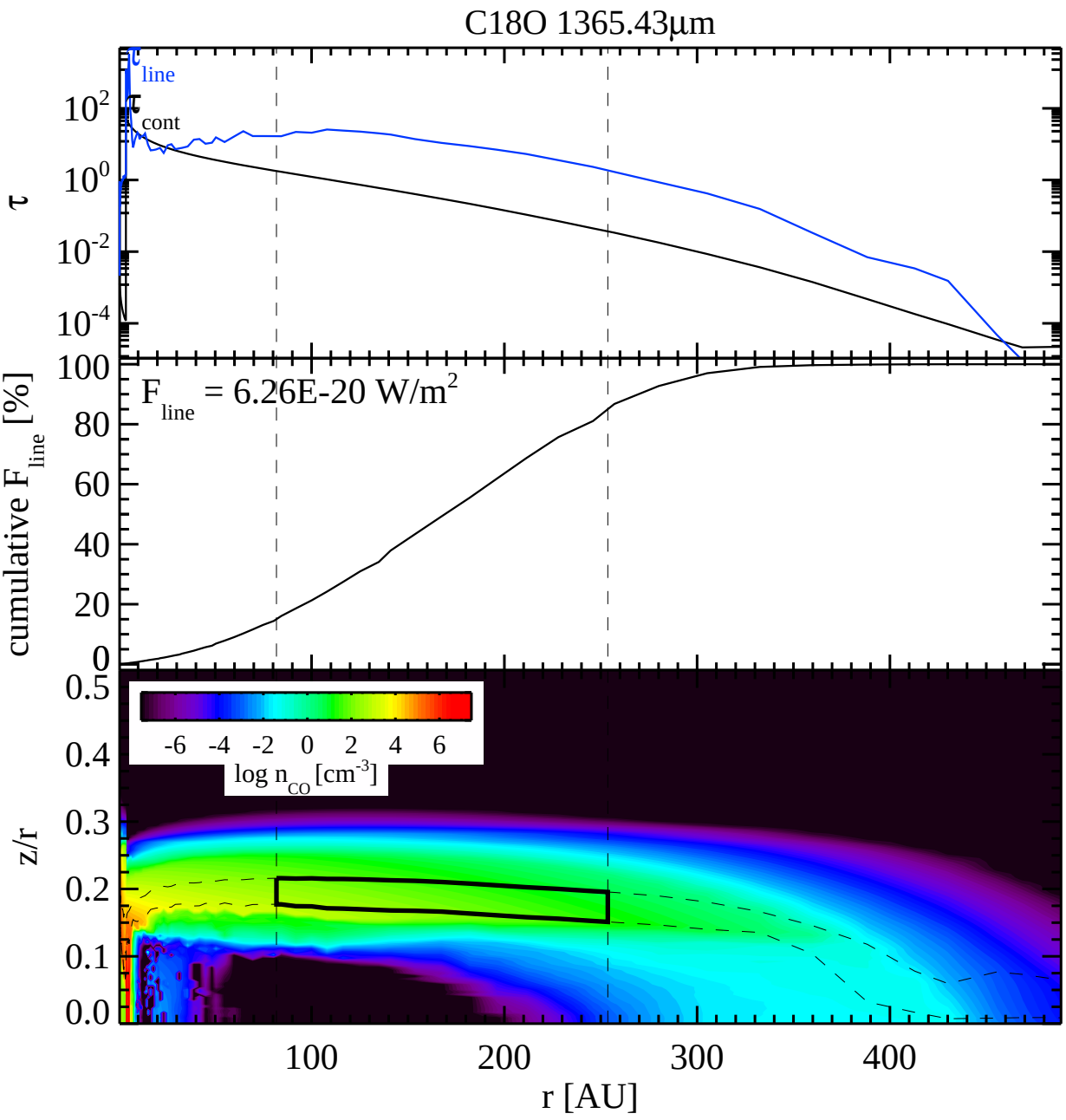

-4
-6
-8
-10
-12
log ε (CH4#)
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

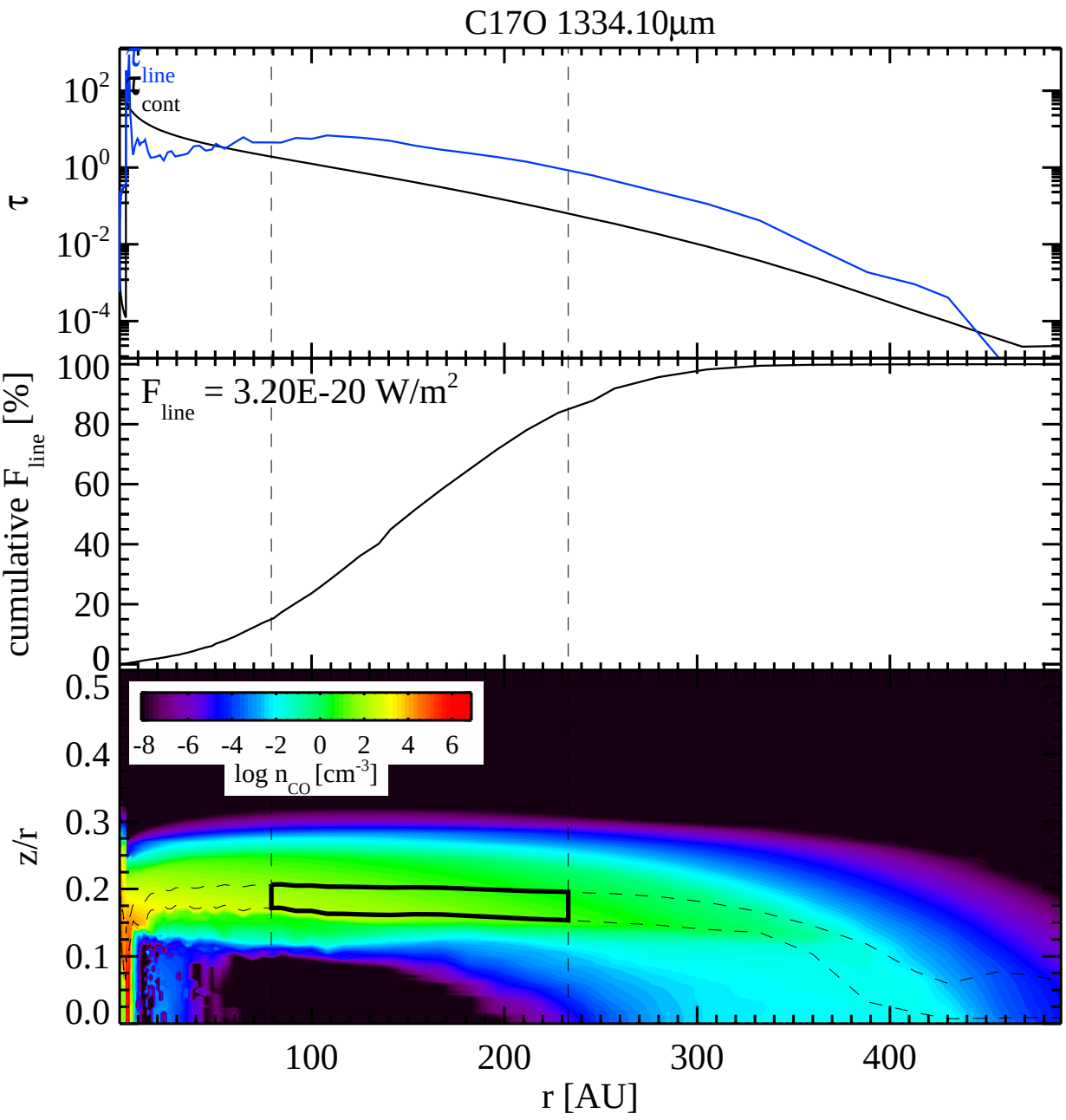

-4
-6
-8
-10
-12
log ε (NH3#)
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

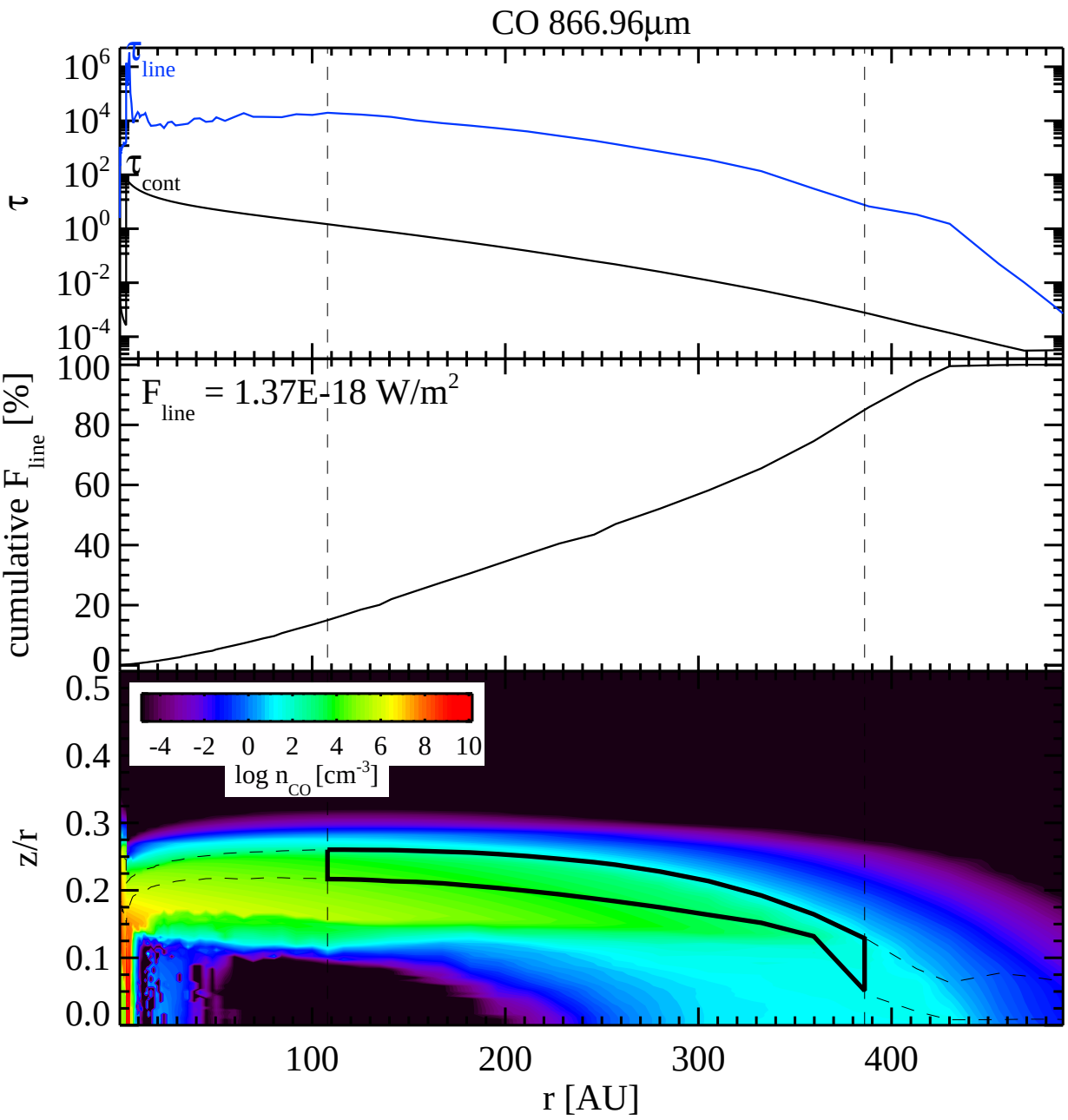

-4
-6
-8
-10
-12
log ε (N2#)
0.5
0.4
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

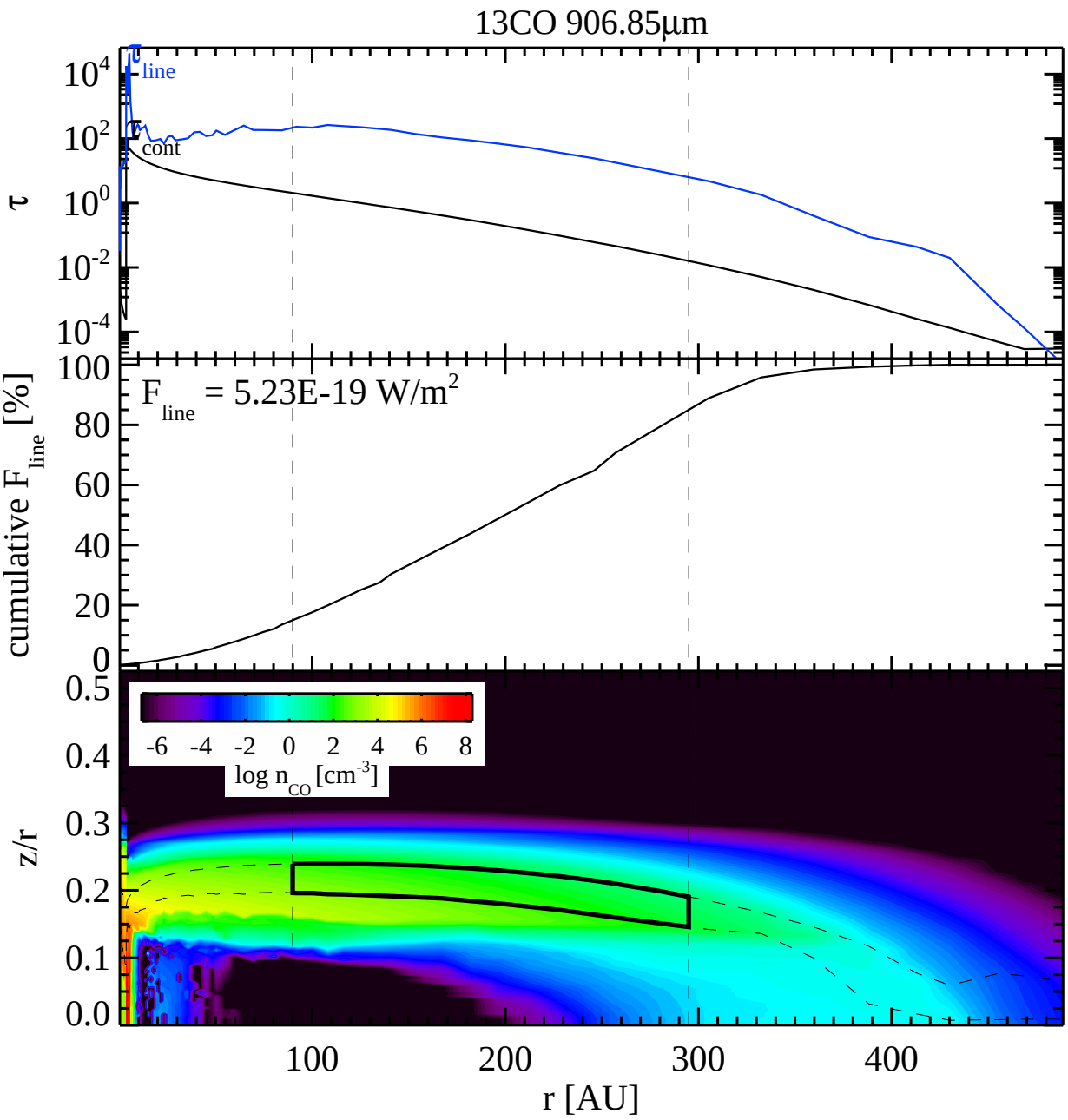

CO 1300.40µm
τ
τ line
τ cont
10^6
10^4
10^2
10^0
10^-2
10^-4
cumulative F line [%]
F line = 3.93E-19 W/m^2
100
80
60
40
20
0
z/r
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n CO [cm^-3]
100
200
300
400
r [AU]

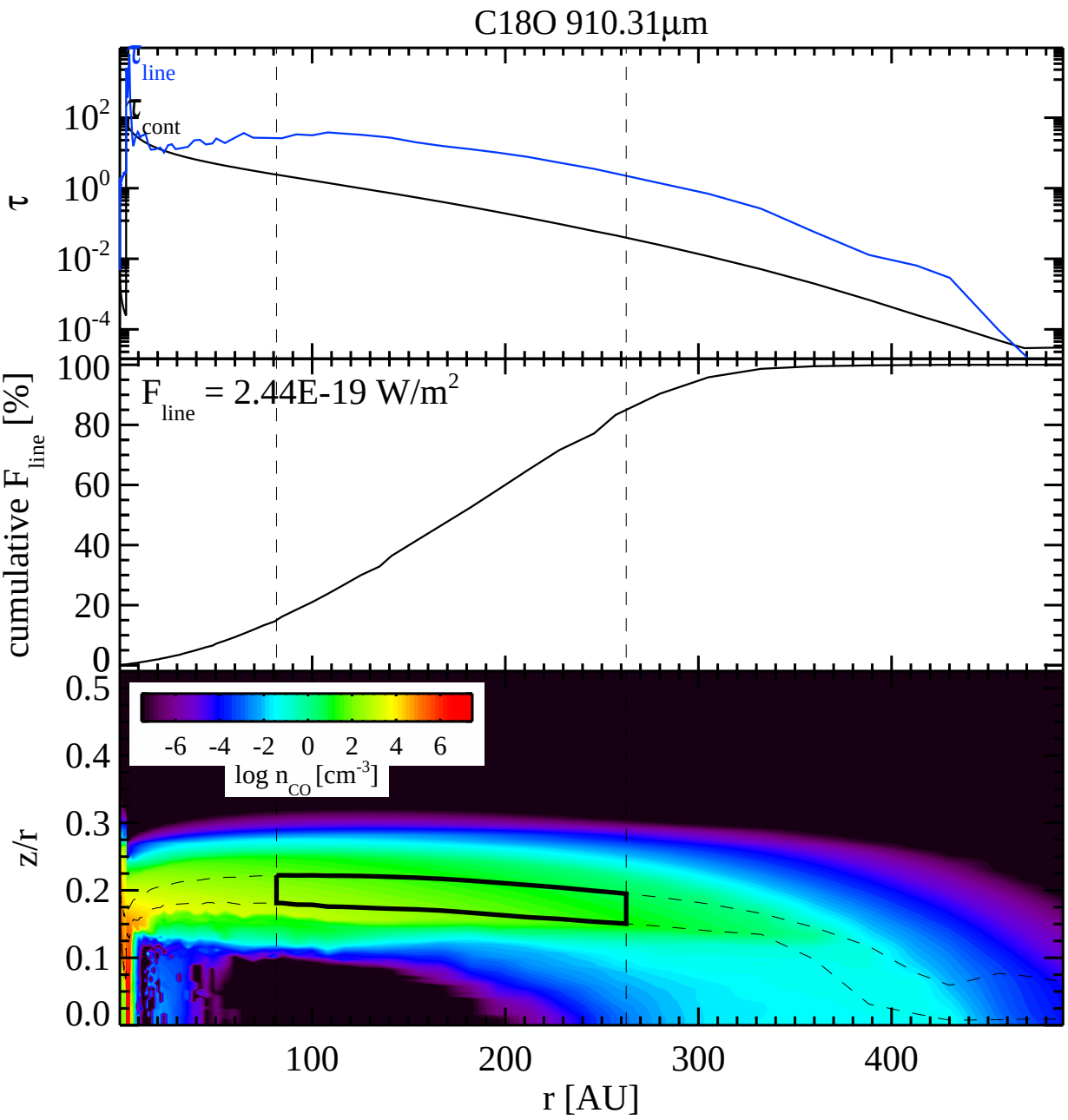

13CO 1360.23µm
τ
line
cont
cumulative F line [%]
F line = 1.40E-19 W/m2
log n CO [cm-3]
z/r
r [AU]

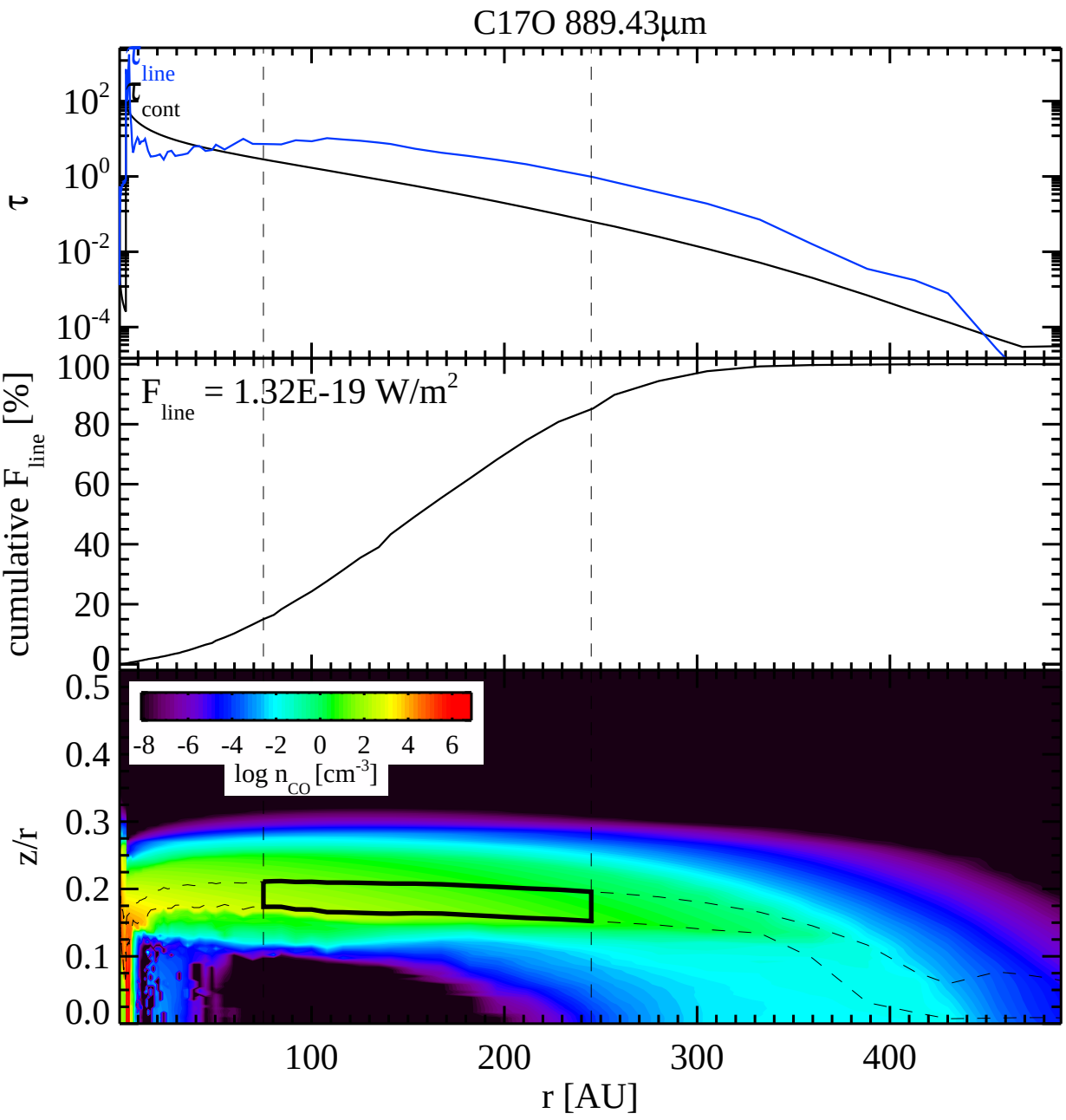

C18O 1365.43µm
τ line
τ cont
τ
10^2
10^0
10^-2
10^-4
F_line = 6.26E-20 W/m^2
cumulative F_line [%]
100
80
60
40
20
0
-6 -4 -2 0 2 4 6
log n_CO [cm^-3]
z/r
0.5
0.4
0.3
0.2
0.1
0.0
100
200
300
400
r [AU]

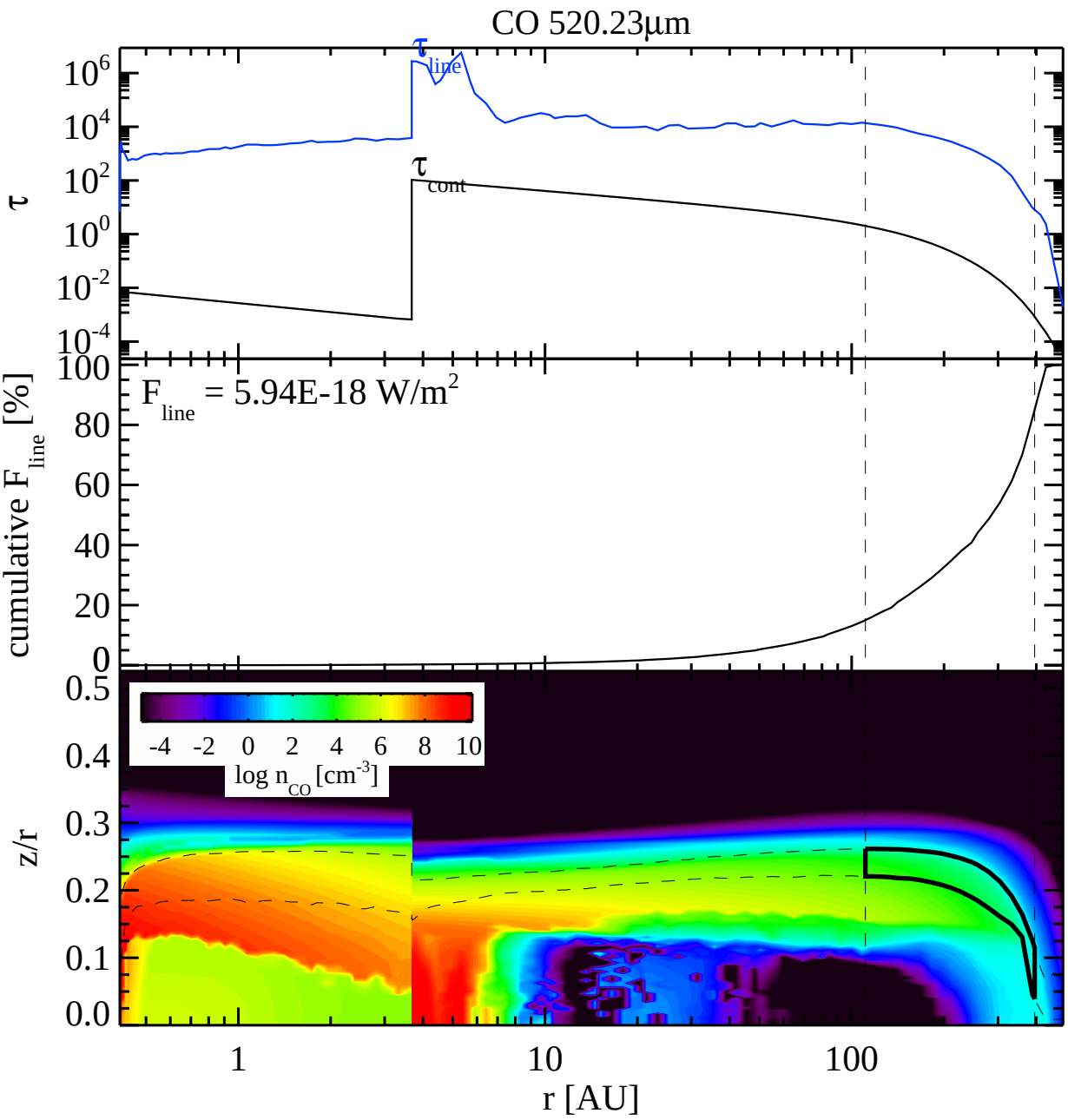

C17O 1334.10µm
τ line
τ cont
τ
cumulative F line [%]
F line = 3.20E-20 W/m2
log n CO [cm-3]
z/r
r [AU]

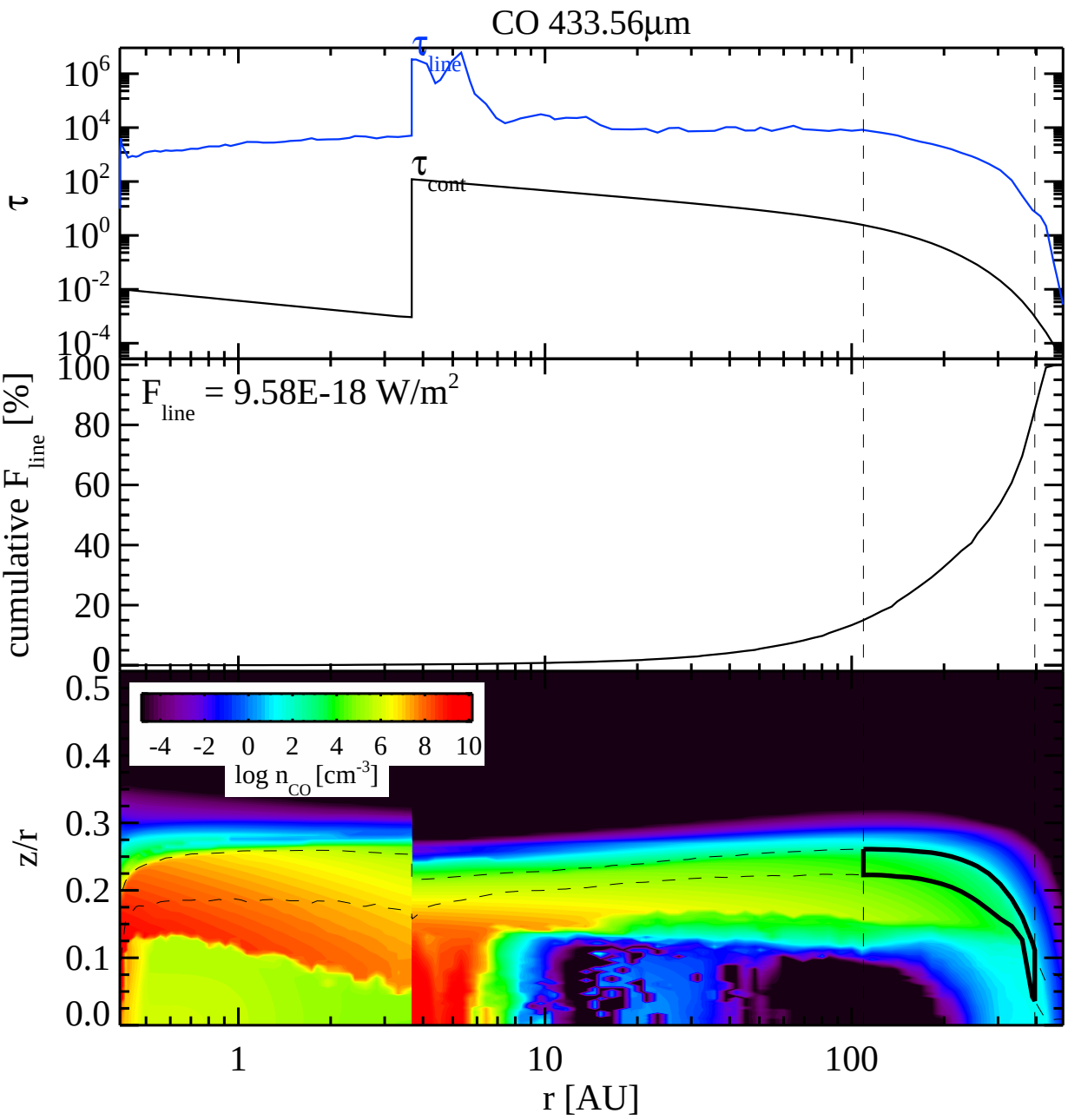

CO 866.96µm
τ
τ line
τ cont
cumulative F line [%]
F line = 1.37E-18 W/m2
log n CO [cm-3]
z/r
r [AU]

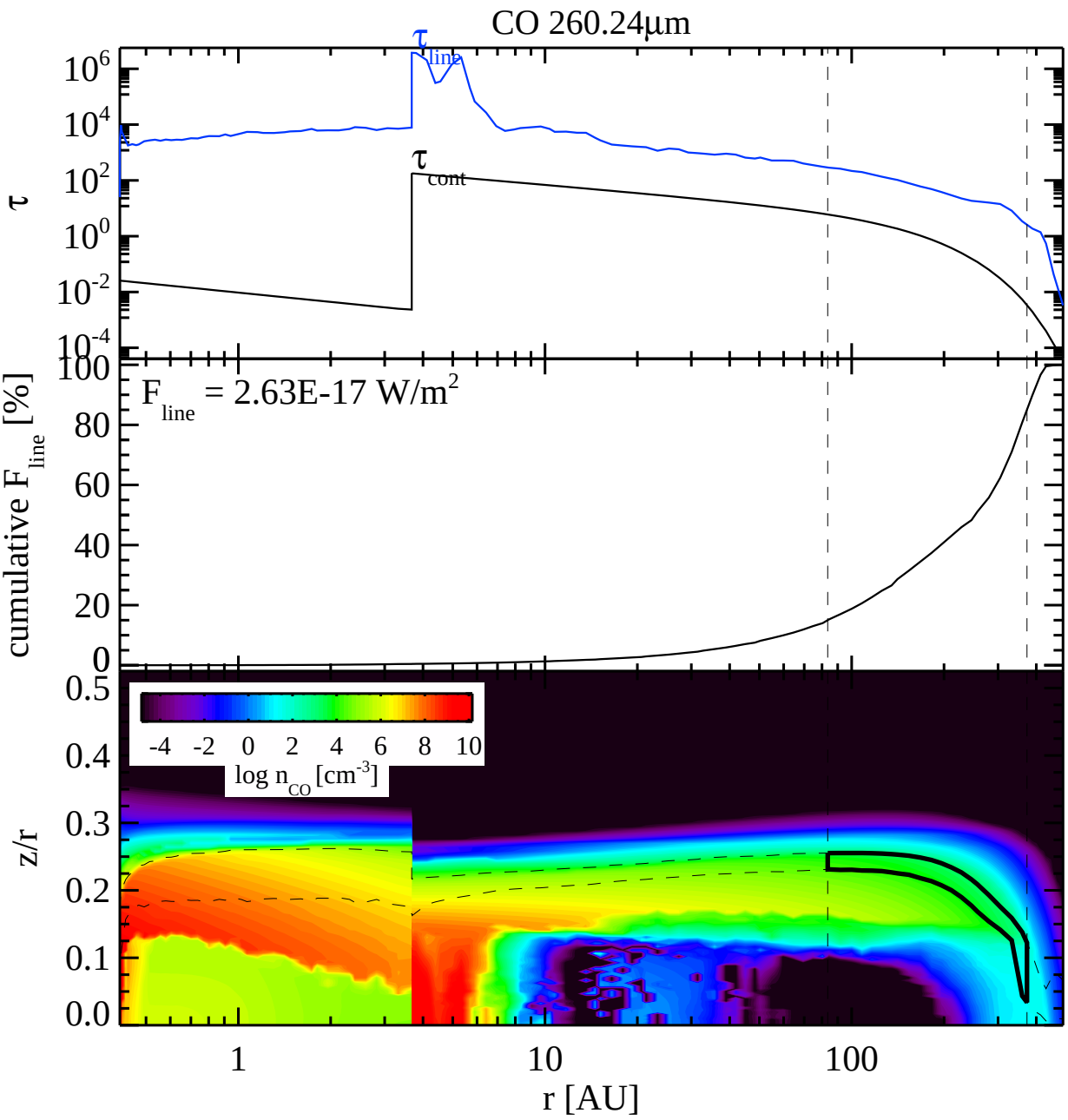

13CO 906.85µm
τ
τ line
τ cont
cumulative F line [%]
F line = 5.23E-19 W/m2
log n CO [cm-3]
z/r
r [AU]

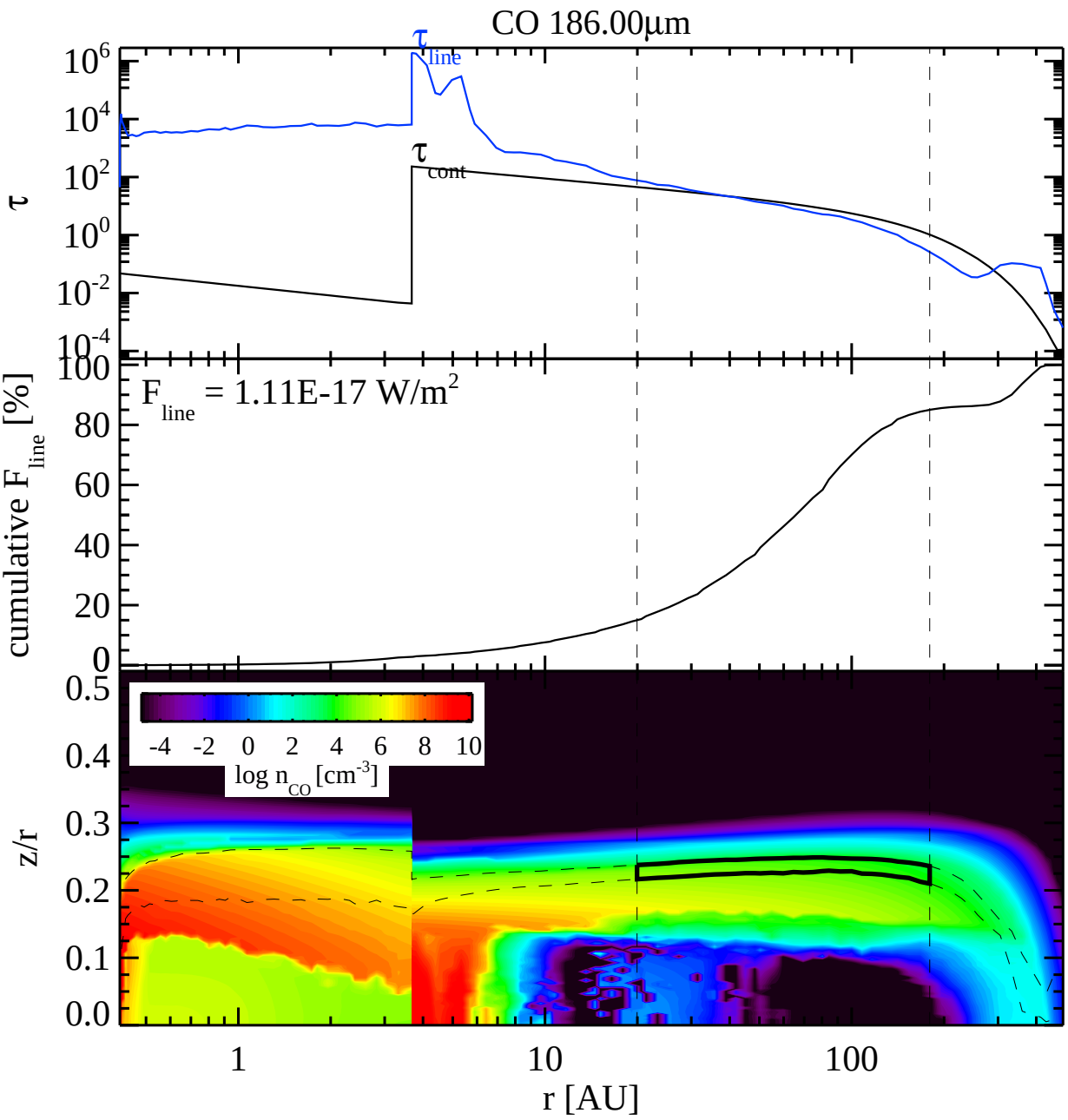

C18O 910.31µm
τ line
τ cont
τ
10^2
10^0
10^-2
10^-4
F line = 2.44E-19 W/m^2
cumulative F line [%]
100
80
60
40
20
0
-6 -4 -2 0 2 4 6
log n CO [cm^-3]
z/r
0.5
0.4
0.3
0.2
0.1
0.0
100
200
300
400
r [AU]

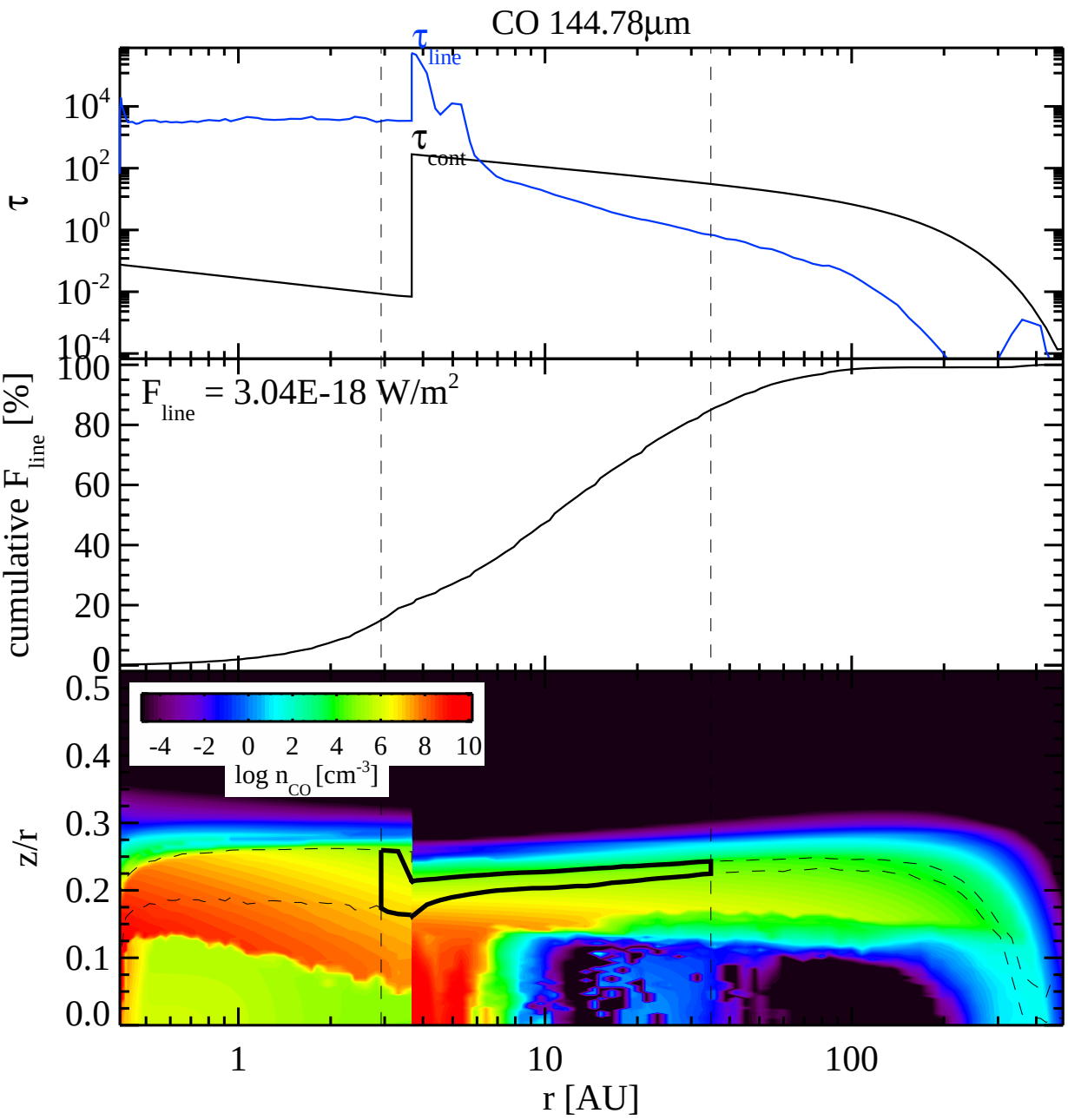

C17O 889.43µm
τ line
τ cont
τ
10^2
10^0
10^-2
10^-4
F line = 1.32E-19 W/m^2
cumulative F line [%]
100
80
60
40
20
0
-8 -6 -4 -2 0 2 4 6
log n CO [cm^-3]
z/r
0.5
0.4
0.3
0.2
0.1
0.0
100
200
300
400
r [AU]

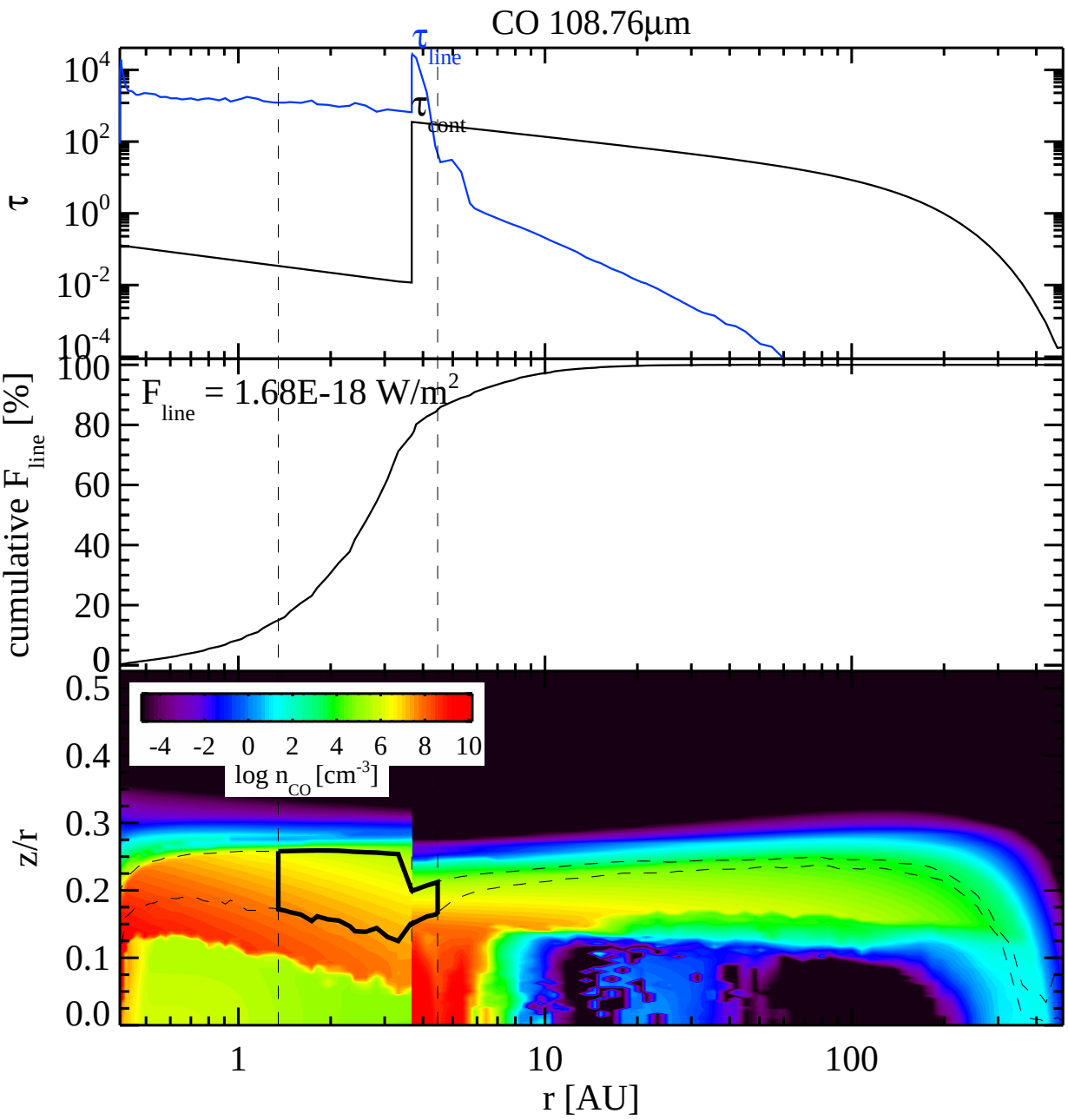

CO 520.23µm
τ
τ line
τ cont
cumulative F line [%]
F line = 5.94E-18 W/m2
z/r
log n CO [cm-3]
-4 -2 0 2 4 6 8 10
r [AU]

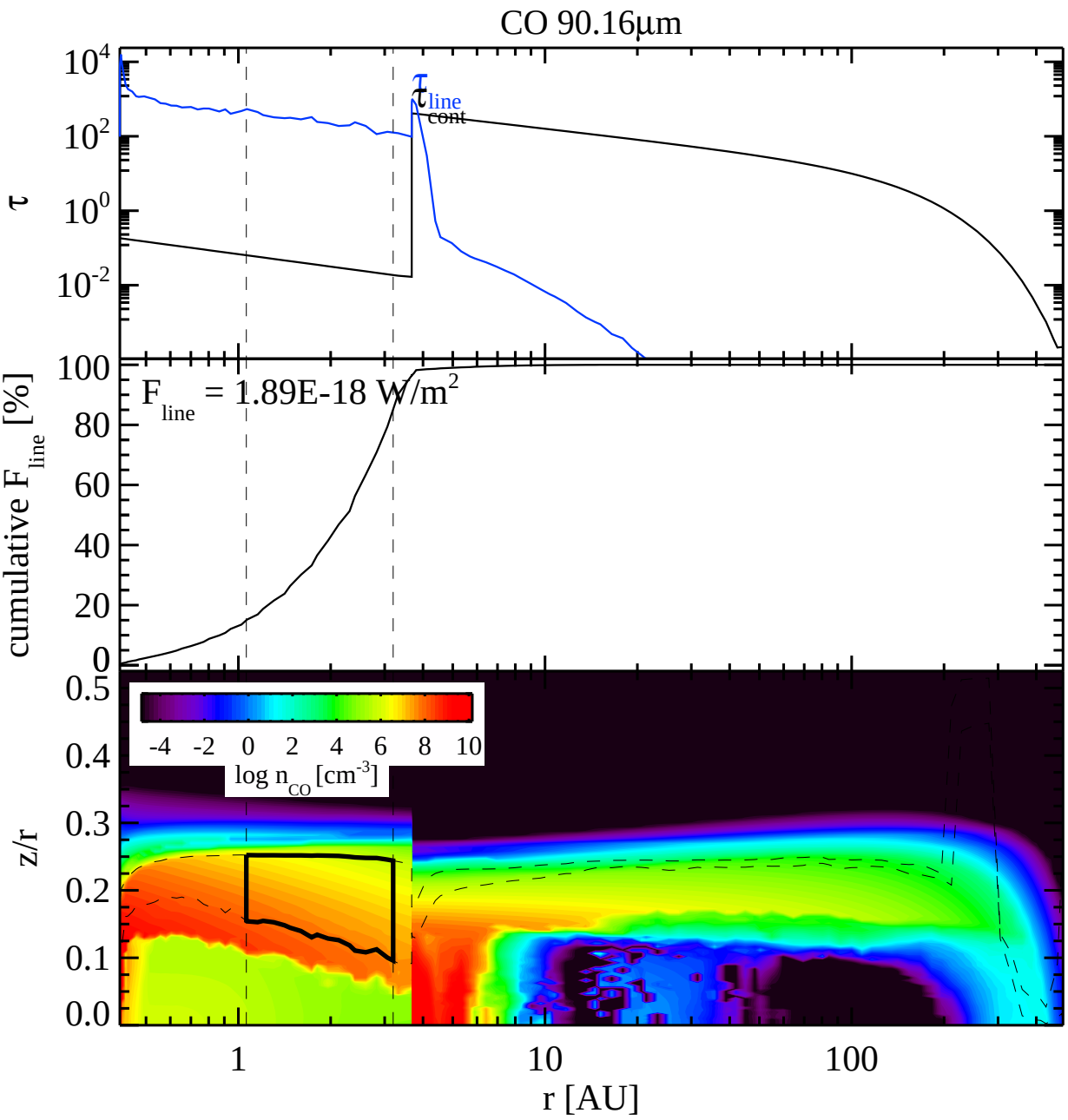

CO 433.56µm
τ
τ line
τ cont
cumulative F line [%]
F line = 9.58E-18 W/m2
log n CO [cm-3]
z/r
r [AU]

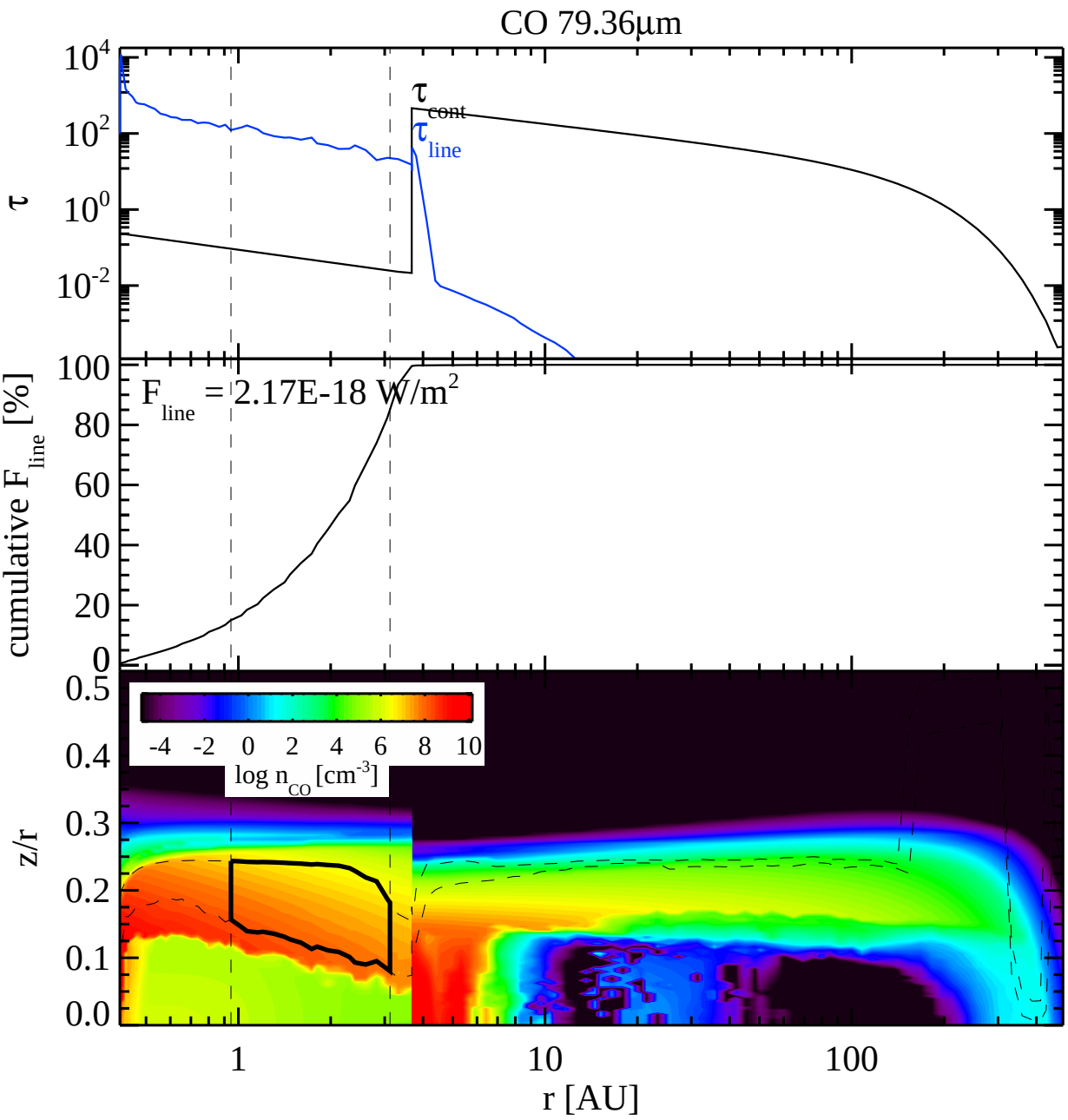

CO 260.24μm
τ line
τ cont
τ
F line = 2.63E-17 W/m2
cumulative F line [%]
log n CO [cm-3]
z/r
r [AU]

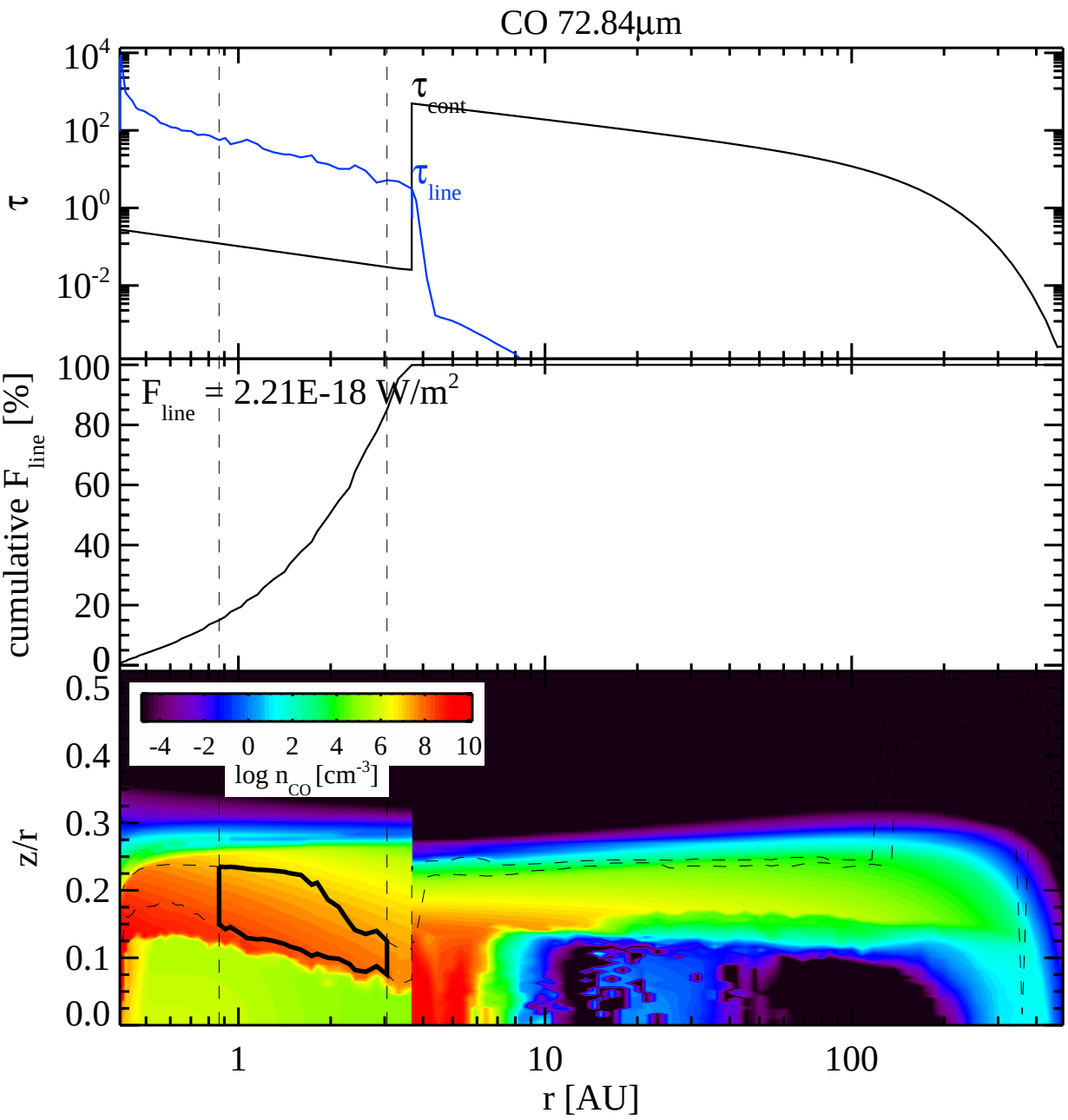

CO 186.00µm
τ line
τ cont
τ
cumulative F line [%]
F line = 1.11E-17 W/m2
log n CO [cm-3]
z/r
r [AU]

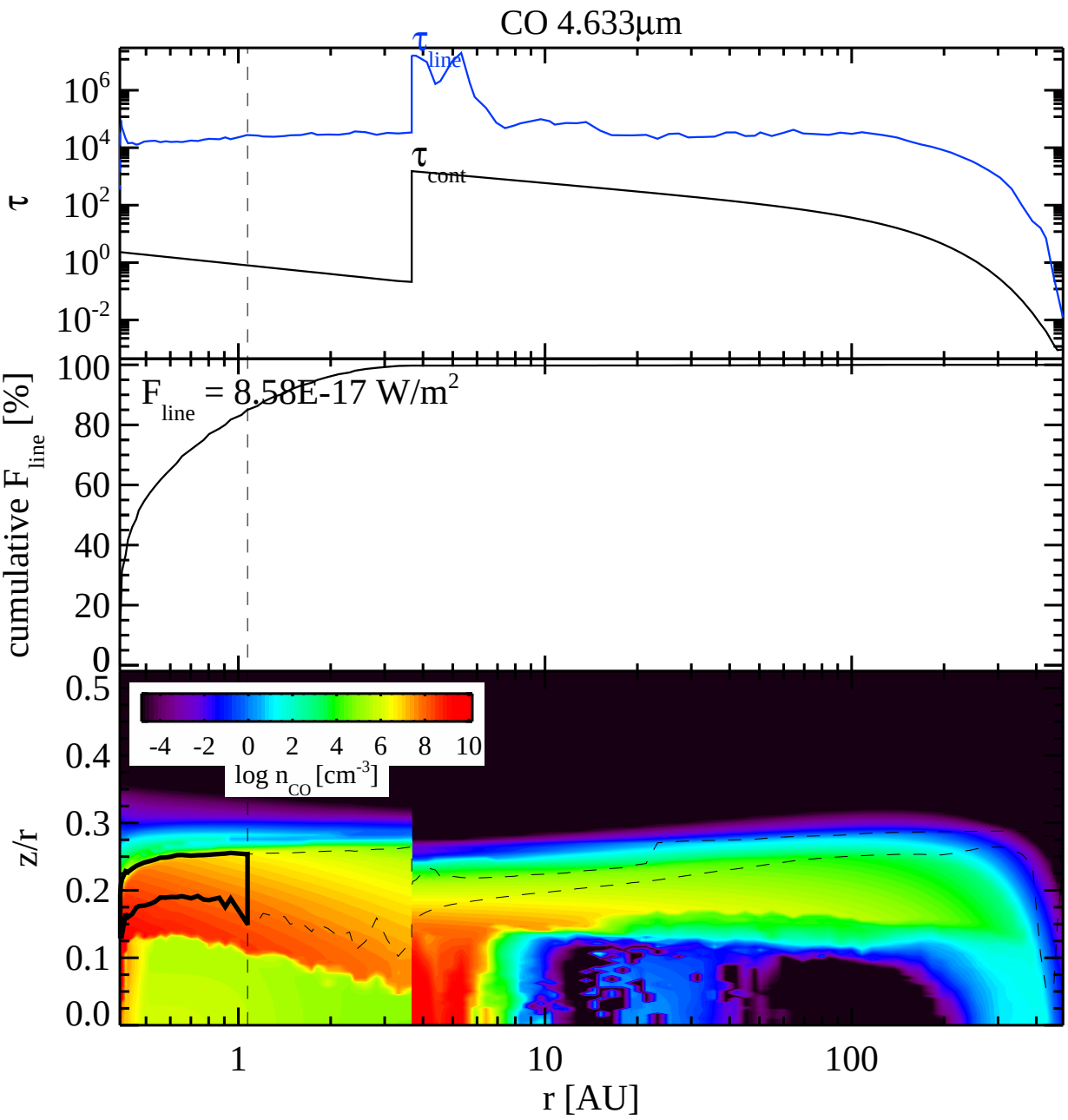

CO 144.78μm
τ line
τ cont
τ
10^4
10^2
10^0
10^-2
10^-4
F line = 3.04E-18 W/m^2
cumulative F line [%]
100
80
60
40
20
0
0.5
0.4
0.3
0.2
0.1
0.0
z/r
-4 -2 0 2 4 6 8 10
log n CO [cm^-3]
1
10
100
r [AU]

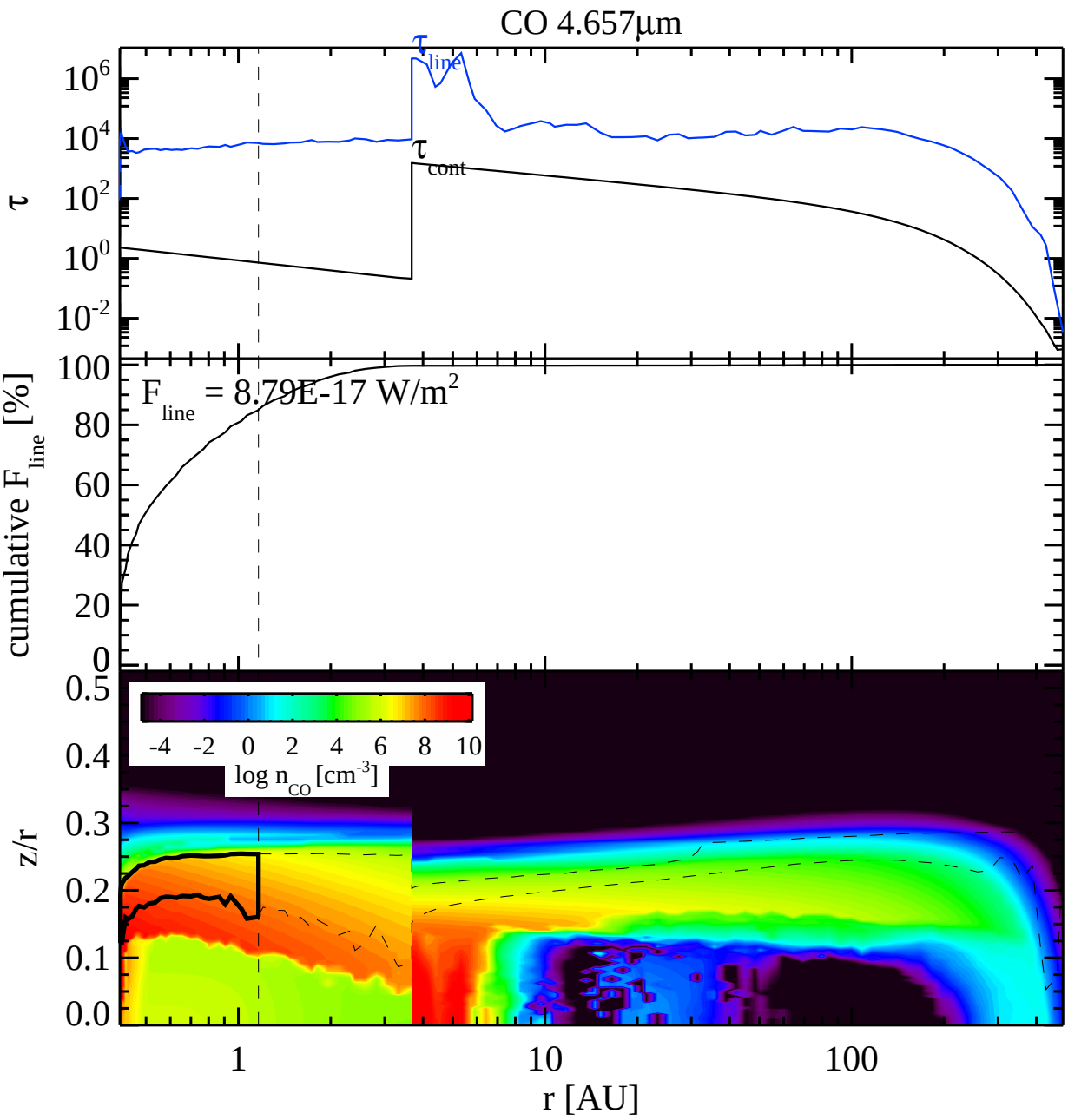

CO 108.76µm
τ line
τ cont
τ
cumulative F line [%]
F line = 1.68E-18 W/m2
log n CO [cm-3]
z/r
r [AU]

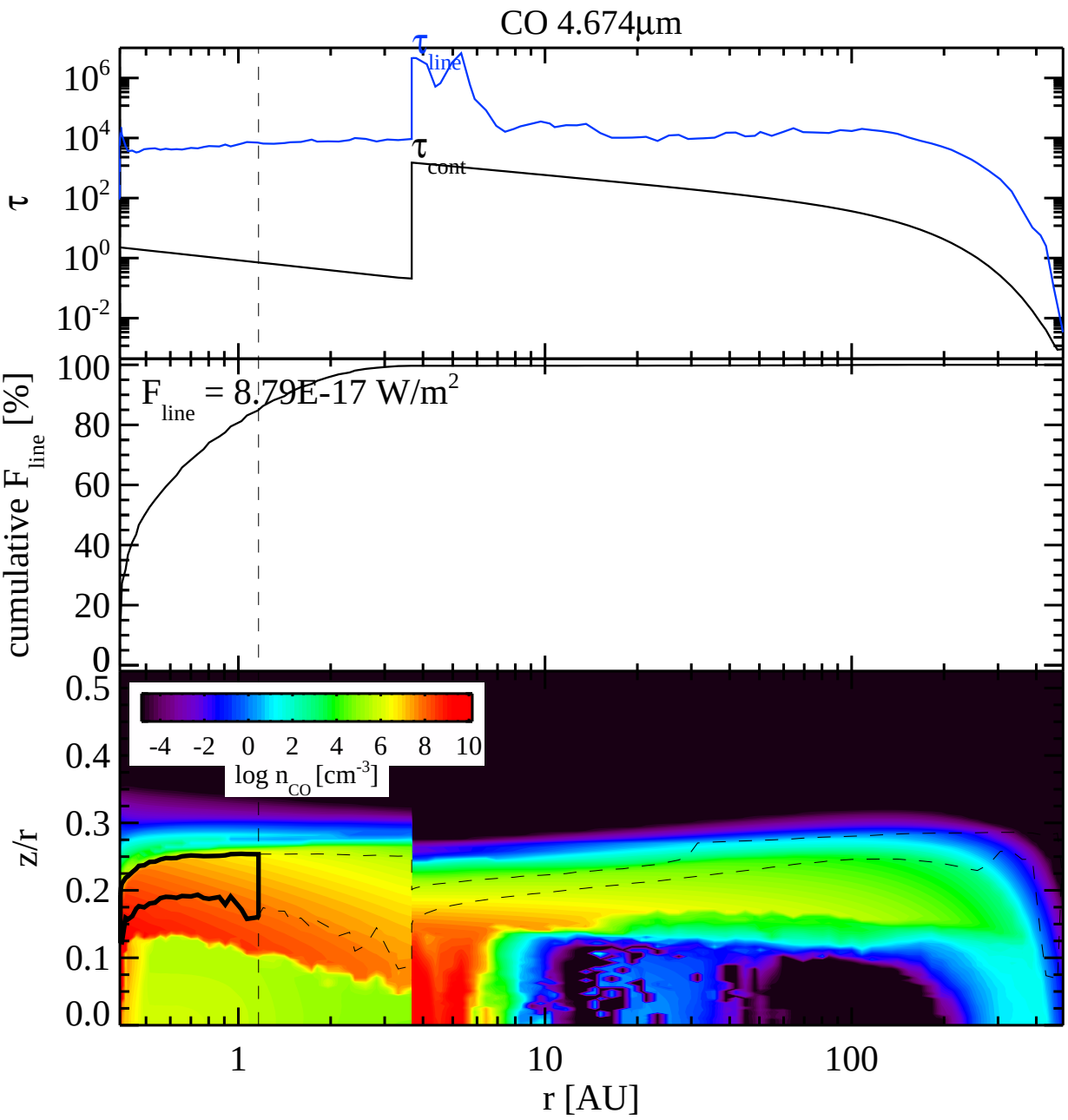

CO 90.16µm
τ
τ line
τ cont
cumulative F line [%]
F line = 1.89E-18 W/m2
log n CO [cm-3]
-4 -2 0 2 4 6 8 10
z/r
r [AU]
1
10
100

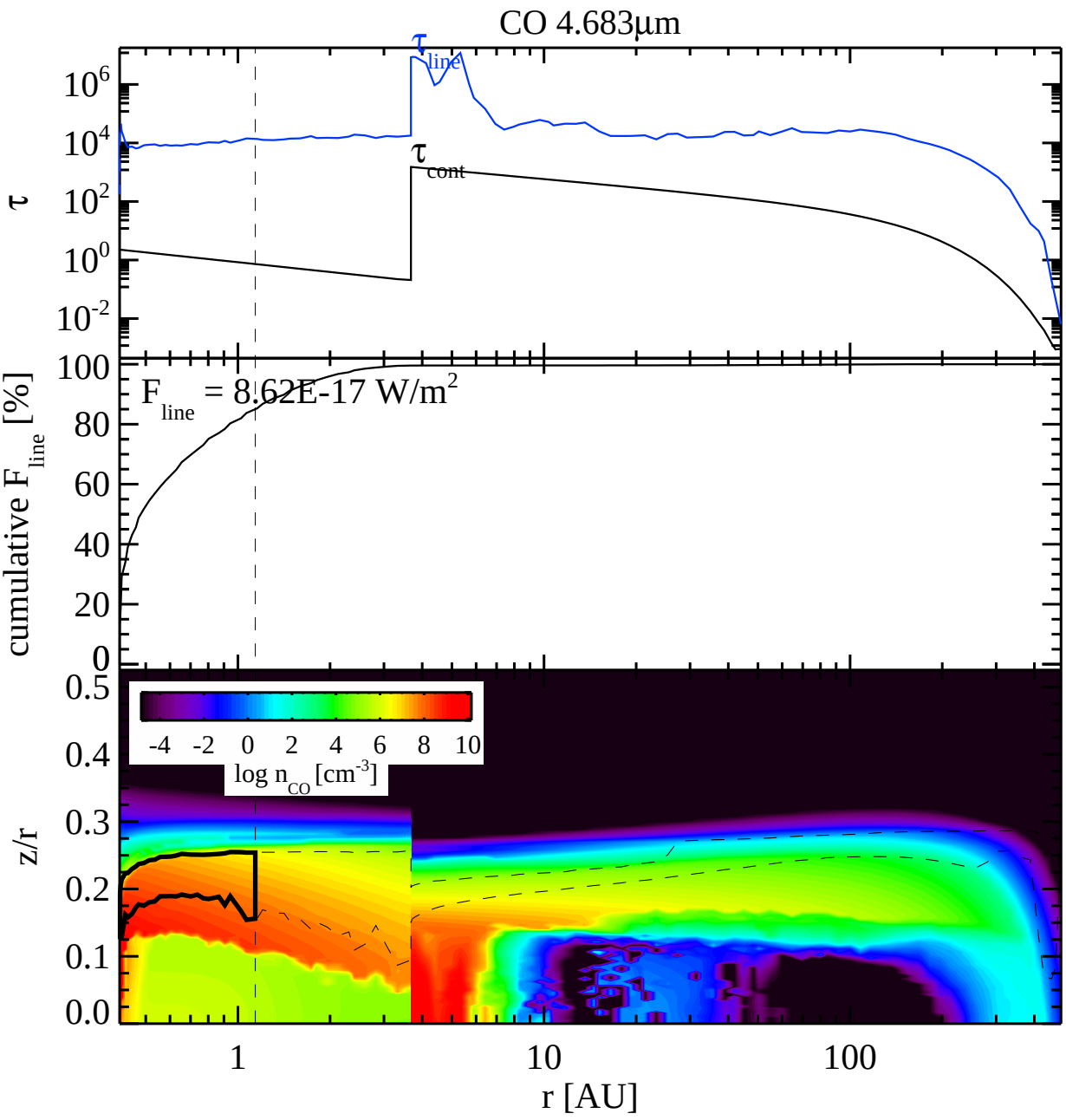

CO 79.36μm
τ
τ cont
τ line
cumulative F line [%]
F line = 2.17E-18 W/m2
log n CO [cm-3]
-4 -2 0 2 4 6 8 10
z/r
r [AU]
1
10
100

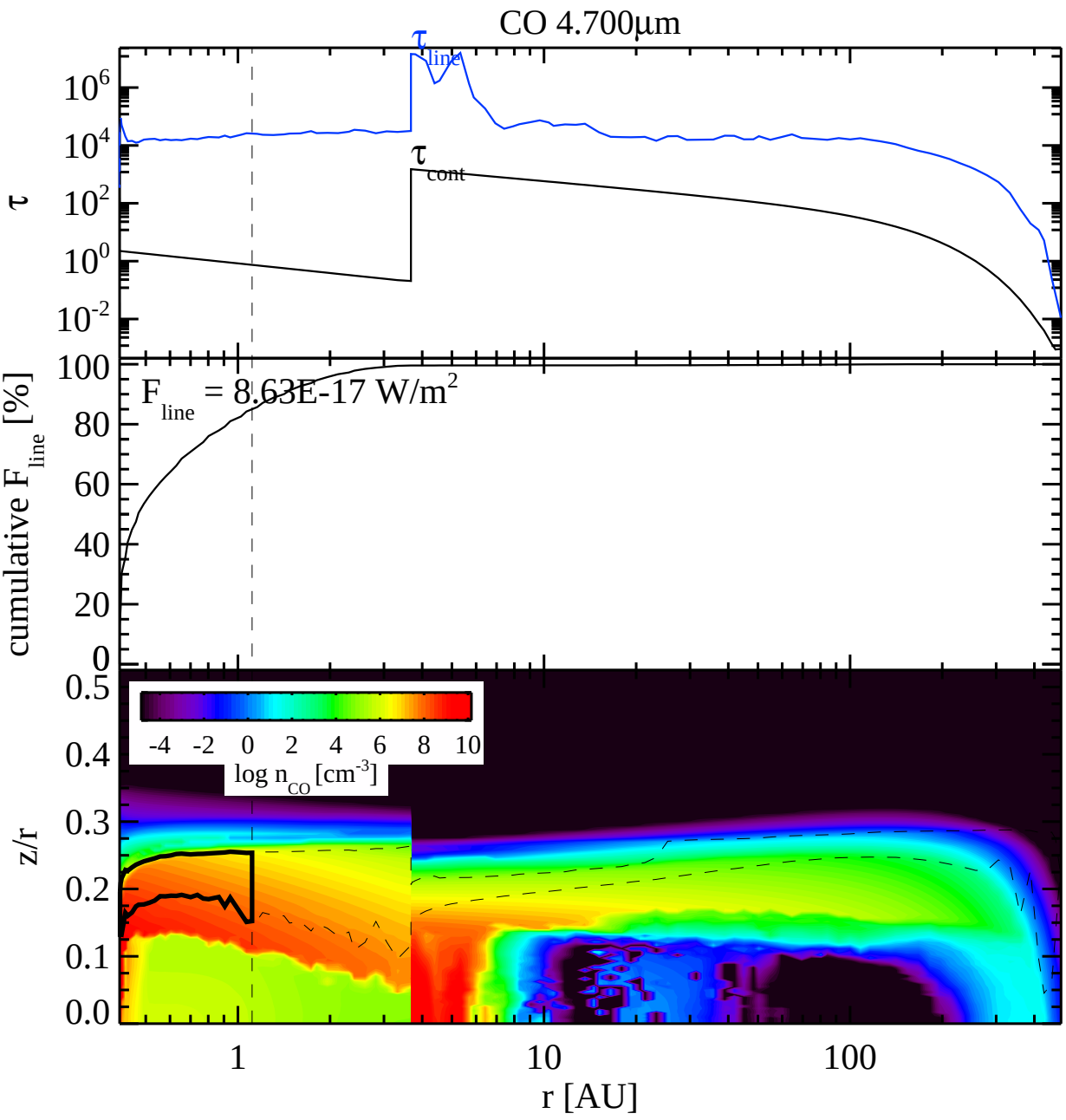

CO 72.84μm
τ
τ cont
τ line
cumulative F line [%]
F line = 2.21E-18 W/m2
z/r
-4 -2 0 2 4 6 8 10
log n CO [cm-3]
r [AU]

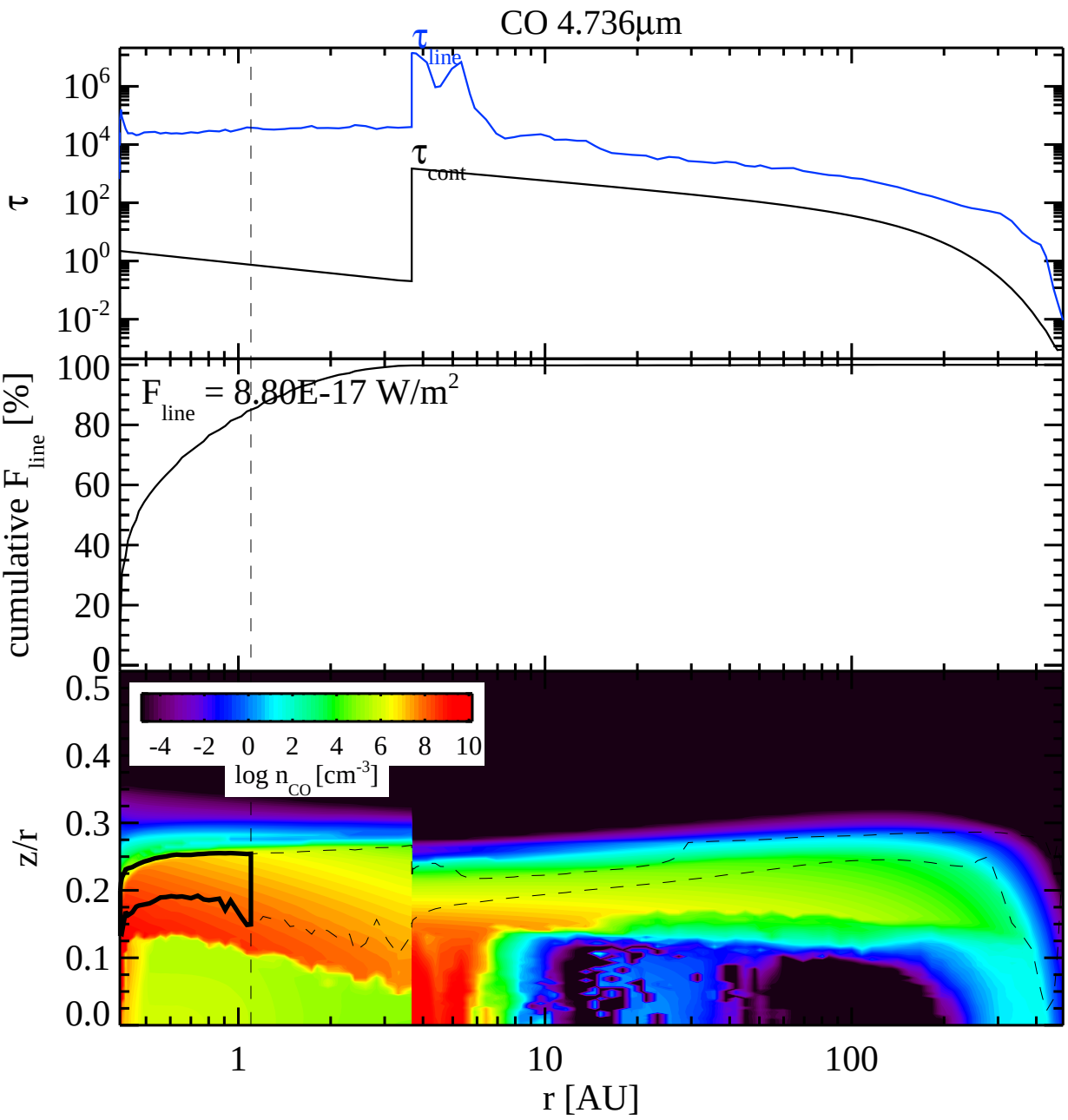

CO 4.633µm
τ line
τ cont
τ
cumulative F line [%]
F line = 8.58E-17 W/m2
log n CO [cm-3]
-4 -2 0 2 4 6 8 10
z/r
r [AU]
1
10
100

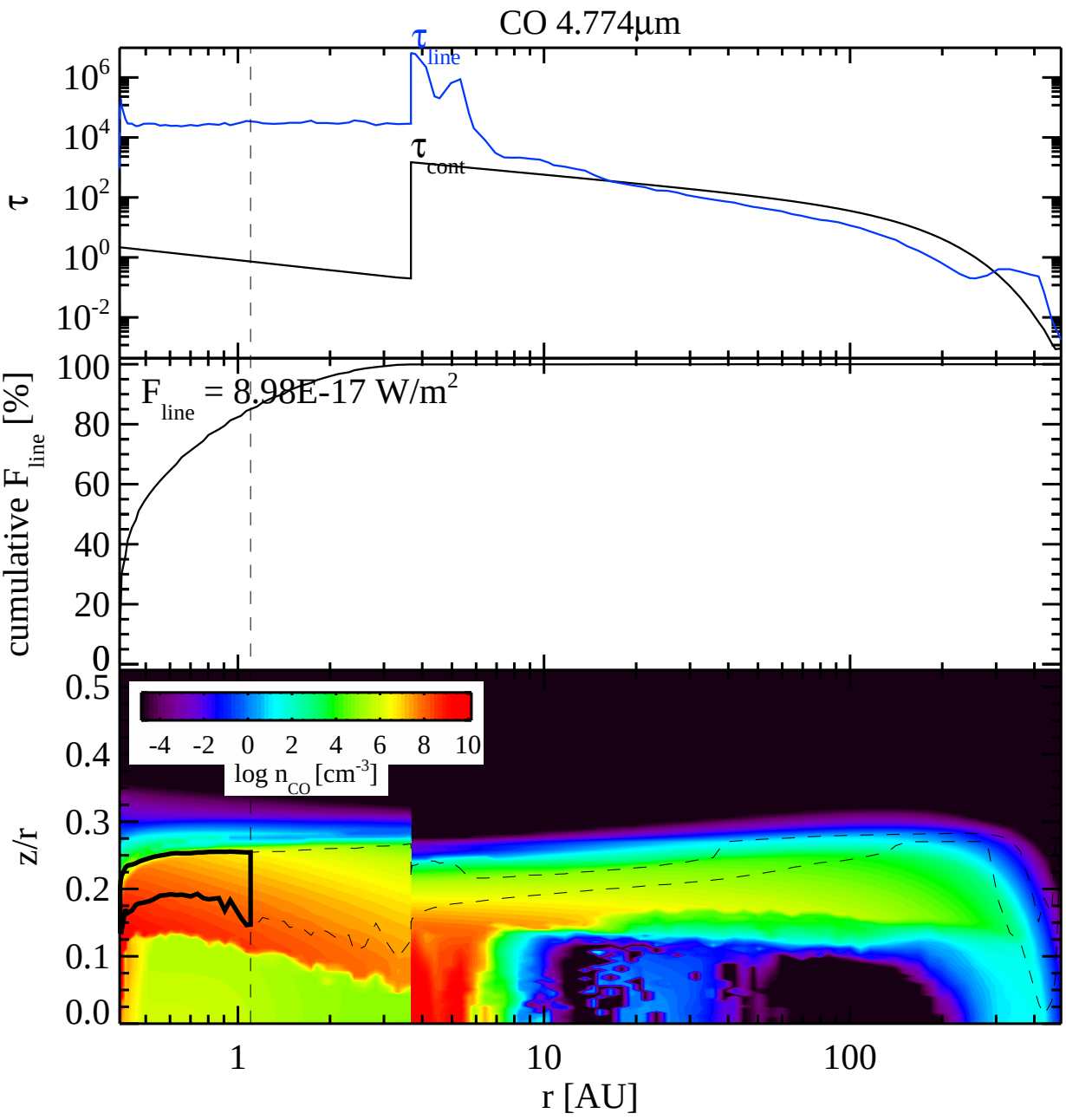

CO 4.657µm
τ line
τ cont
τ
cumulative F line [%]
F line = 8.79E-17 W/m2
log n CO [cm-3]
-4 -2 0 2 4 6 8 10
z/r
r [AU]
1
10
100

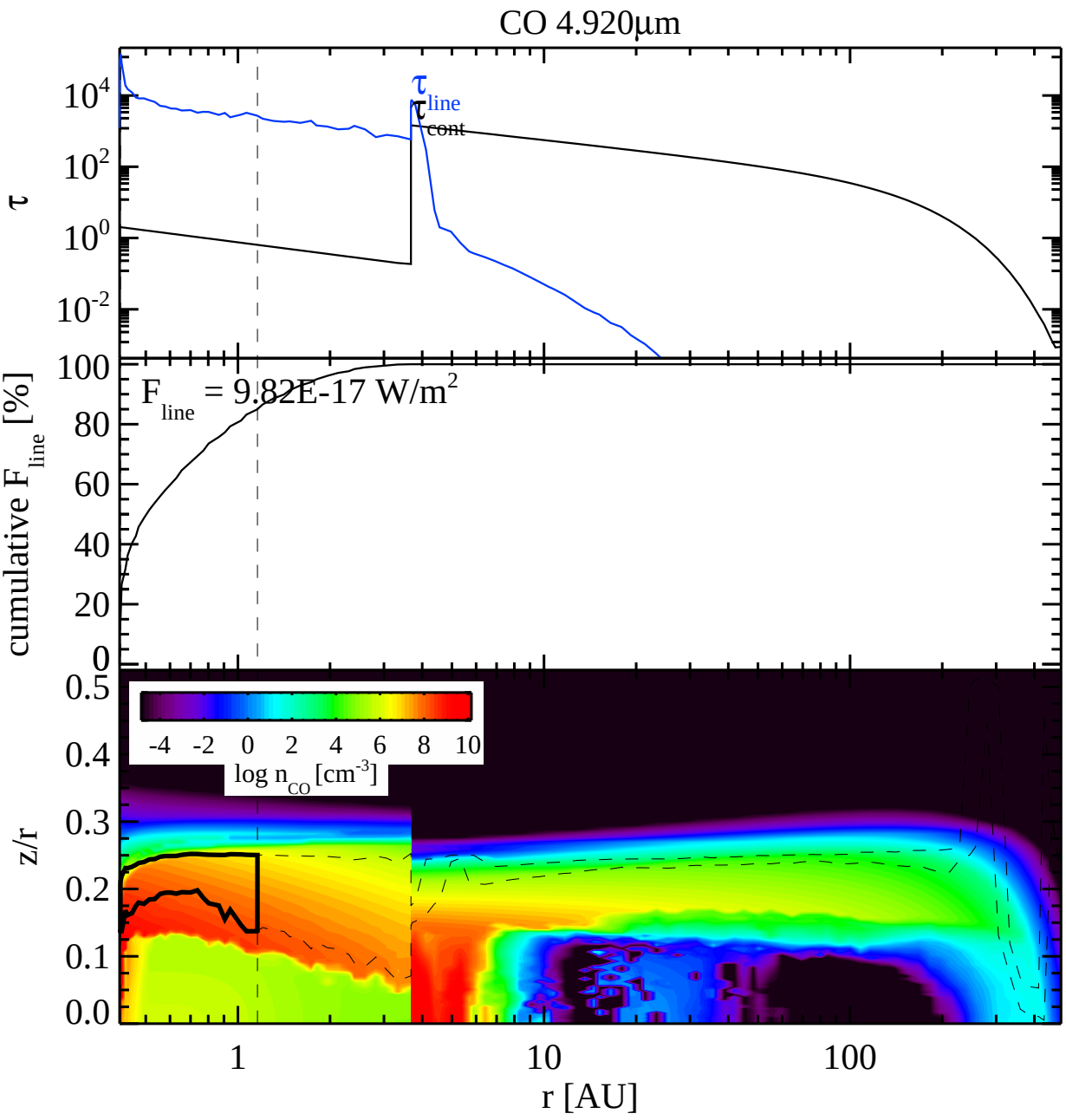

CO 4.674µm
τ line
τ cont
τ
cumulative F line [%]
F line = 8.79E-17 W/m2
log n CO [cm-3]
-4 -2 0 2 4 6 8 10
z/r
r [AU]

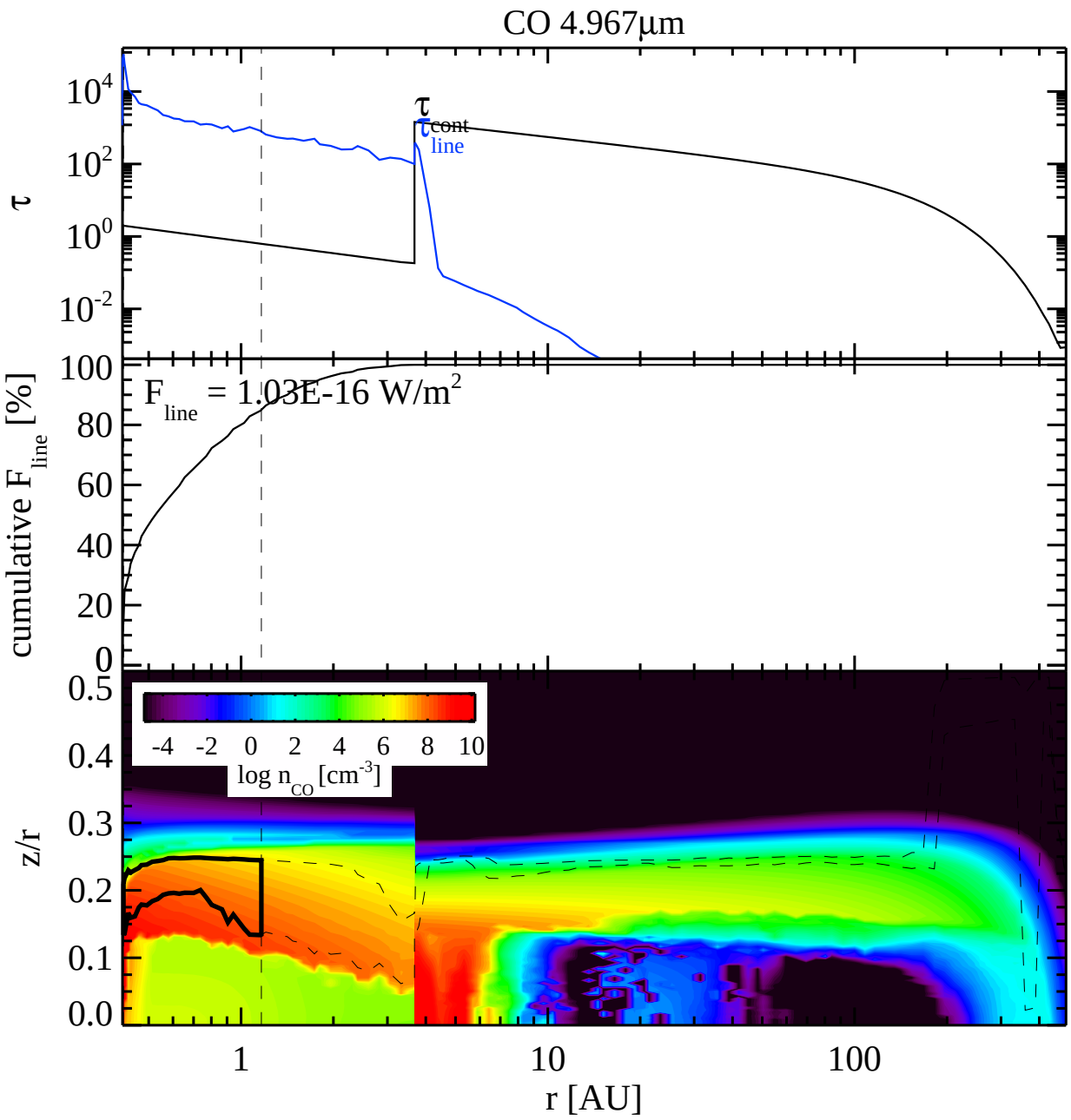

CO 4.683µm
τ
τ line
τ cont
10^6
10^4
10^2
10^0
10^-2
cumulative F line [%]
F line = 8.62E-17 W/m^2
100
80
60
40
20
0
z/r
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n CO [cm^-3]
1
10
100
r [AU]

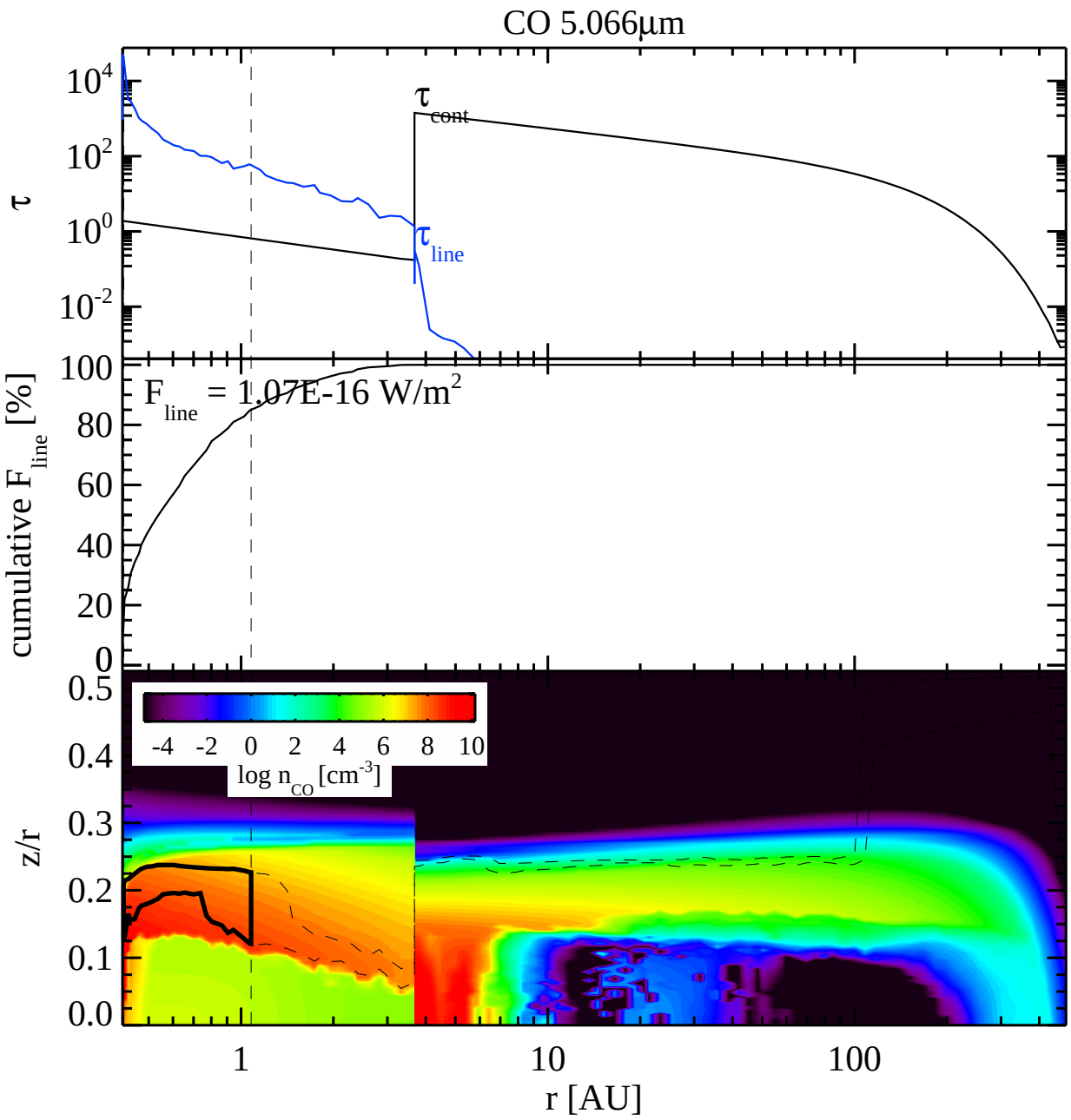

CO 4.700µm
τ line
τ cont
τ
cumulative F line [%]
F line = 8.63E-17 W/m2
log n CO [cm-3]
-4 -2 0 2 4 6 8 10
z/r
r [AU]

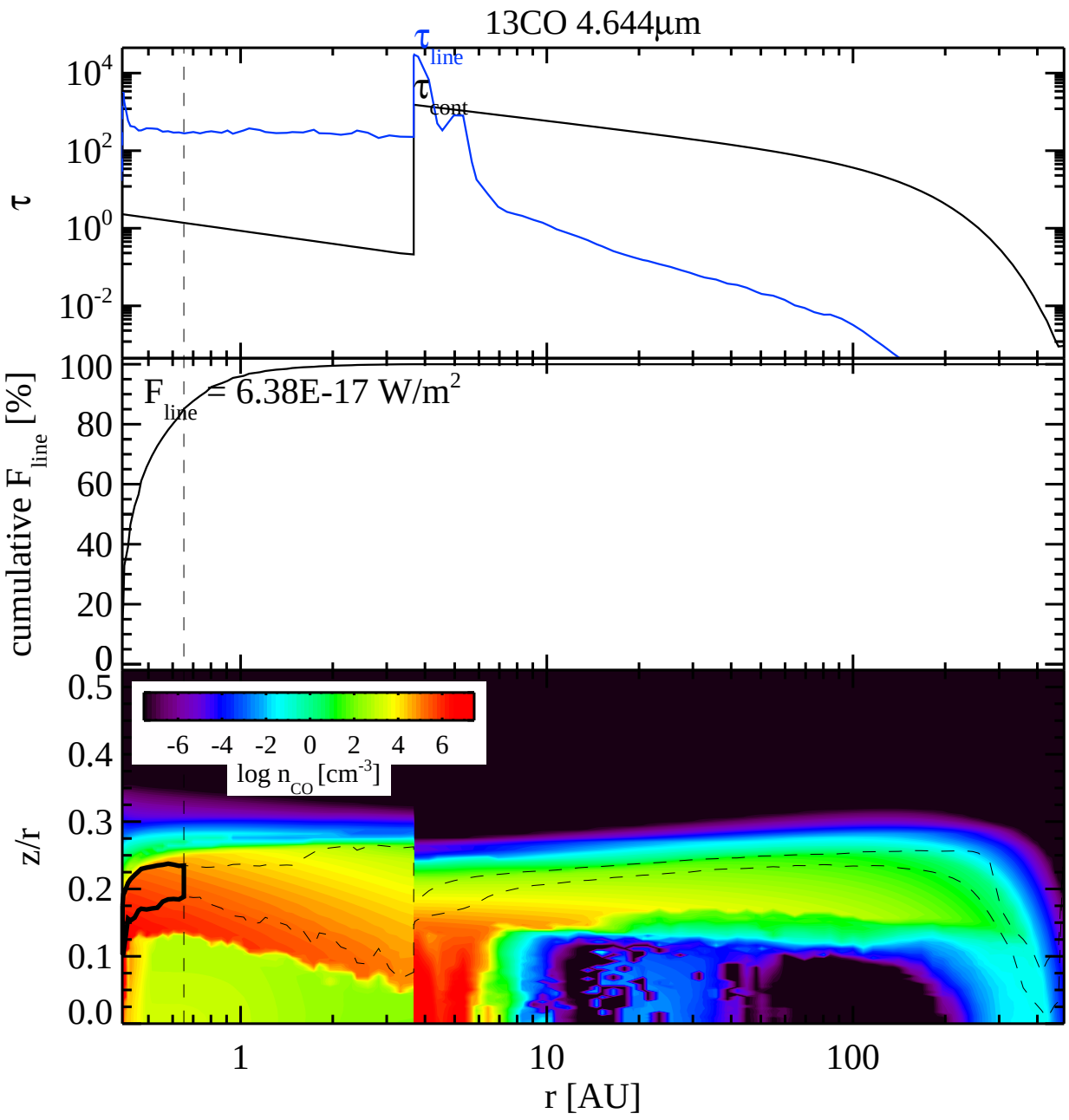

CO 4.736µm
τ line
τ cont
τ
cumulative F line [%]
F line = 8.80E-17 W/m2
log n CO [cm-3]
-4 -2 0 2 4 6 8 10
z/r
r [AU]

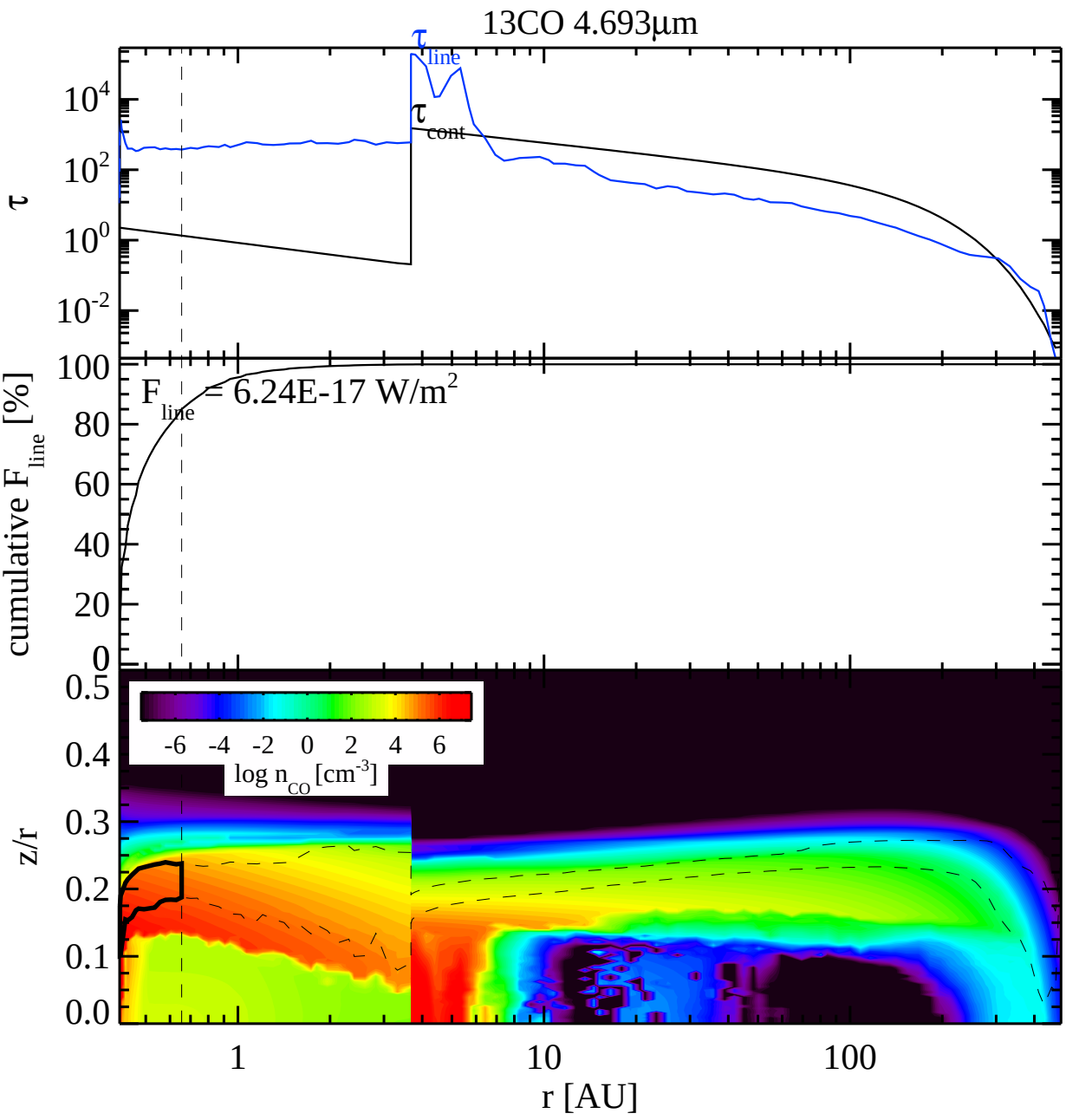

CO 4.774µm
τ line
τ cont
τ
cumulative F line [%]
F line = 8.98E-17 W/m2
log n CO [cm-3]
-4 -2 0 2 4 6 8 10
z/r
r [AU]

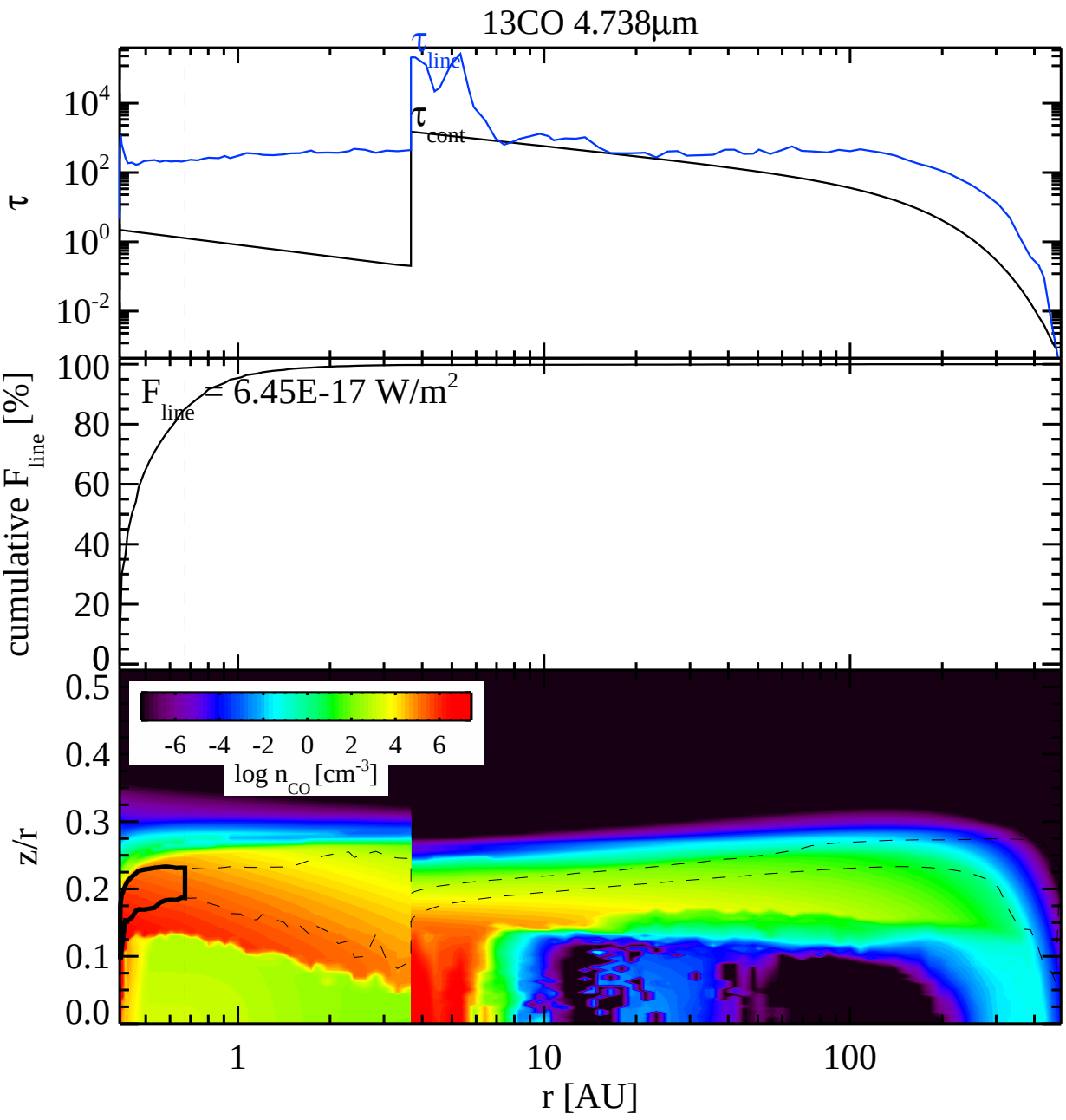

CO 4.920µm
τ
10^4
10^2
10^0
10^{-2}
τ_{line}
τ_{cont}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 9.82E-17 W/m^2
z/r
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{CO} [cm^{-3}]
1
10
100
r [AU]

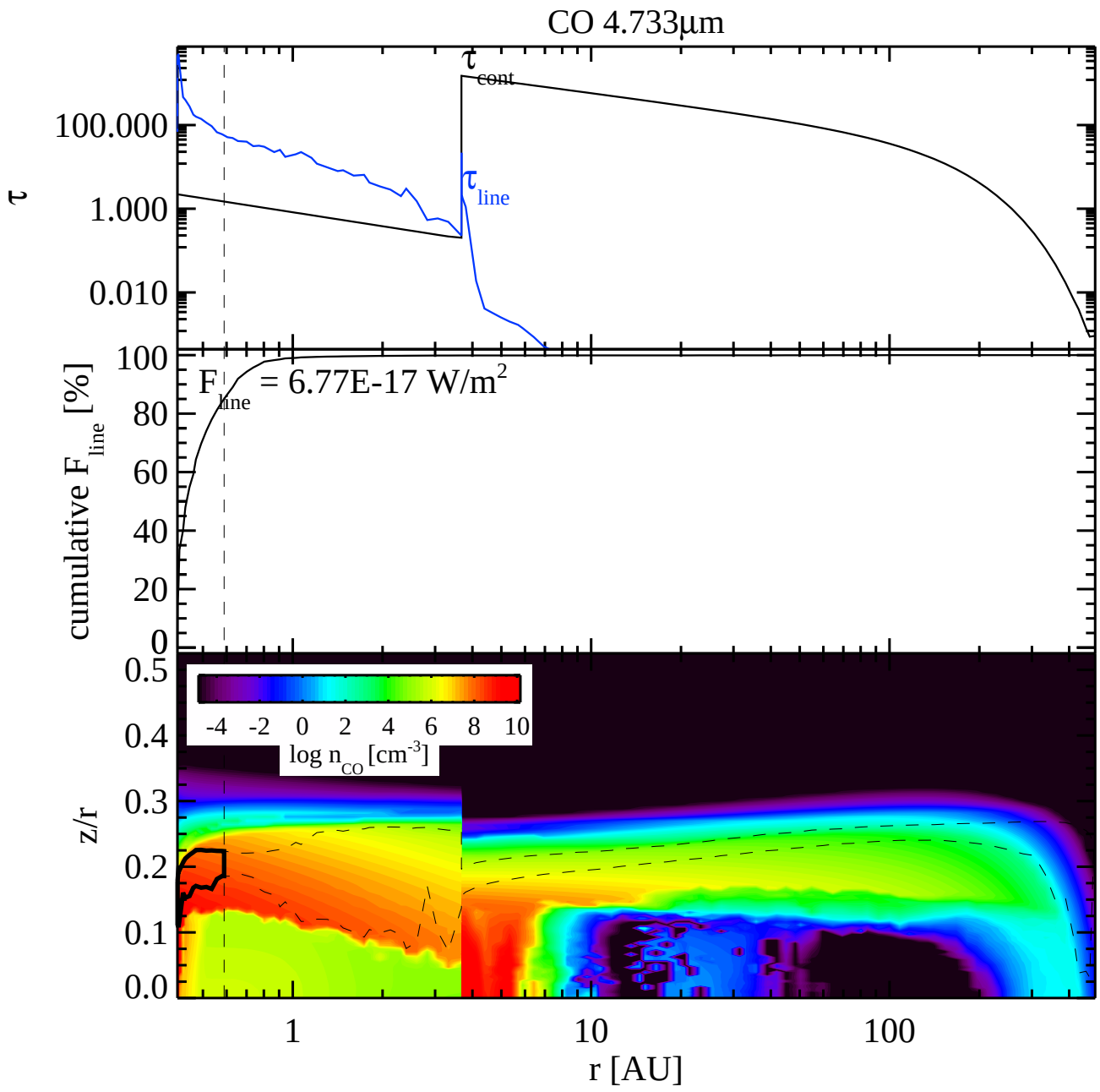

CO 4.967µm
τ
τ_{cont}
line
10^4
10^2
10^0
10^{-2}
τ
F_{line} = 1.03E-16 W/m^2
cumulative F_{line} [%]
100
80
60
40
20
0
0.5
0.4
0.3
0.2
0.1
0.0
z/r
-4 -2 0 2 4 6 8 10
log n_{CO} [cm^{-3}]
1
10
100
r [AU]

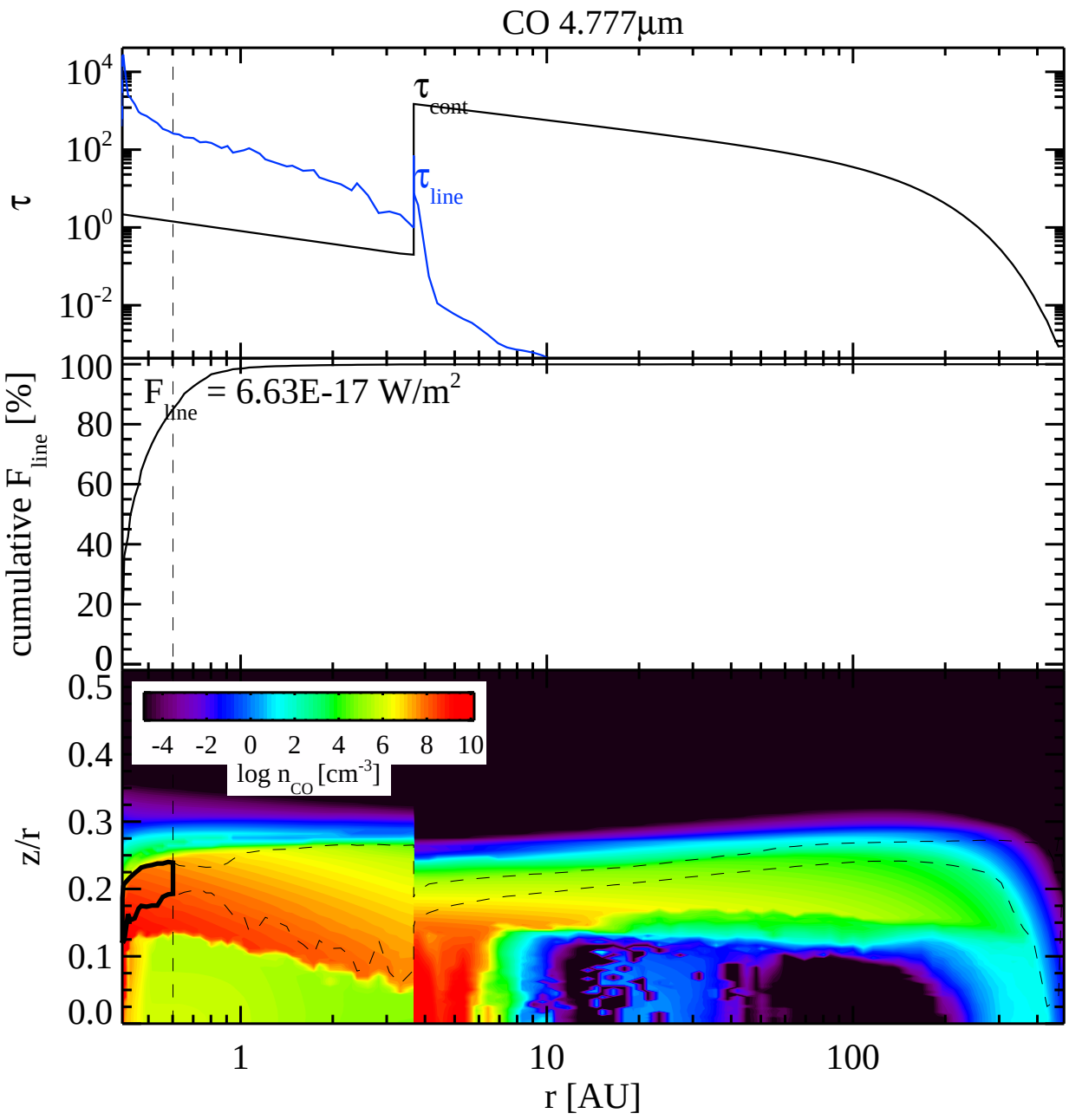

CO 5.066µm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 1.07E-16 W/m^2
z/r
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{CO} [cm^{-3}]
1
10
100
r [AU]

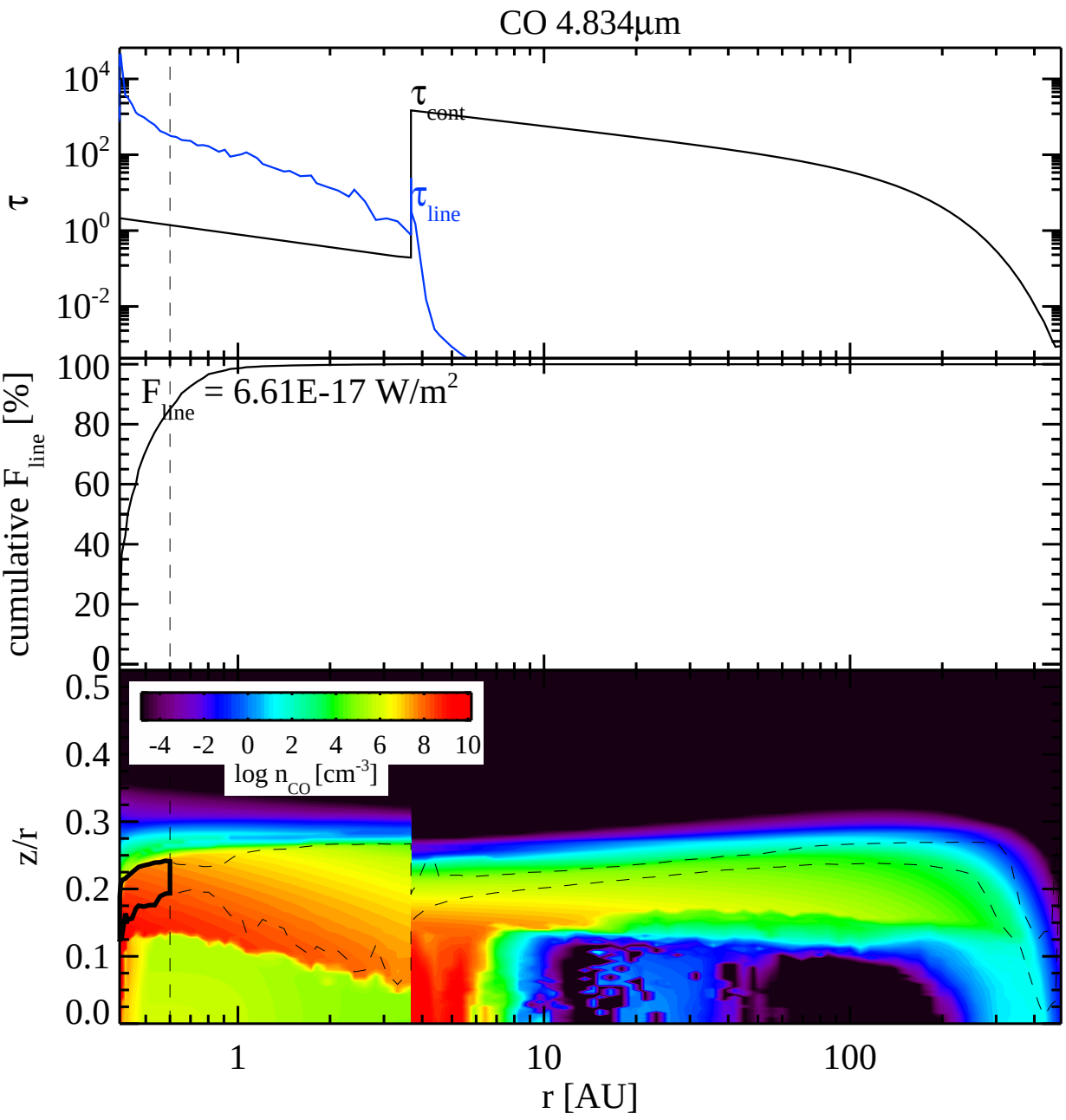

13CO 4.644µm
τ line
τ cont
τ
cumulative F line [%]
F line = 6.38E-17 W/m2
log n CO [cm-3]
-6 -4 -2 0 2 4 6
z/r
r [AU]
1
10
100

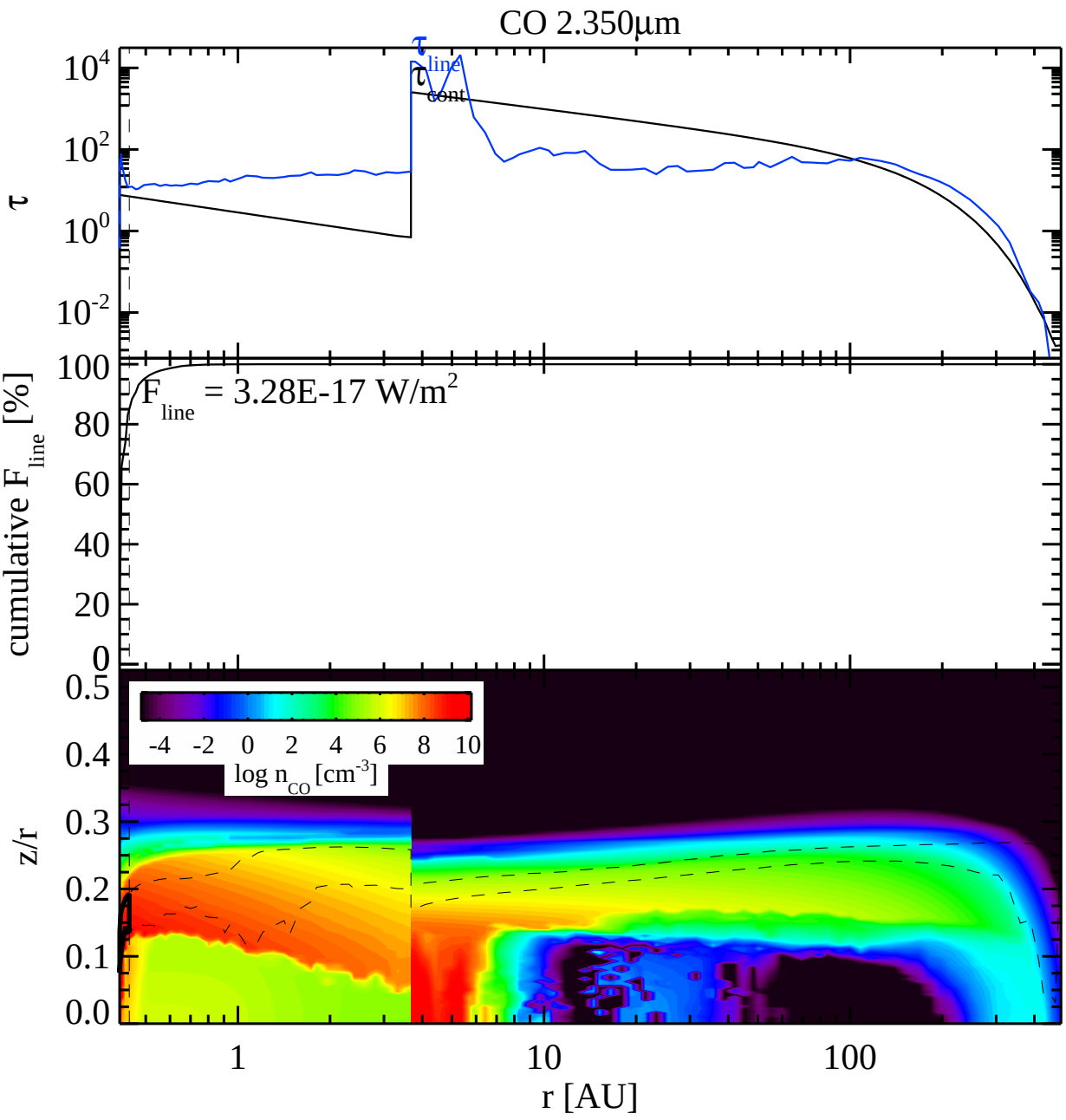

13CO 4.693µm
τ line
τ cont
τ
10^4
10^2
10^0
10^-2
F line = 6.24E-17 W/m^2
cumulative F line [%]
100
80
60
40
20
0
log n CO [cm^-3]
-6 -4 -2 0 2 4 6
z/r
0.5
0.4
0.3
0.2
0.1
0.0
1
10
100
r [AU]

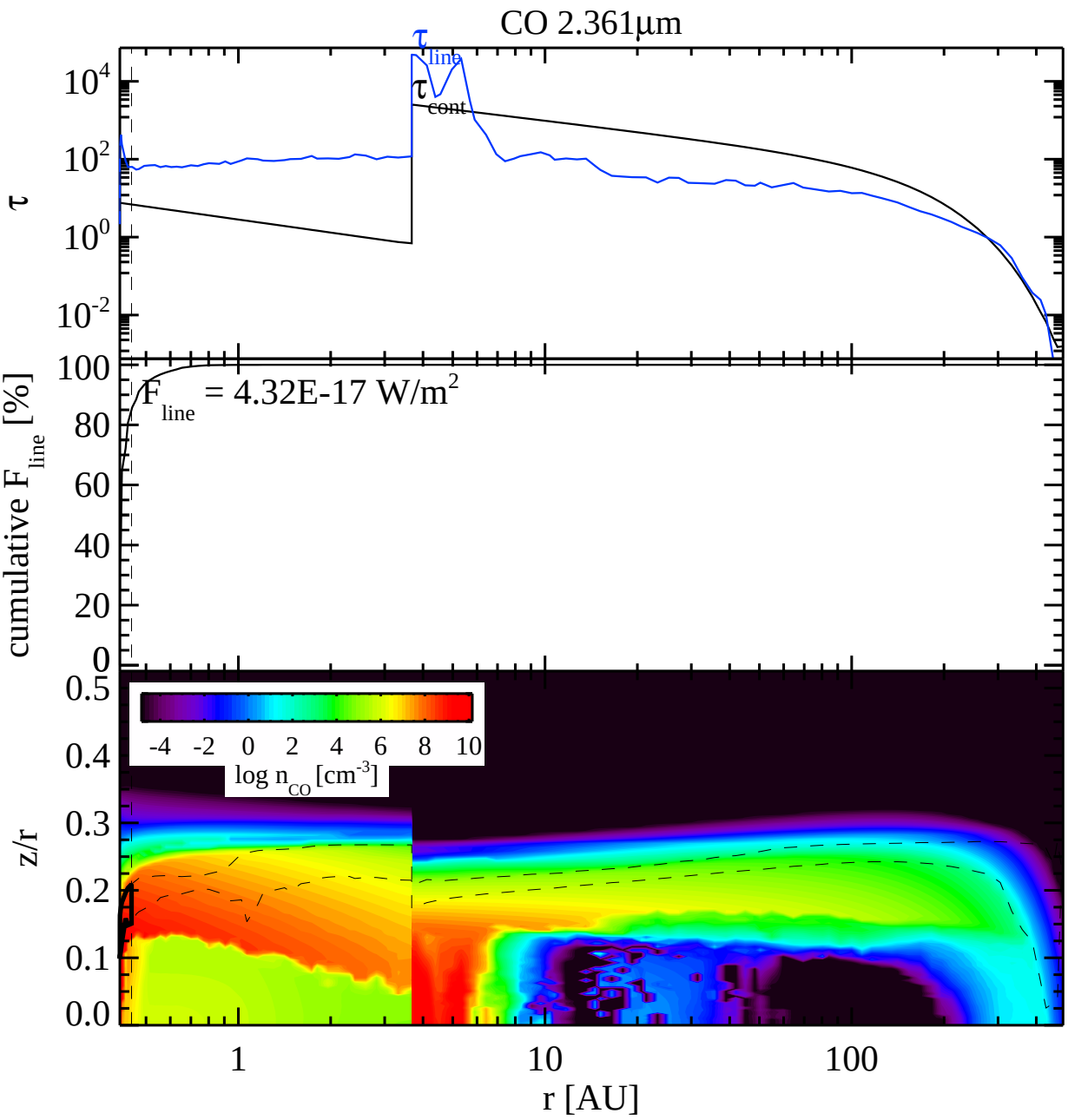

13CO 4.738µm
τ line
τ cont
τ
10^4
10^2
10^0
10^-2
F line = 6.45E-17 W/m^2
cumulative F line [%]
100
80
60
40
20
0
-6 -4 -2 0 2 4 6
log n CO [cm^-3]
z/r
0.5
0.4
0.3
0.2
0.1
0.0
1
10
100
r [AU]

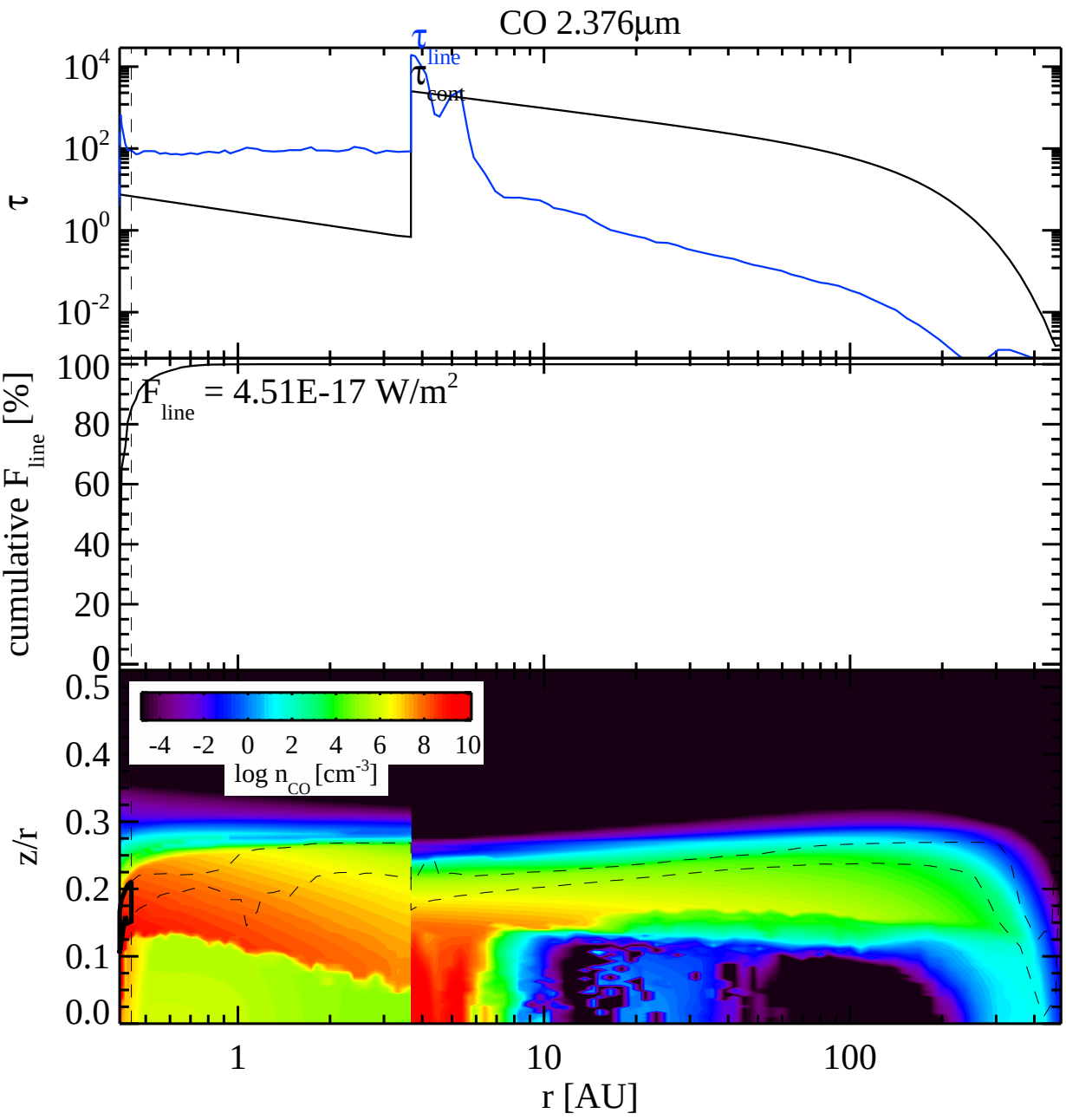

CO 4.733µm
τ
100.000
1.000
0.010
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 6.77E-17 W/m2
z/r
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n CO [cm-3]
1
10
100
r [AU]

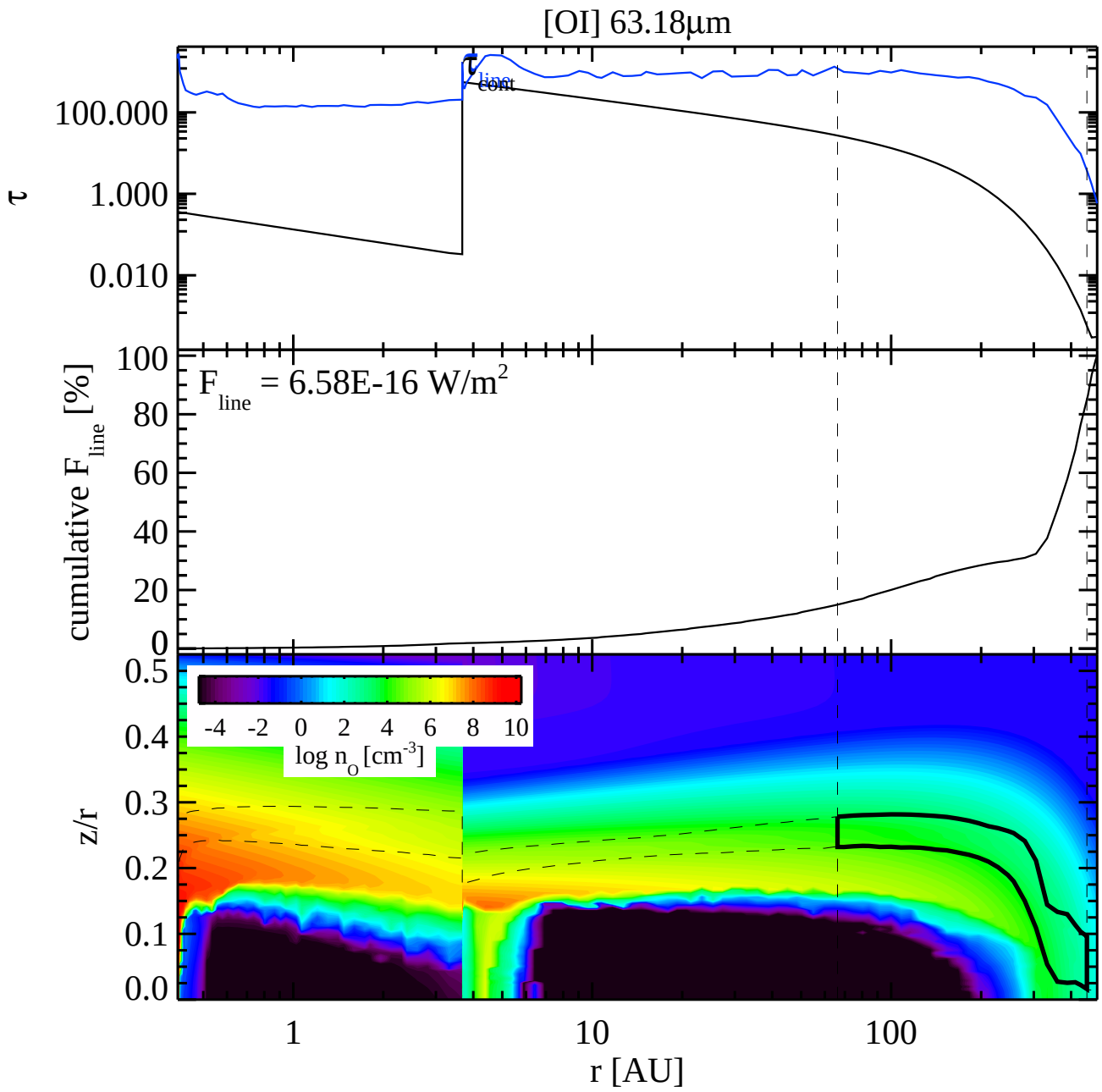

CO 4.777µm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 6.63E-17 W/m^2
z/r
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{CO} [cm^{-3}]
1
10
100
r [AU]

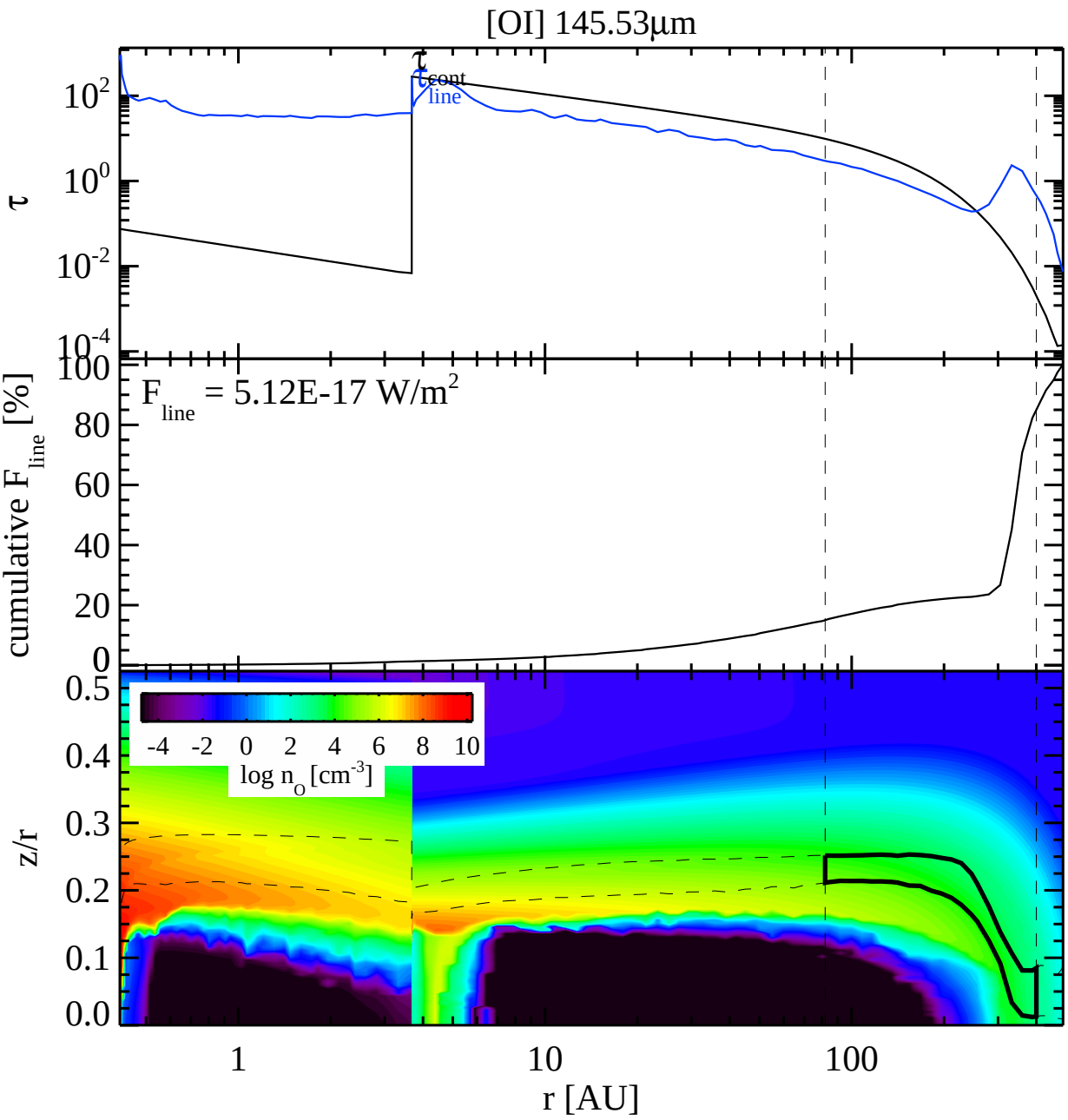

CO 4.834μm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 6.61E-17 W/m^2
z/r
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{CO} [cm^{-3}]
1
10
100
r [AU]

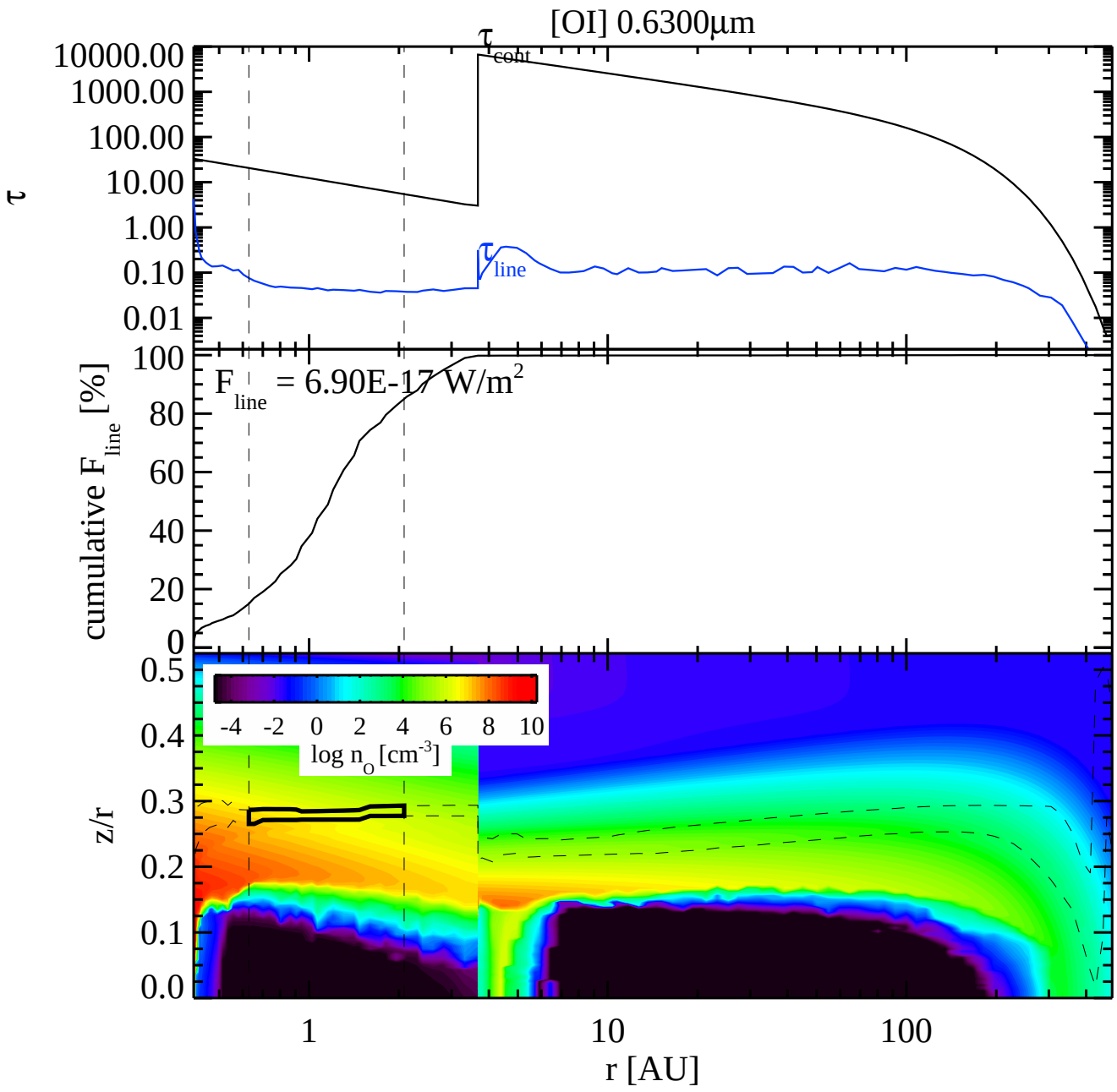

CO 2.350µm
τ
τ line
τ cont
10^4
10^2
10^0
10^-2
F line = 3.28E-17 W/m^2
cumulative F line [%]
100
80
60
40
20
0
0.5
0.4
0.3
0.2
0.1
0.0
z/r
-4 -2 0 2 4 6 8 10
log n CO [cm^-3]
1
10
100
r [AU]

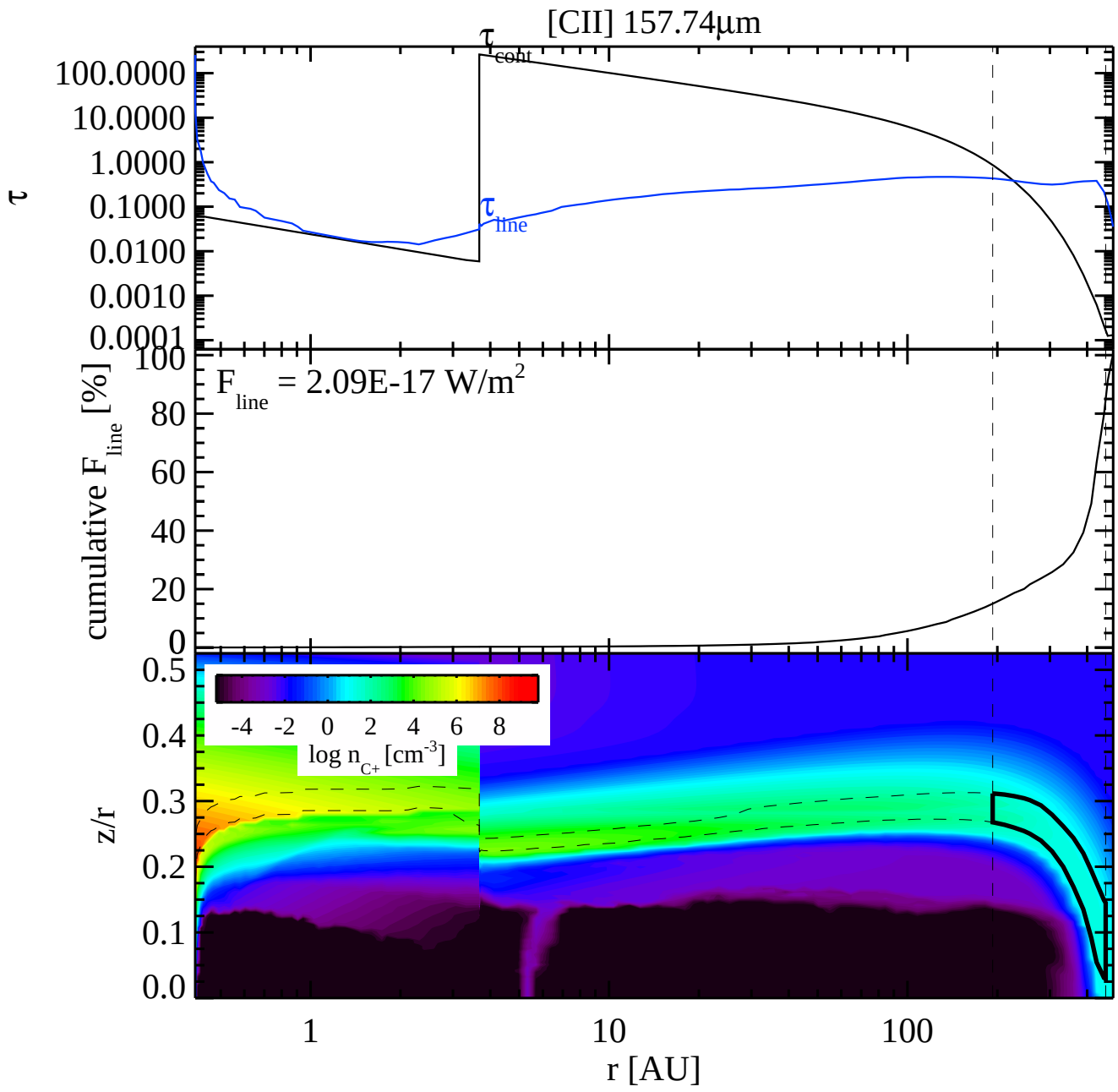

CO 2.361µm
τ_line
τ_cont
τ
10^4
10^2
10^0
10^-2
F_line = 4.32E-17 W/m^2
cumulative F_line [%]
100
80
60
40
20
0
0.5
0.4
0.3
0.2
0.1
0.0
z/r
-4 -2 0 2 4 6 8 10
log n_CO [cm^-3]
1
10
100
r [AU]

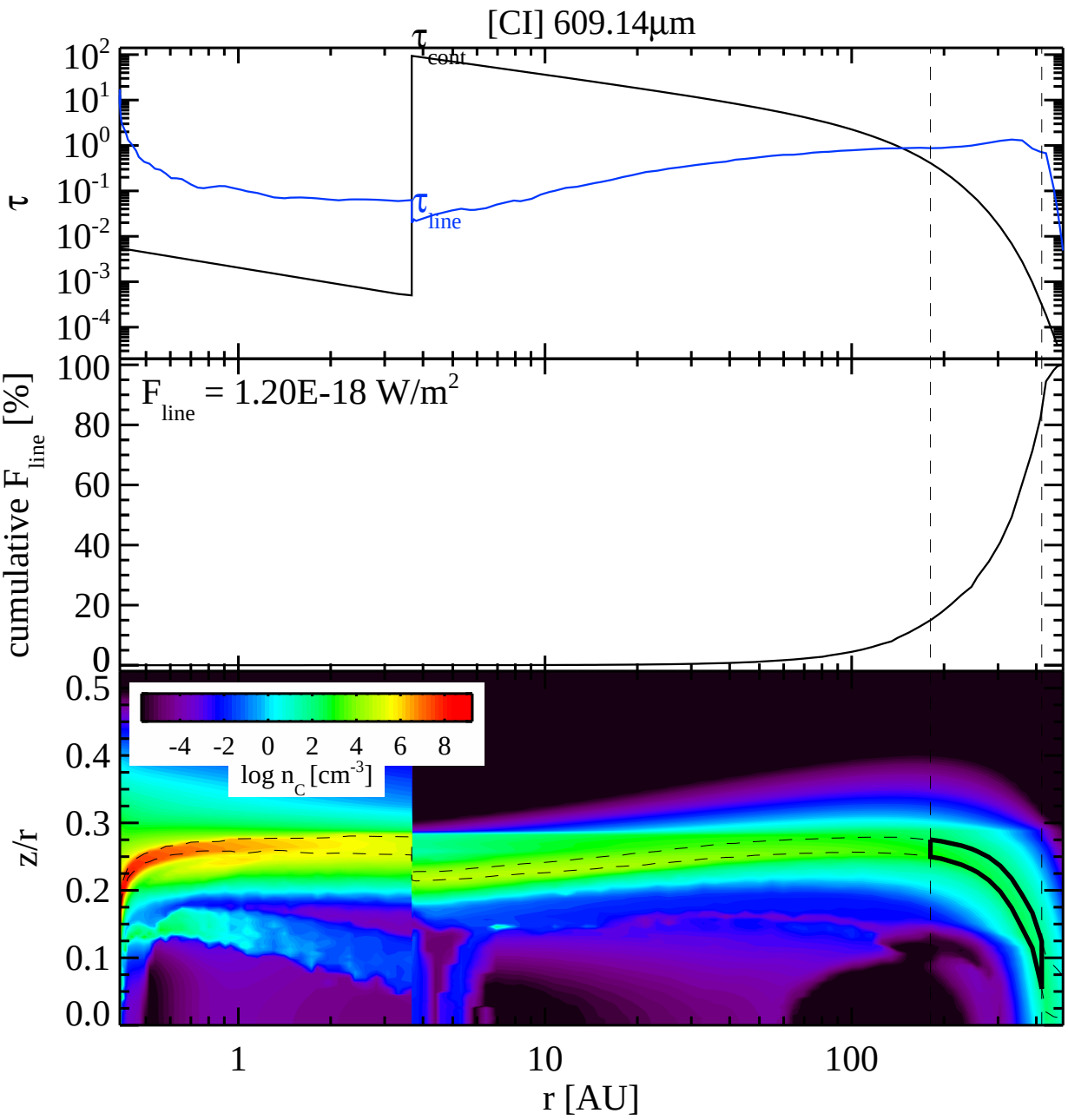

CO 2.376µm
τ line
τ cont
τ
cumulative F line [%]
F line = 4.51E-17 W/m2
log n CO [cm-3]
z/r
r [AU]

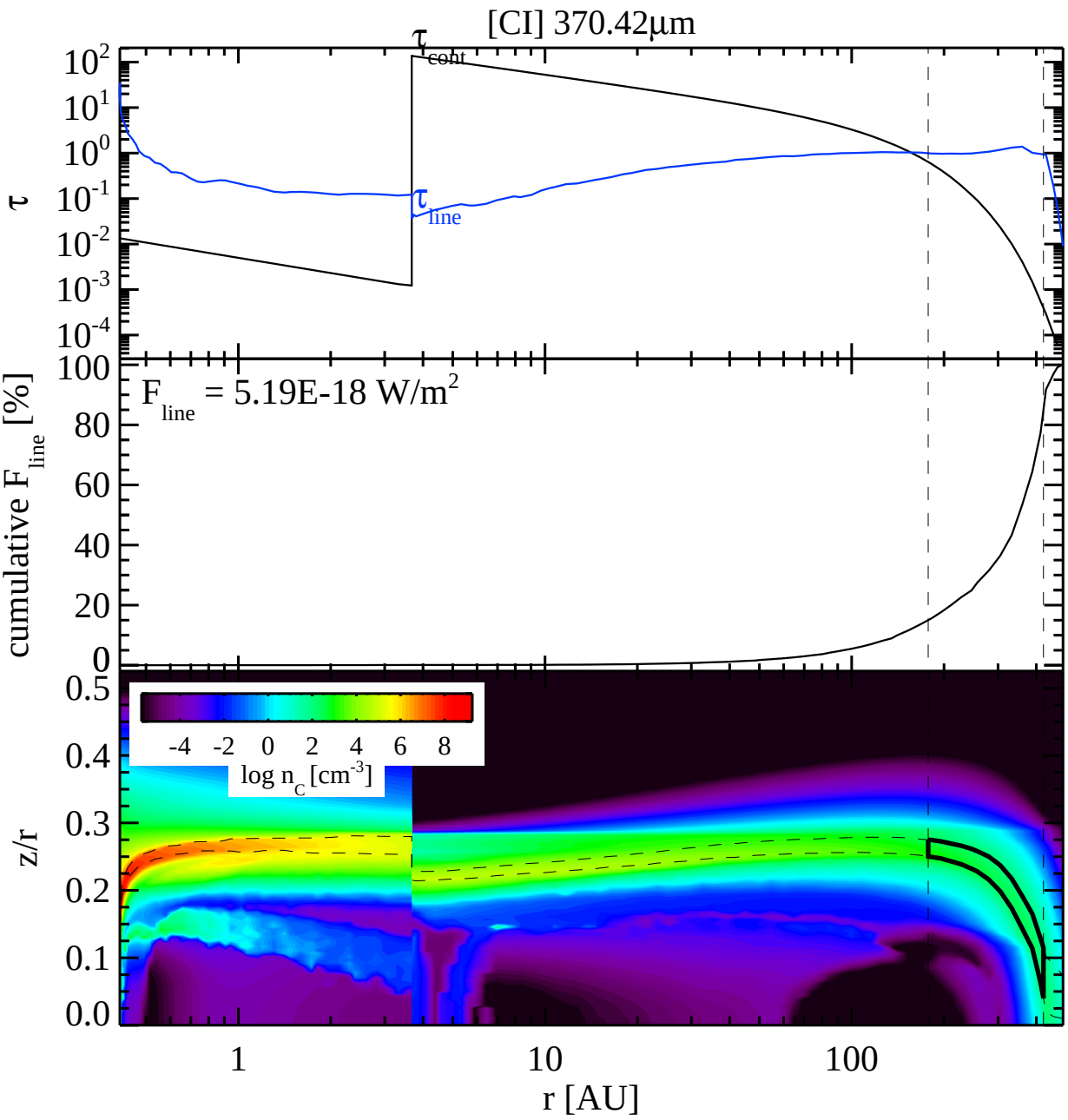

[OI] 63.18µm
τ
100.000
1.000
0.010
τ line
τ cont
cumulative F line [%]
100
80
60
40
20
0
F line = 6.58E-16 W/m2
z/r
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n O [cm-3]
1
10
100
r [AU]

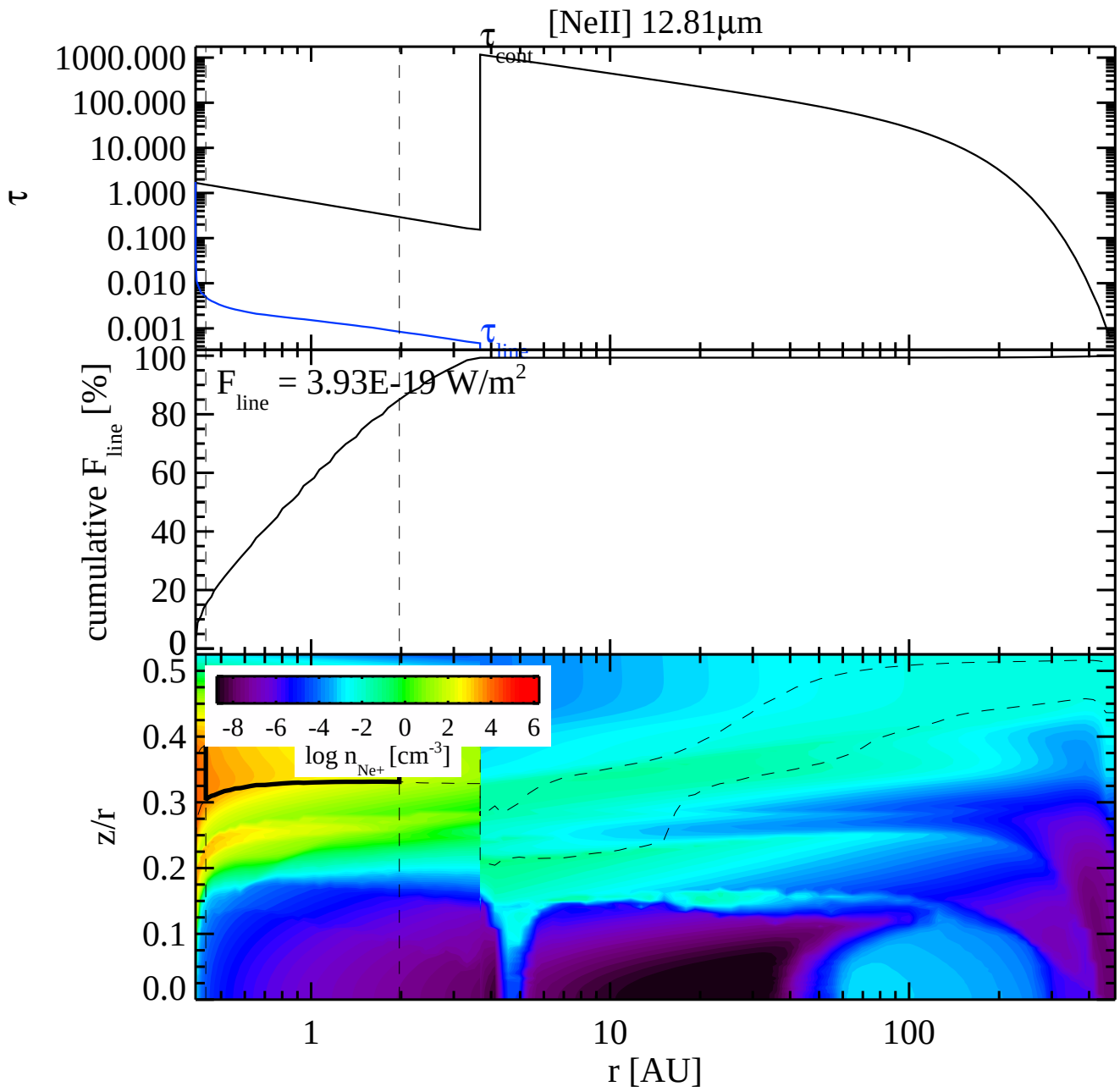

[OI] 145.53µm
τ
τcont
τline
10^2
10^0
10^-2
10^-4
F line = 5.12E-17 W/m^2
cumulative F line [%]
100
80
60
40
20
0
-4 -2 0 2 4 6 8 10
log n O [cm^-3]
z/r
0.5
0.4
0.3
0.2
0.1
0.0
1
10
100
r [AU]

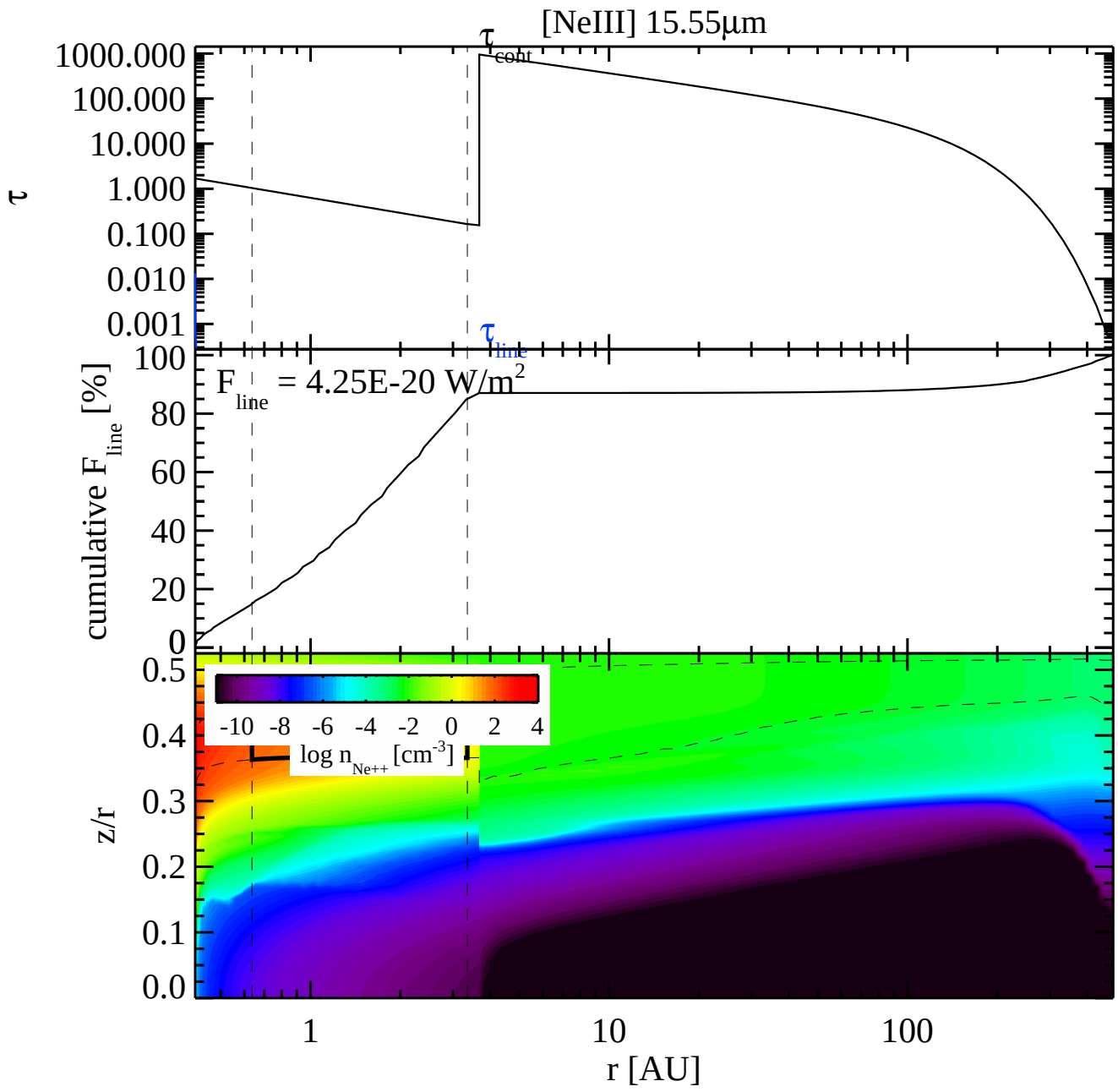

[OI] 0.6300µm
τ
τ_cont
τ_line
10000.00
1000.00
100.00
10.00
1.00
0.10
0.01
F_line = 6.90E-17 W/m²
cumulative F_line [%]
100
80
60
40
20
0
-4 -2 0 2 4 6 8 10
log n_O [cm⁻³]
z/r
0.5
0.4
0.3
0.2
0.1
0.0
1
10
100
r [AU]

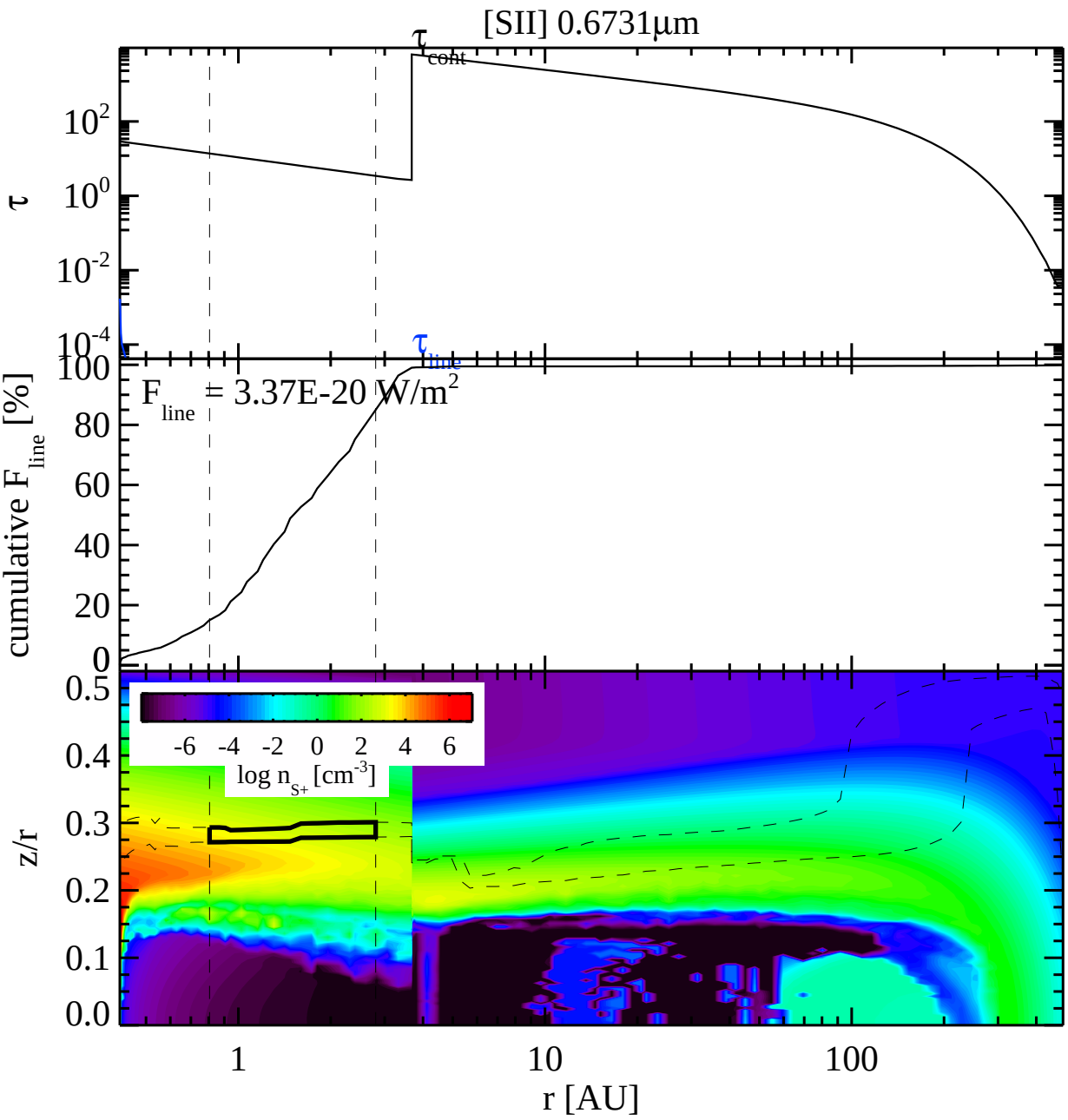

[CII] 157.74µm
τ
τ cont
τ line
100.0000
10.0000
1.0000
0.1000
0.0100
0.0010
0.0001
F line = 2.09E-17 W/m2
cumulative F line [%]
100
80
60
40
20
0
-4 -2 0 2 4 6 8
log n C+ [cm-3]
z/r
0.5
0.4
0.3
0.2
0.1
0.0
1
10
100
r [AU]

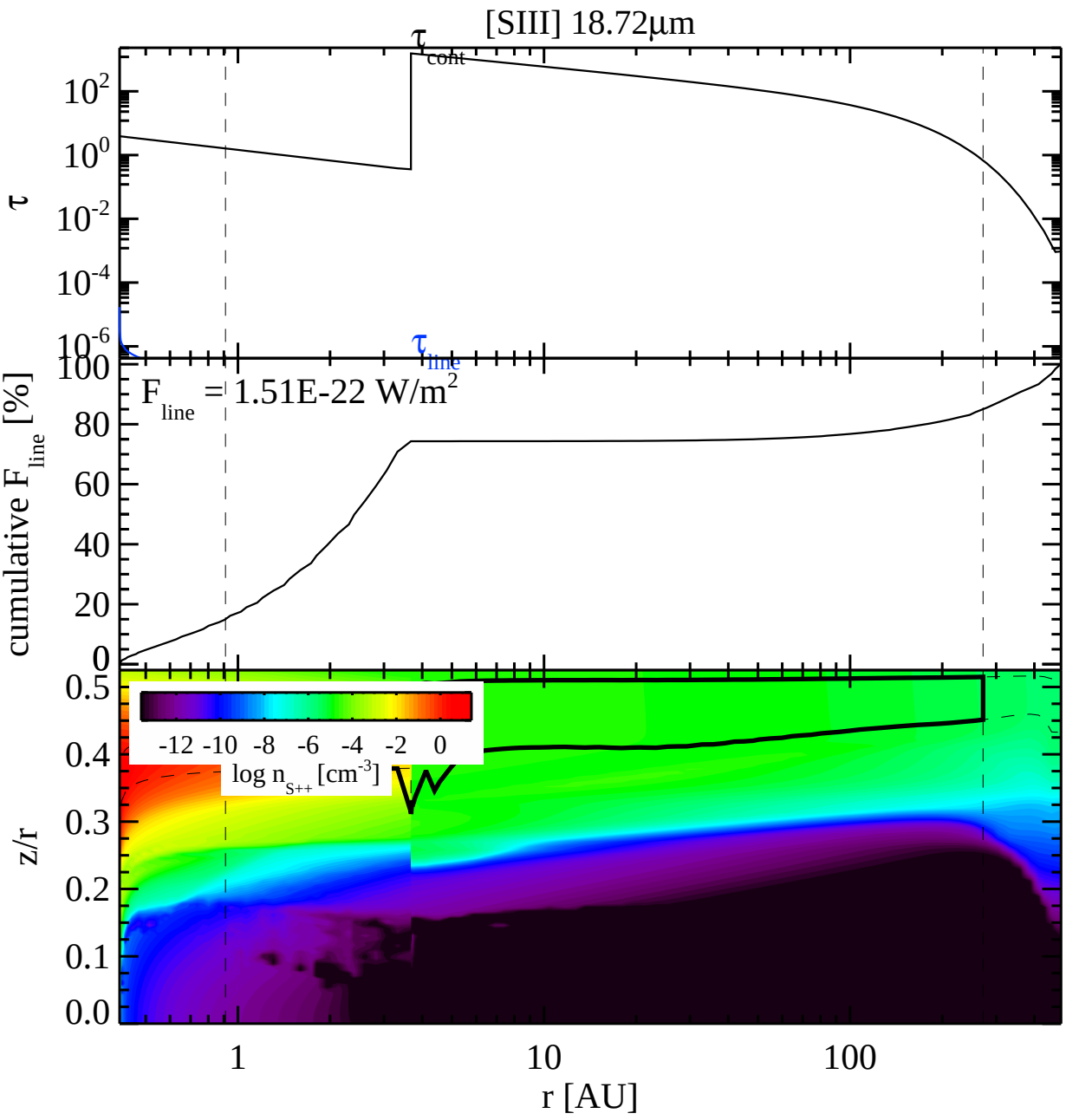

[CI] 609.14µm
τ
τ cont
τ line
cumulative F line [%]
F line = 1.20E-18 W/m2
z/r
log n C [cm-3]
-4 -2 0 2 4 6 8
r [AU]
1
10
100

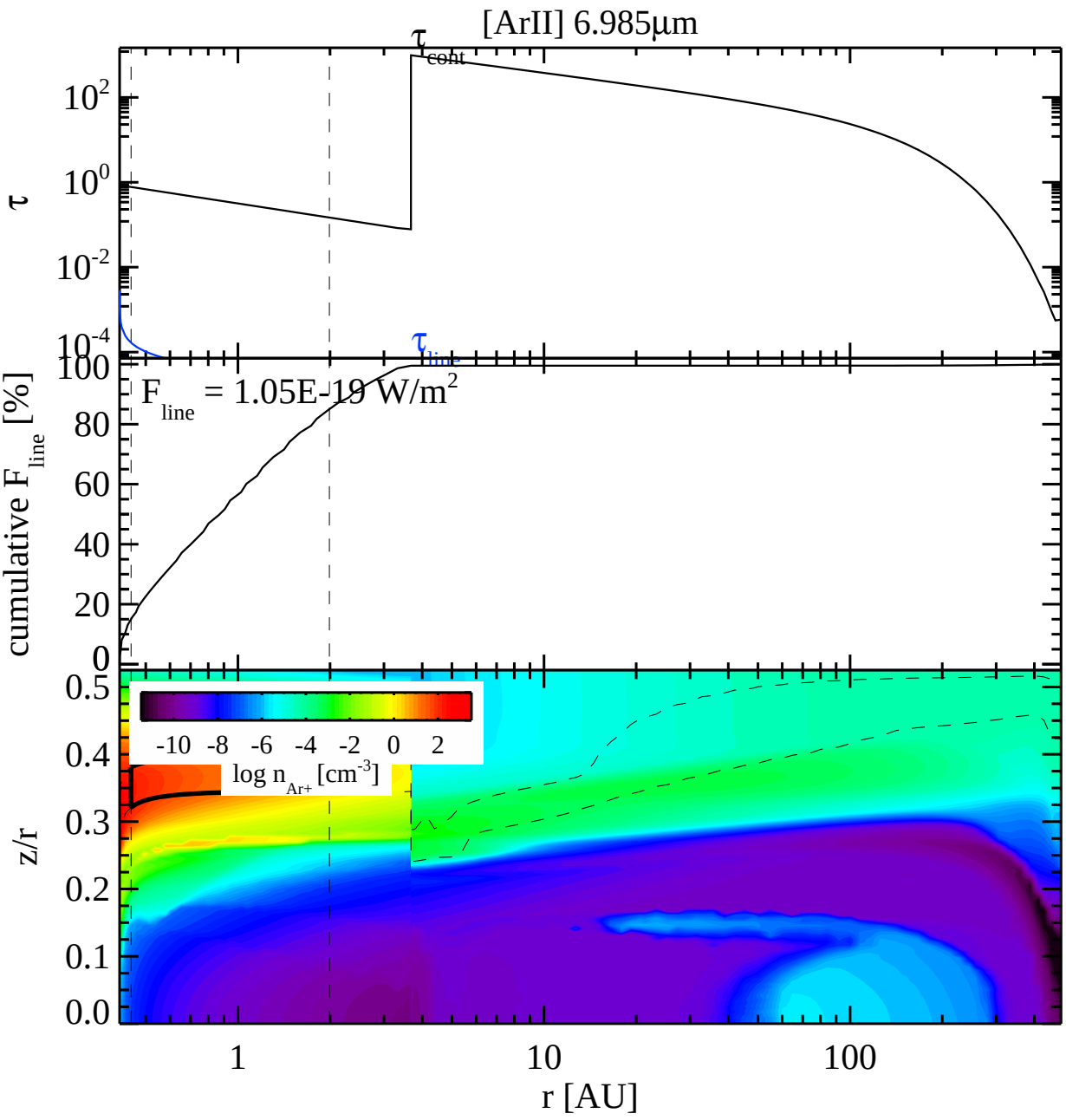

[CI] 370.42µm
τ
τ cont
τ line
cumulative F line [%]
F line = 5.19E-18 W/m2
log n C [cm-3]
-4 -2 0 2 4 6 8
z/r
r [AU]
1
10
100

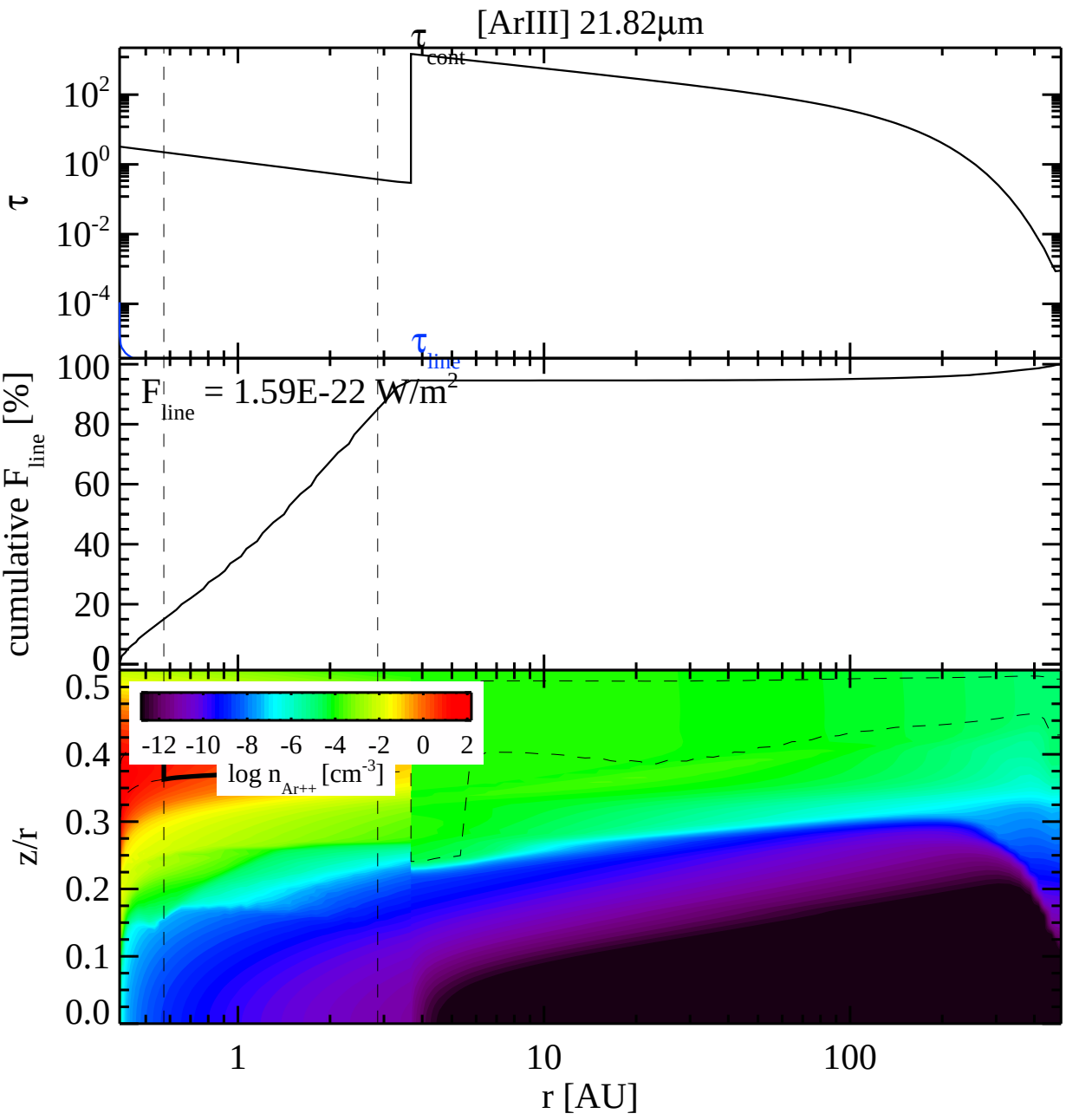

[NeII] 12.81µm
τ
1000.000
100.000
10.000
1.000
0.100
0.010
0.001
τ_cont
τ_line
cumulative F_line [%]
100
80
60
40
20
0
F_line = 3.93E-19 W/m²
z/r
0.5
0.4
0.3
0.2
0.1
0.0
-8 -6 -4 -2 0 2 4 6
log n_Ne+ [cm^-3]
1
10
100
r [AU]

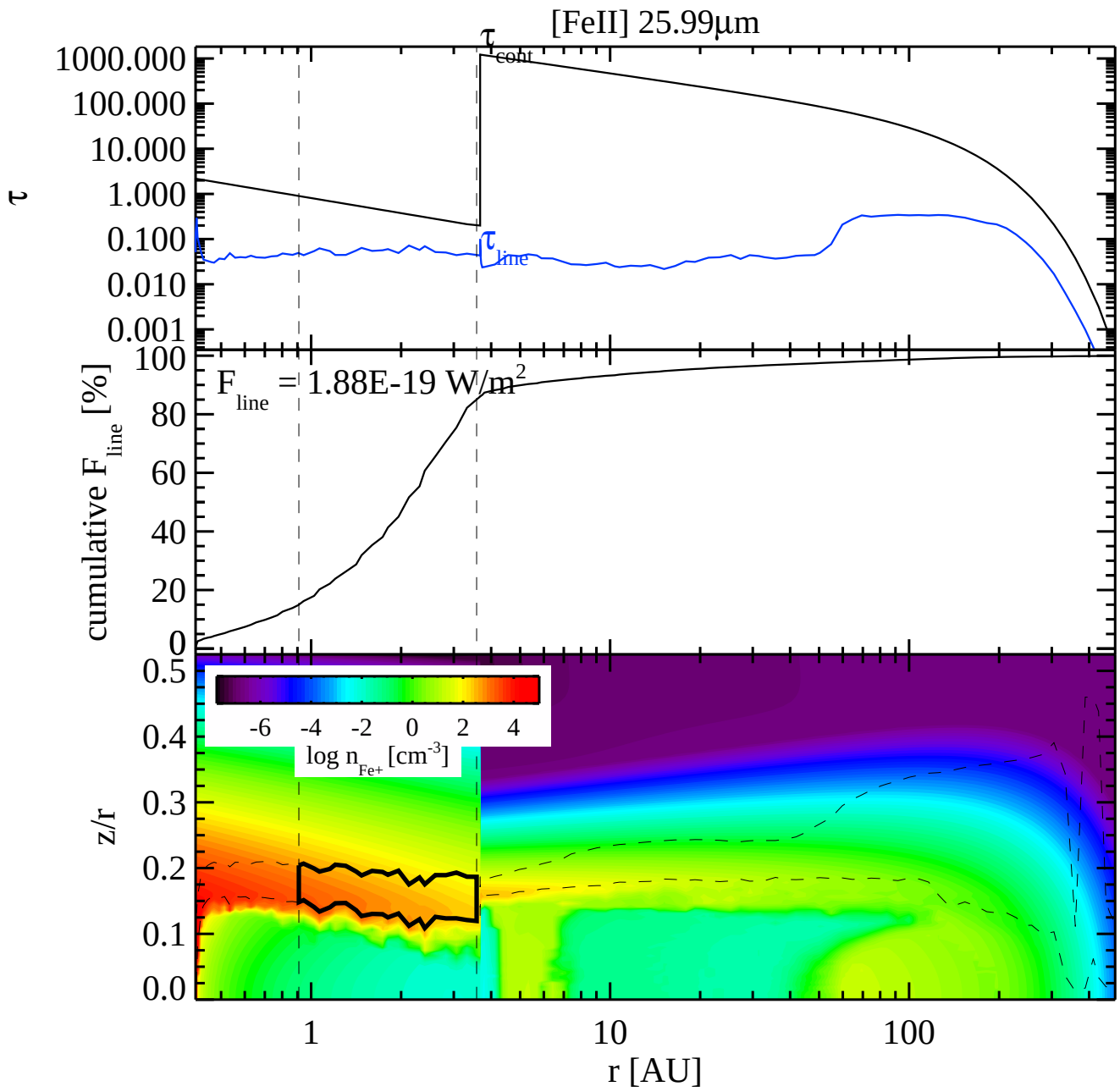

[NeIII] 15.55µm
τ
1000.000
100.000
10.000
1.000
0.100
0.010
0.001
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 4.25E-20 W/m2
z/r
0.5
0.4
0.3
0.2
0.1
0.0
-10 -8 -6 -4 -2 0 2 4
log n Ne++ [cm-3]
1
10
100
r [AU]

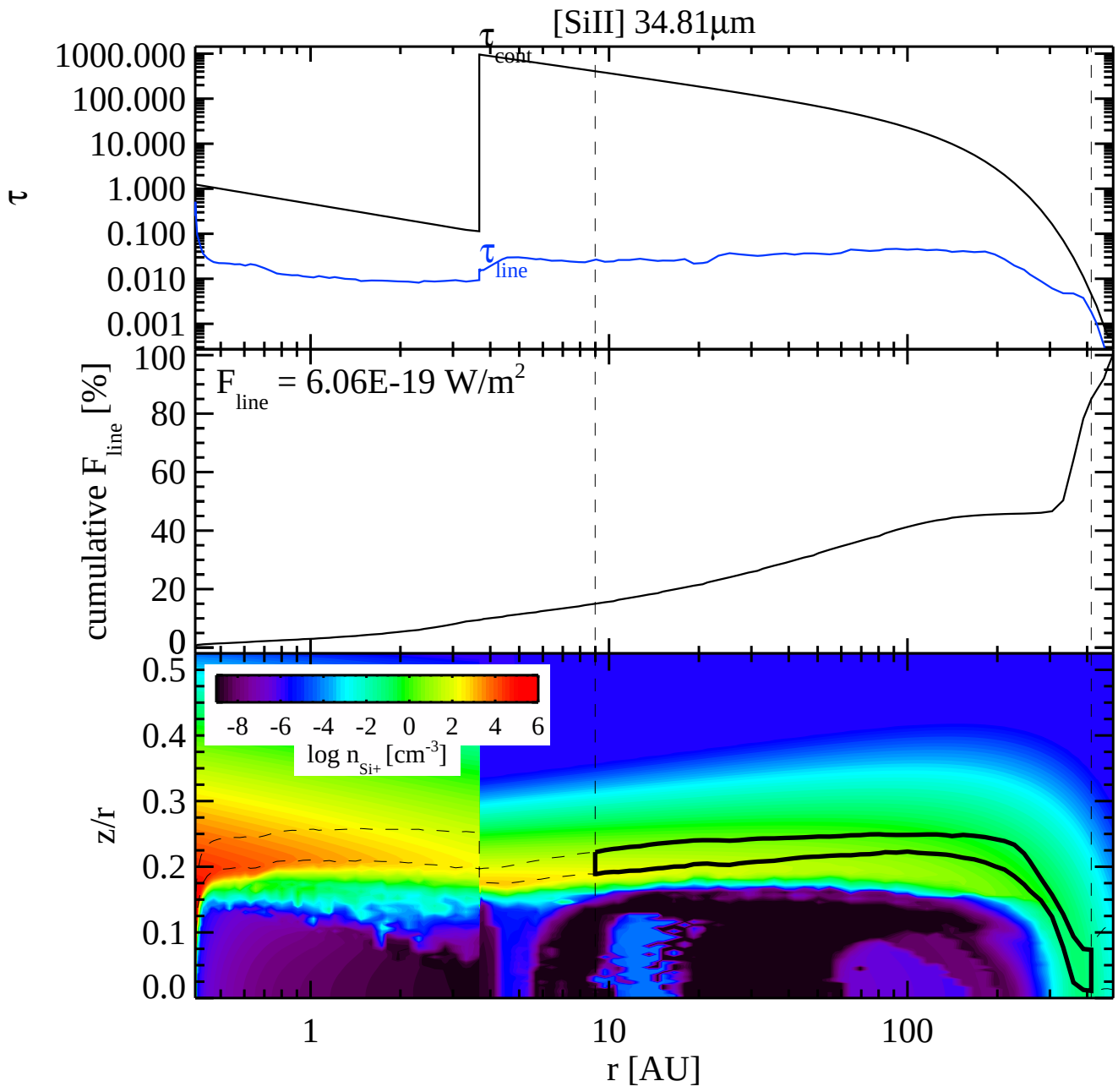

[SII] 0.6731µm
τ cont
τ line
τ
cumulative F line [%]
F line = 3.37E-20 W/m2
log n S+ [cm-3]
-6 -4 -2 0 2 4 6
z/r
r [AU]
1
10
100
0.0
0.1
0.2
0.3
0.4
0.5
0
20
40
60
80
100
10-4
10-2
100
102

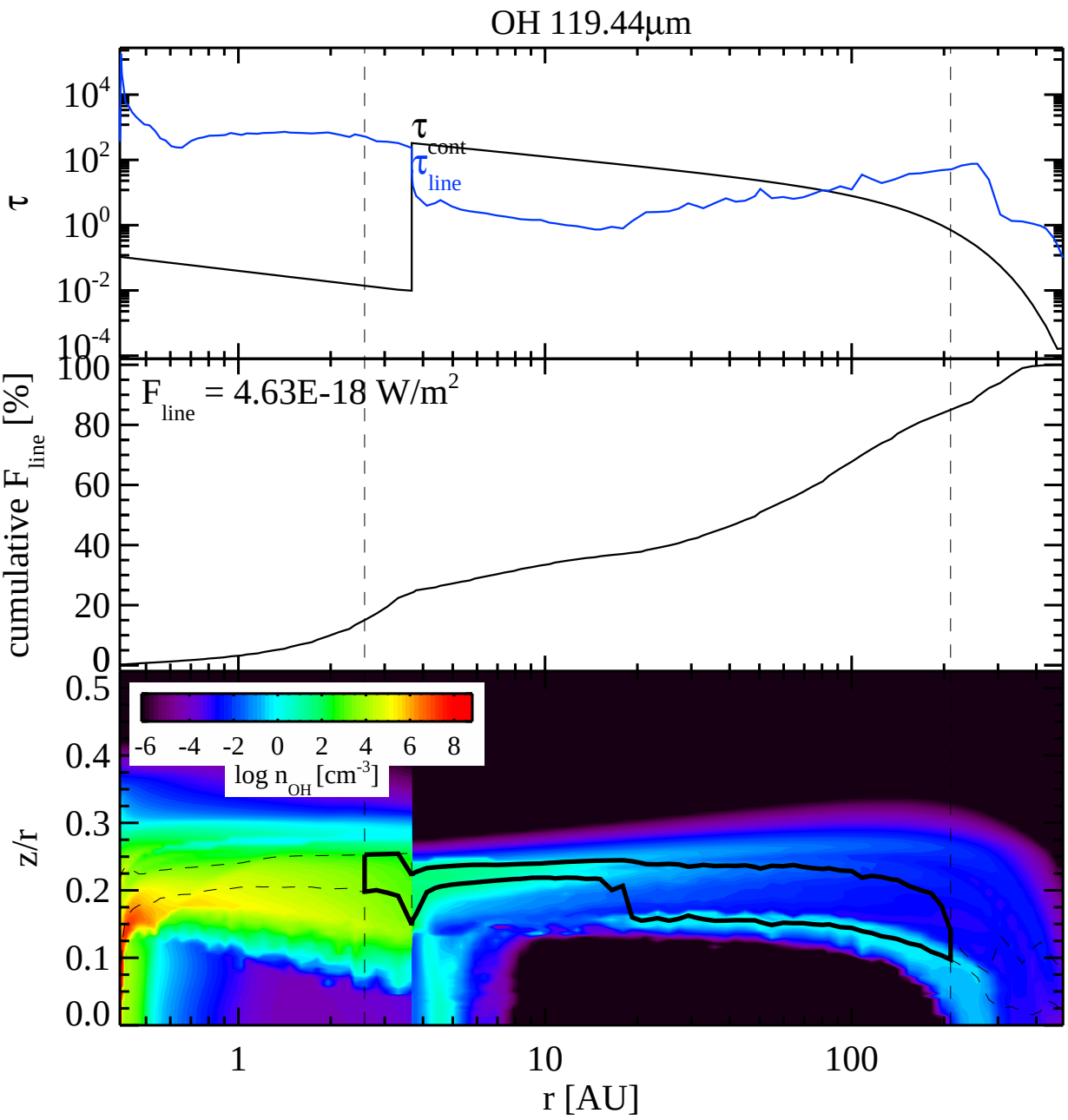

[SIII] 18.72µm
τ
τ cont
τ line
10^2
10^0
10^-2
10^-4
10^-6
cumulative F line [%]
F line = 1.51E-22 W/m^2
100
80
60
40
20
0
z/r
0.5
0.4
0.3
0.2
0.1
0.0
-12 -10 -8 -6 -4 -2 0
log n S++ [cm^-3]
1
10
100
r [AU]

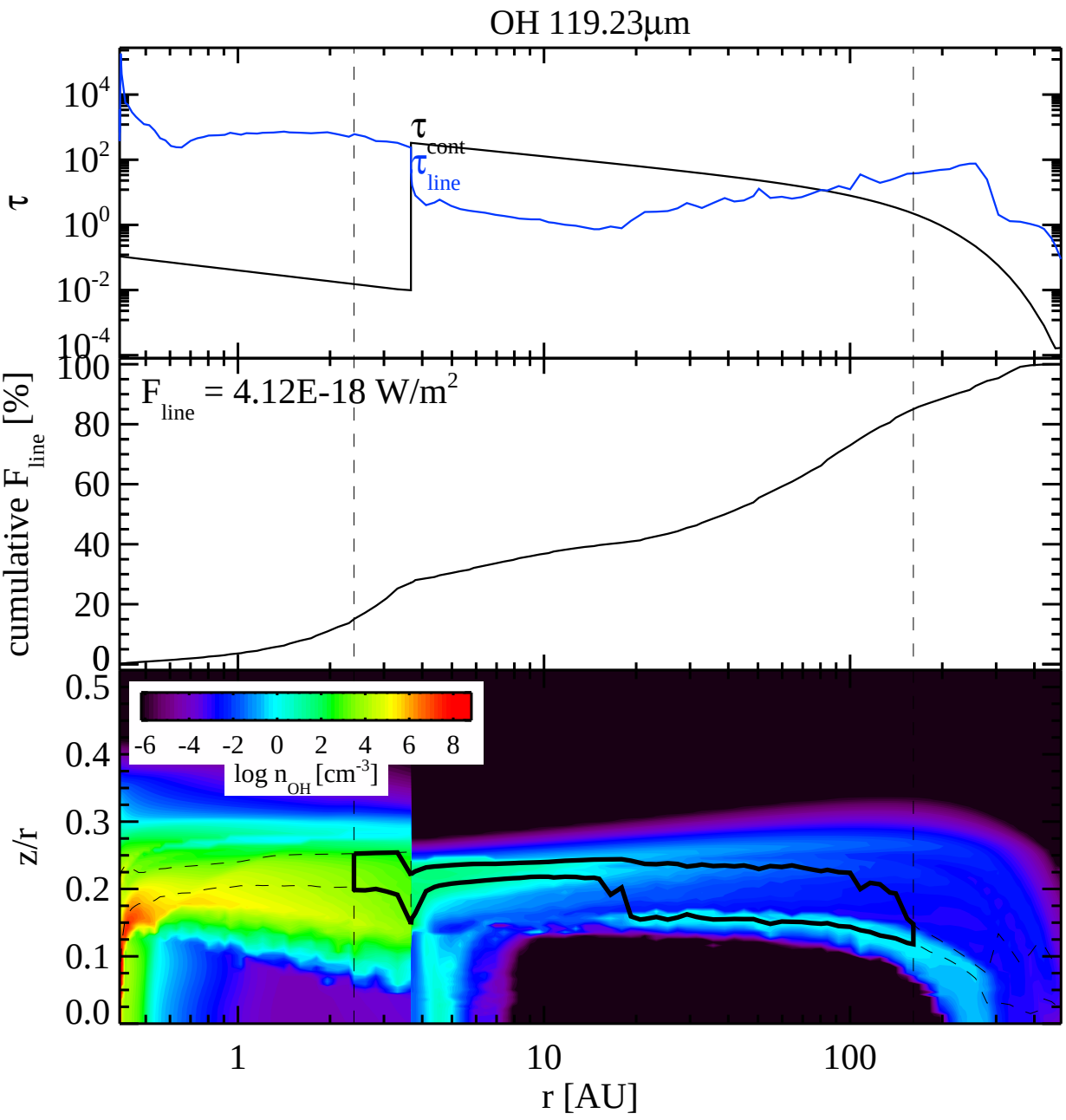

[ArII] 6.985µm
τ
τ cont
τ line
10^2
10^0
10^-2
10^-4
cumulative F line [%]
F line = 1.05E-19 W/m^2
100
80
60
40
20
0
z/r
0.5
0.4
0.3
0.2
0.1
0.0
-10 -8 -6 -4 -2 0 2
log n Ar+ [cm^-3]
1
10
100
r [AU]

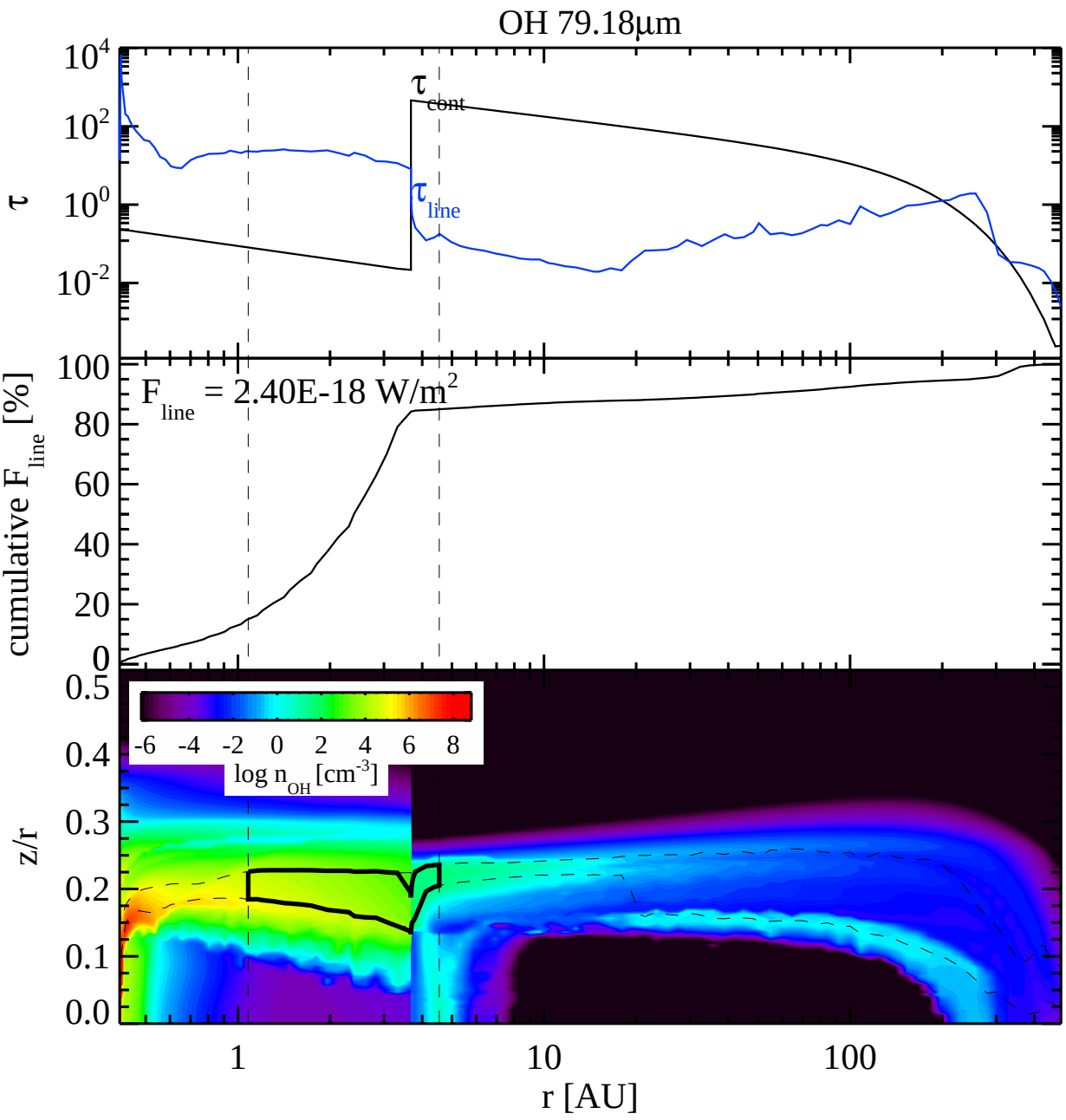

[ArIII] 21.82µm
τ cont
τ line
τ
cumulative F line [%]
F line = 1.59E-22 W/m2
z/r
log n Ar++ [cm-3]
-12 -10 -8 -6 -4 -2 0 2
r [AU]
1
10
100

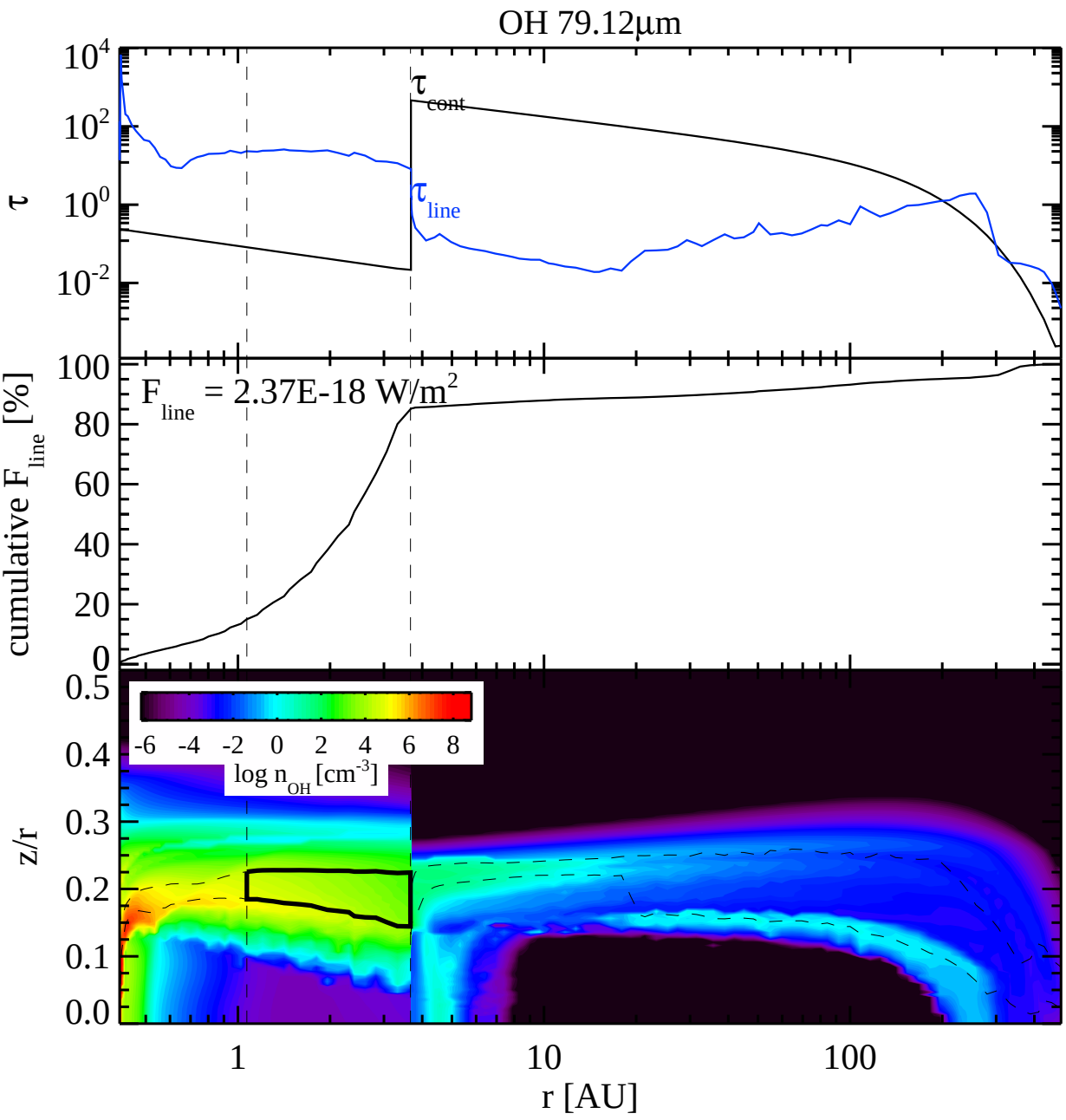

[FeII] 25.99µm
τ
τ_cont
τ_line
1000.000
100.000
10.000
1.000
0.100
0.010
0.001
F_line = 1.88E-19 W/m²
cumulative F_line [%]
100
80
60
40
20
0
-6 -4 -2 0 2 4
log n_Fe+ [cm⁻³]
z/r
0.5
0.4
0.3
0.2
0.1
0.0
1
10
100
r [AU]

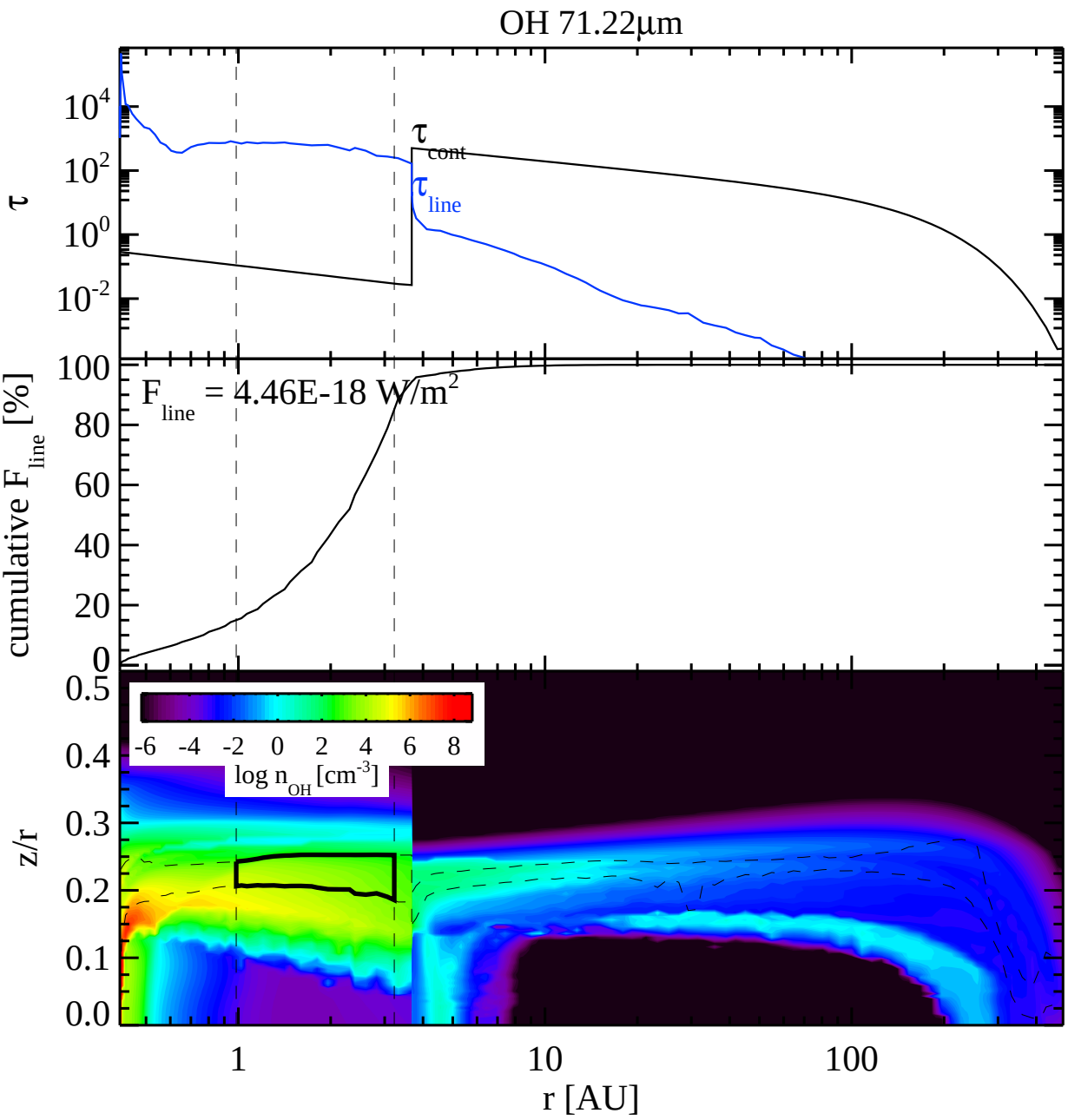

[SiII] 34.81µm
τ
τ cont
τ line
1000.000
100.000
10.000
1.000
0.100
0.010
0.001
F line = 6.06E-19 W/m2
cumulative F line [%]
100
80
60
40
20
0
z/r
0.5
0.4
0.3
0.2
0.1
0.0
-8 -6 -4 -2 0 2 4 6
log n Si+ [cm-3]
1
10
100
r [AU]

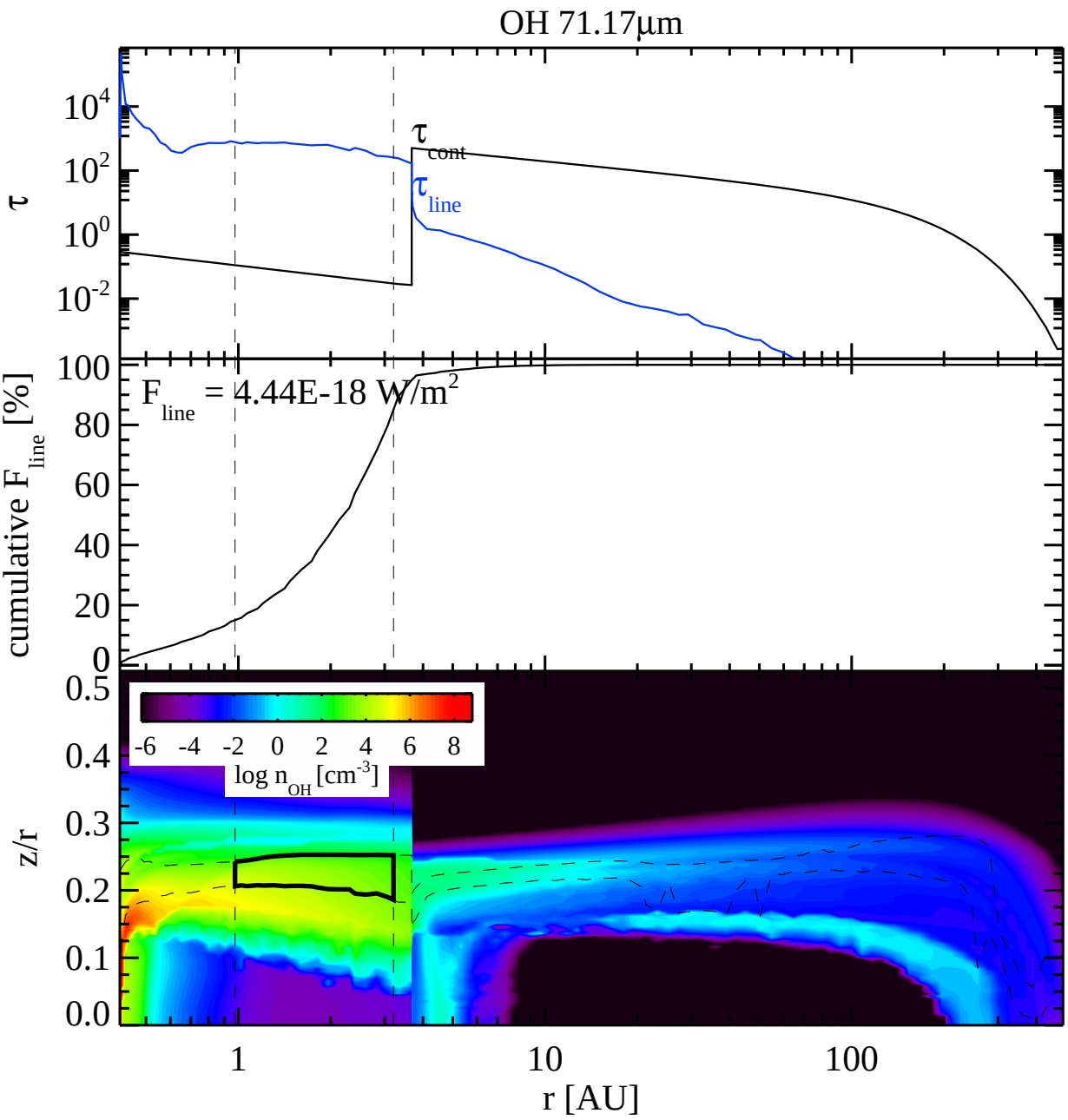

OH 119.44μm
τ
10^4
10^2
10^0
10^{-2}
10^{-4}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 4.63E-18 W/m^2
z/r
0.5
0.4
0.3
0.2
0.1
0.0
-6 -4 -2 0 2 4 6 8
log n_{OH} [cm^{-3}]
1
10
100
r [AU]

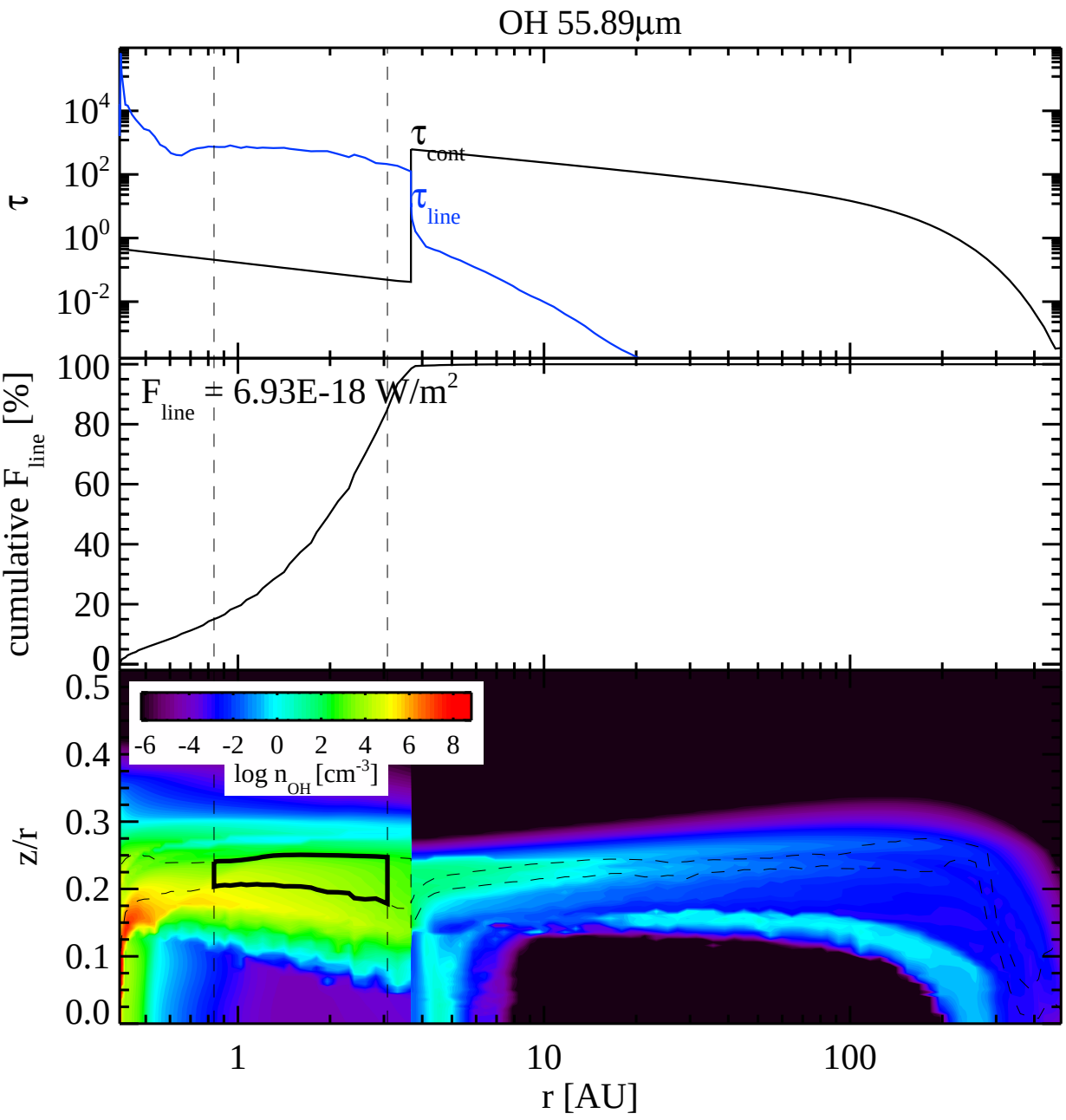

OH 119.23µm
τ
10^4
10^2
10^0
10^{-2}
10^{-4}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 4.12E-18 W/m^2
z/r
0.5
0.4
0.3
0.2
0.1
0.0
-6 -4 -2 0 2 4 6 8
log n_{OH} [cm^{-3}]
1
10
100
r [AU]

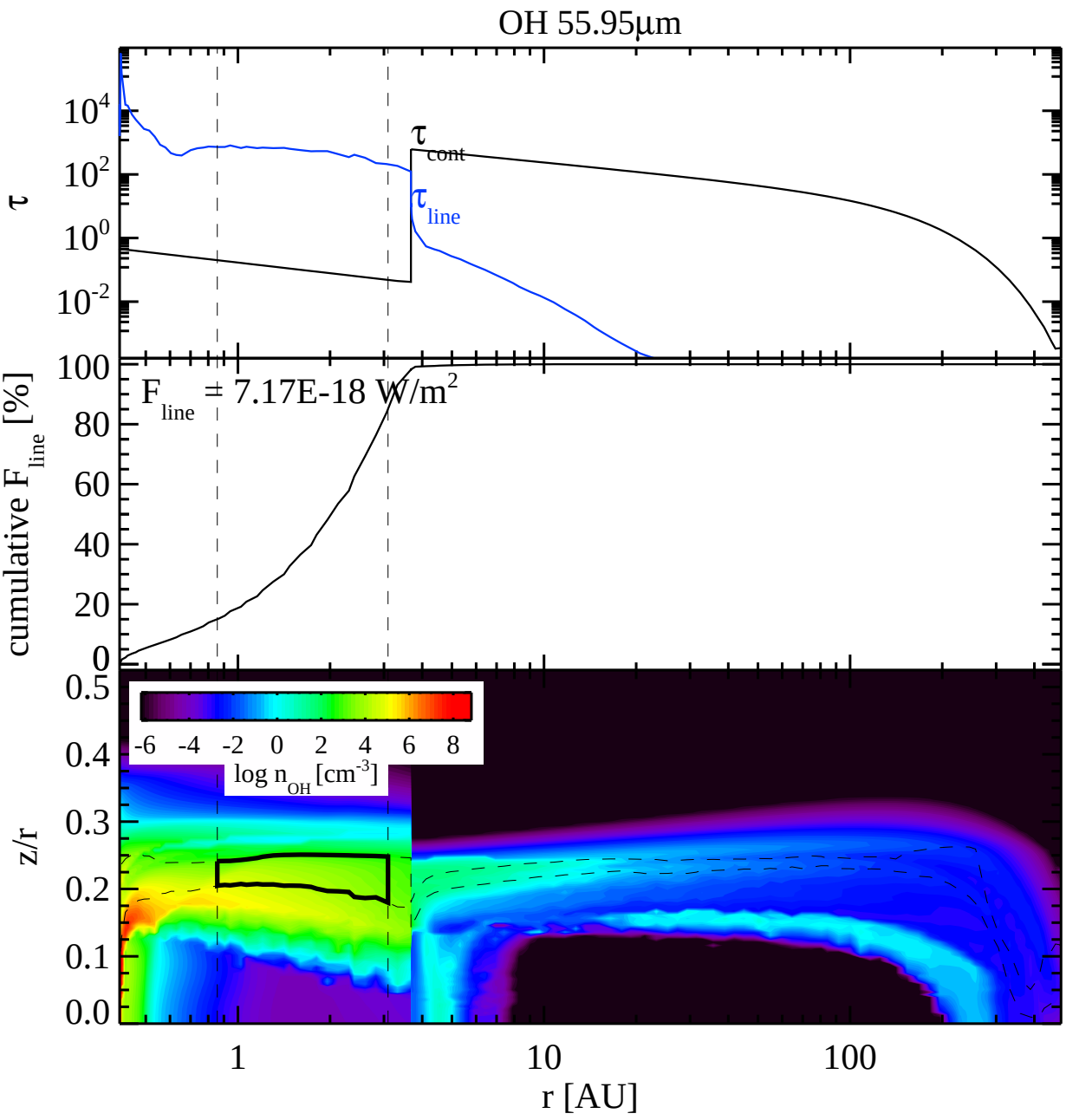

OH 79.18µm
τ
cont
τ
line
τ
cumulative F
line
[%]
F
line
= 2.40E-18 W/m
2
log n
OH
[cm
-3
]
z/r
r [AU]

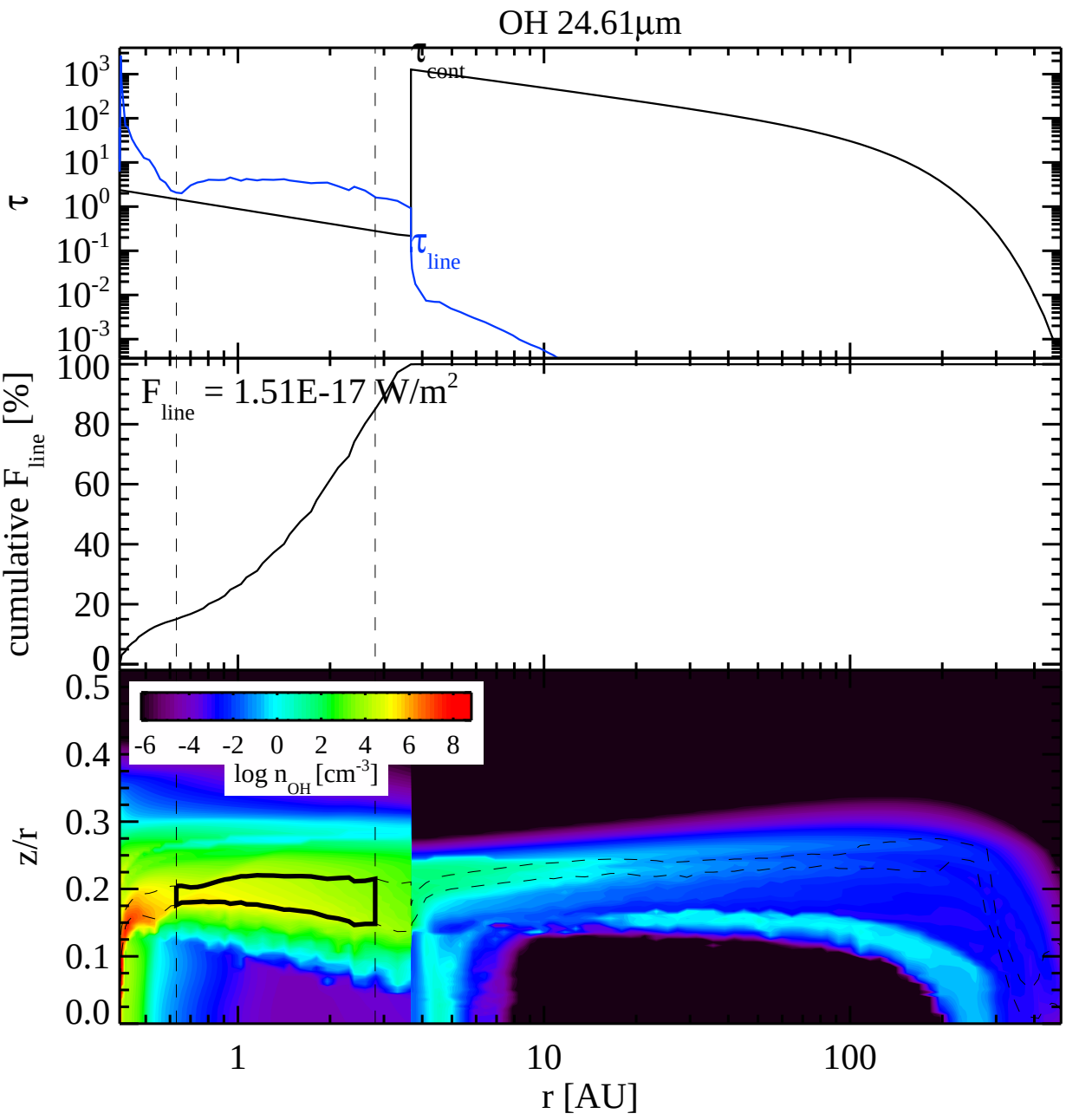

OH 79.12µm
τ
cont
τ
line
τ
cumulative F
line
[%]
F
line
= 2.37E-18 W/m
2
log n
OH
[cm
-3
]
z/r
r [AU]

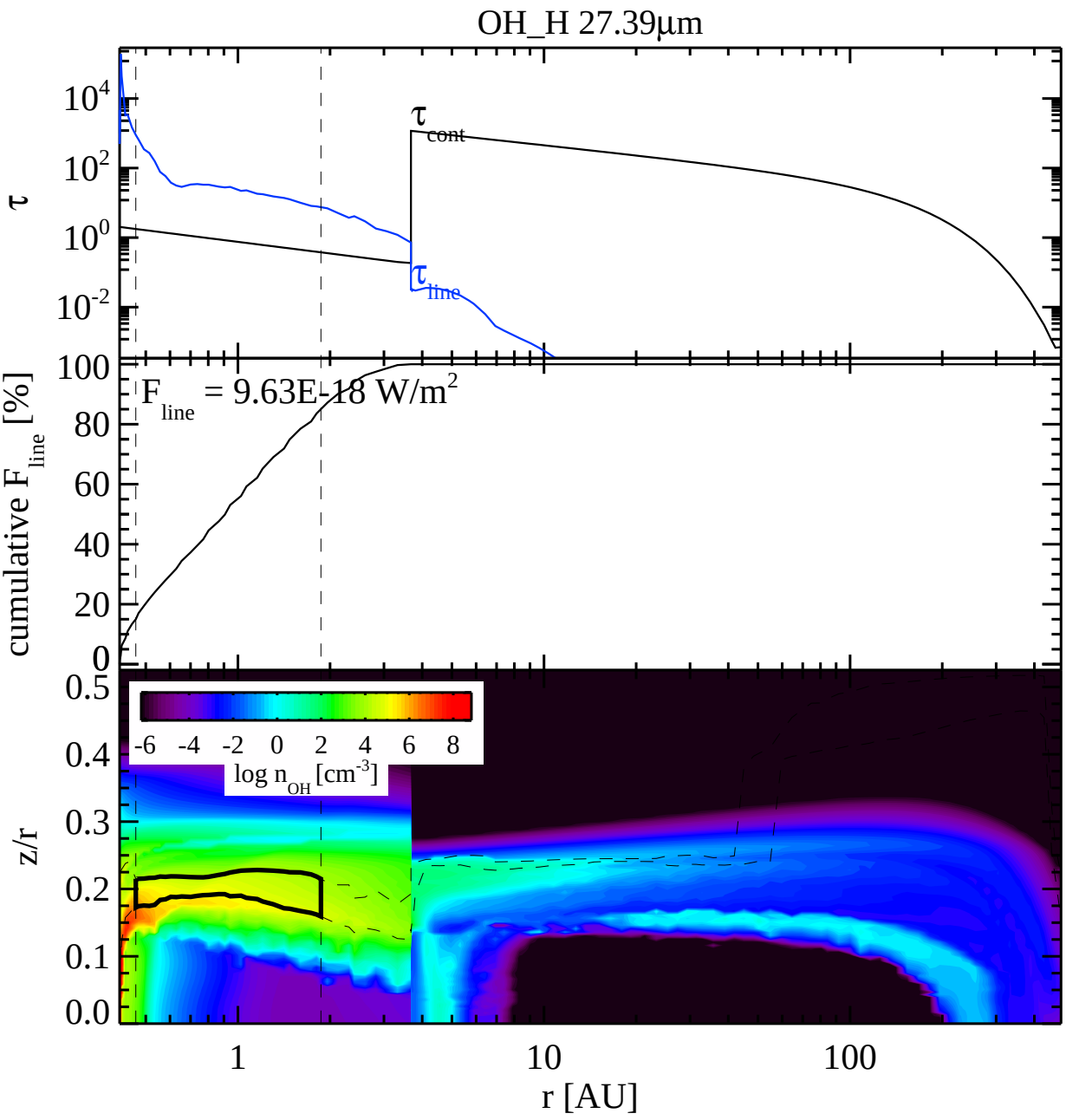

OH 71.22µm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 4.46E-18 W/m^2
z/r
0.5
0.4
0.3
0.2
0.1
0.0
-6 -4 -2 0 2 4 6 8
log n_{OH} [cm^{-3}]
1
10
100
r [AU]

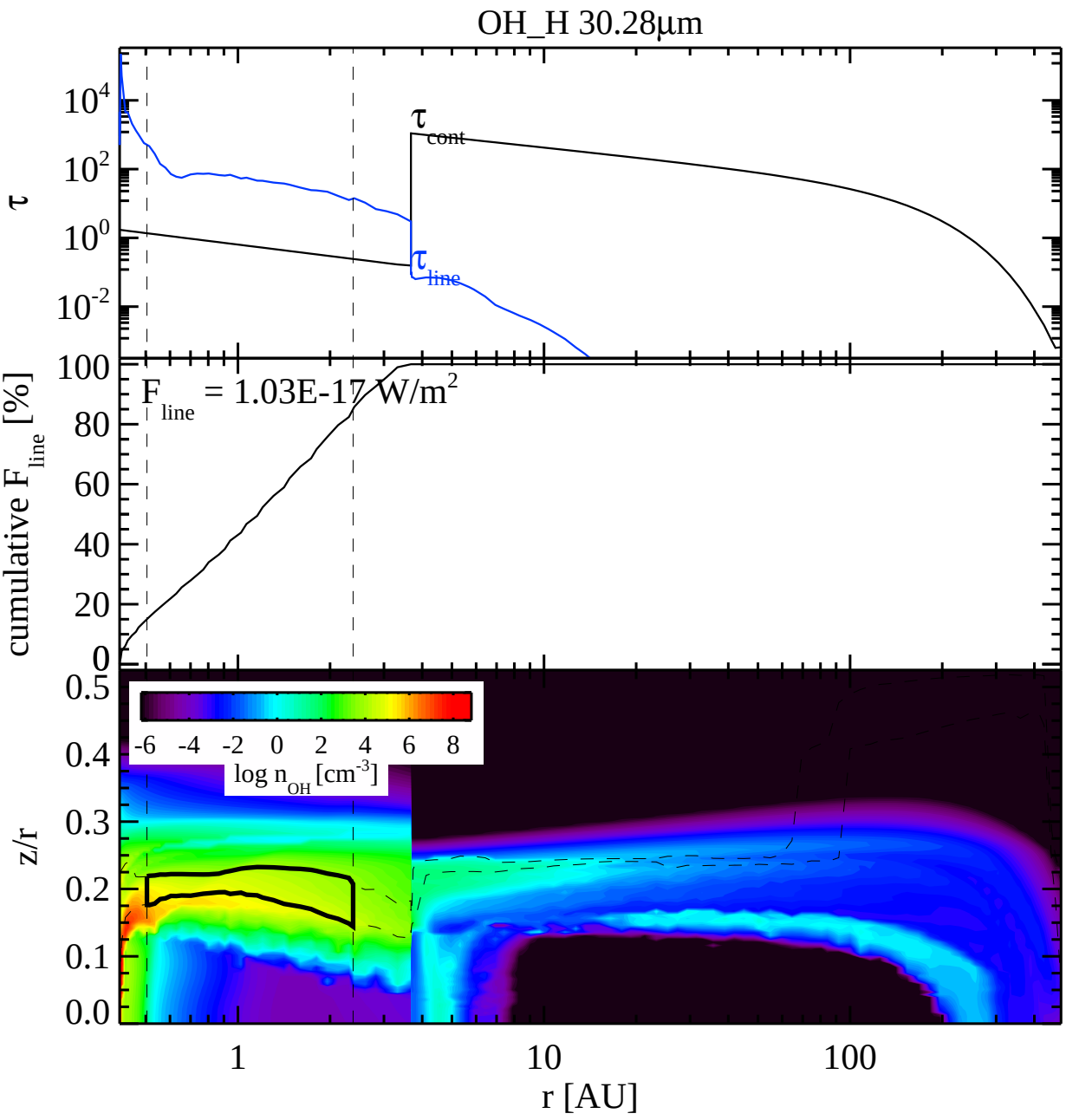

OH 71.17µm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 4.44E-18 W/m^2
z/r
0.5
0.4
0.3
0.2
0.1
0.0
-6 -4 -2 0 2 4 6 8
log n_{OH} [cm^{-3}]
1
10
100
r [AU]

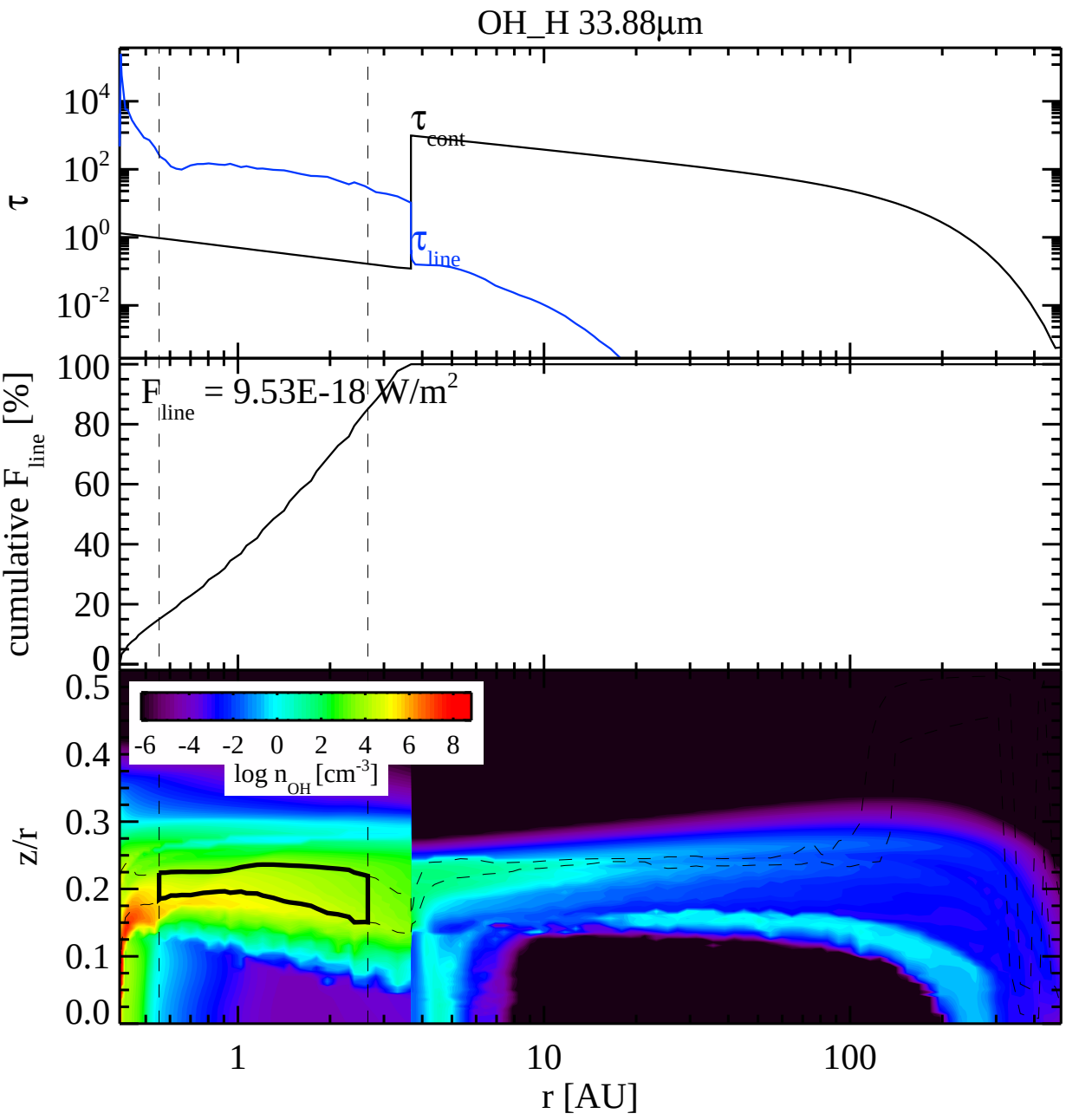

OH 55.89µm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 6.93E-18 W/m^2
z/r
0.5
0.4
0.3
0.2
0.1
0.0
-6 -4 -2 0 2 4 6 8
log n_{OH} [cm^{-3}]
1
10
100
r [AU]

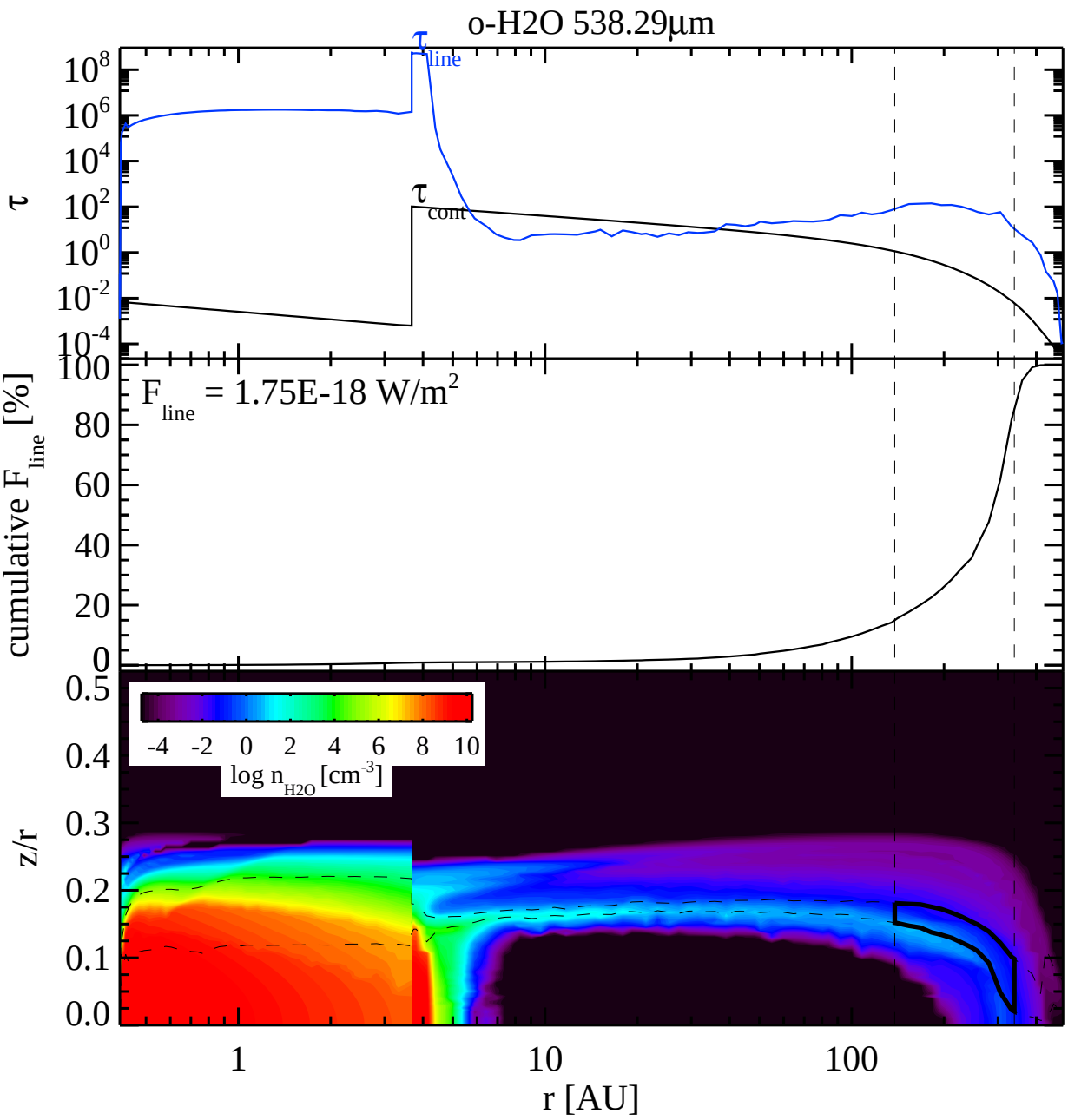

OH 55.95µm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 7.17E-18 W/m^2
z/r
0.5
0.4
0.3
0.2
0.1
0.0
-6 -4 -2 0 2 4 6 8
log n_{OH} [cm^{-3}]
1
10
100
r [AU]

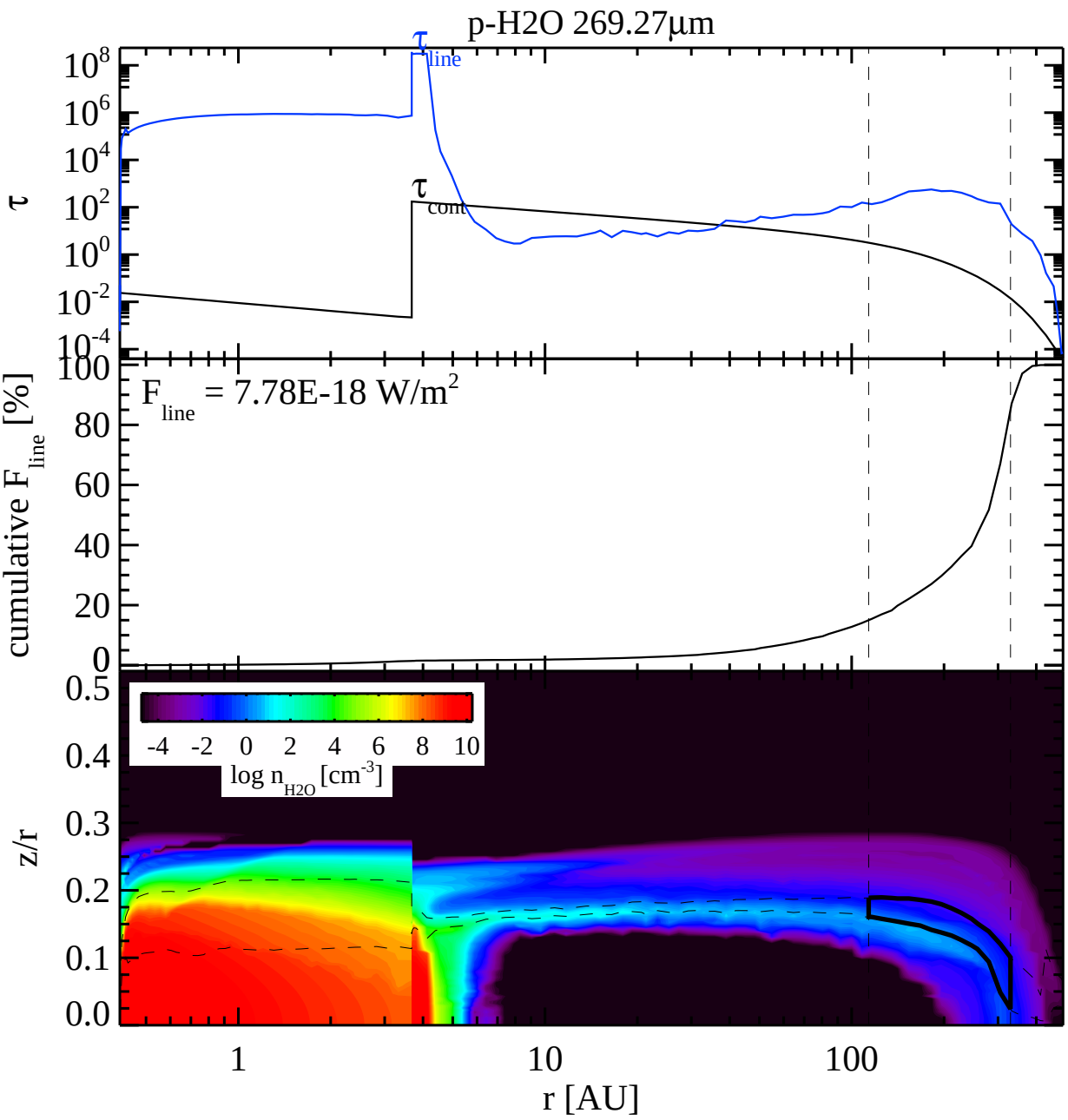

OH 24.61µm
τ
τ cont
τ line
cumulative F line [%]
F line = 1.51E-17 W/m2
z/r
log n OH [cm-3]
r [AU]

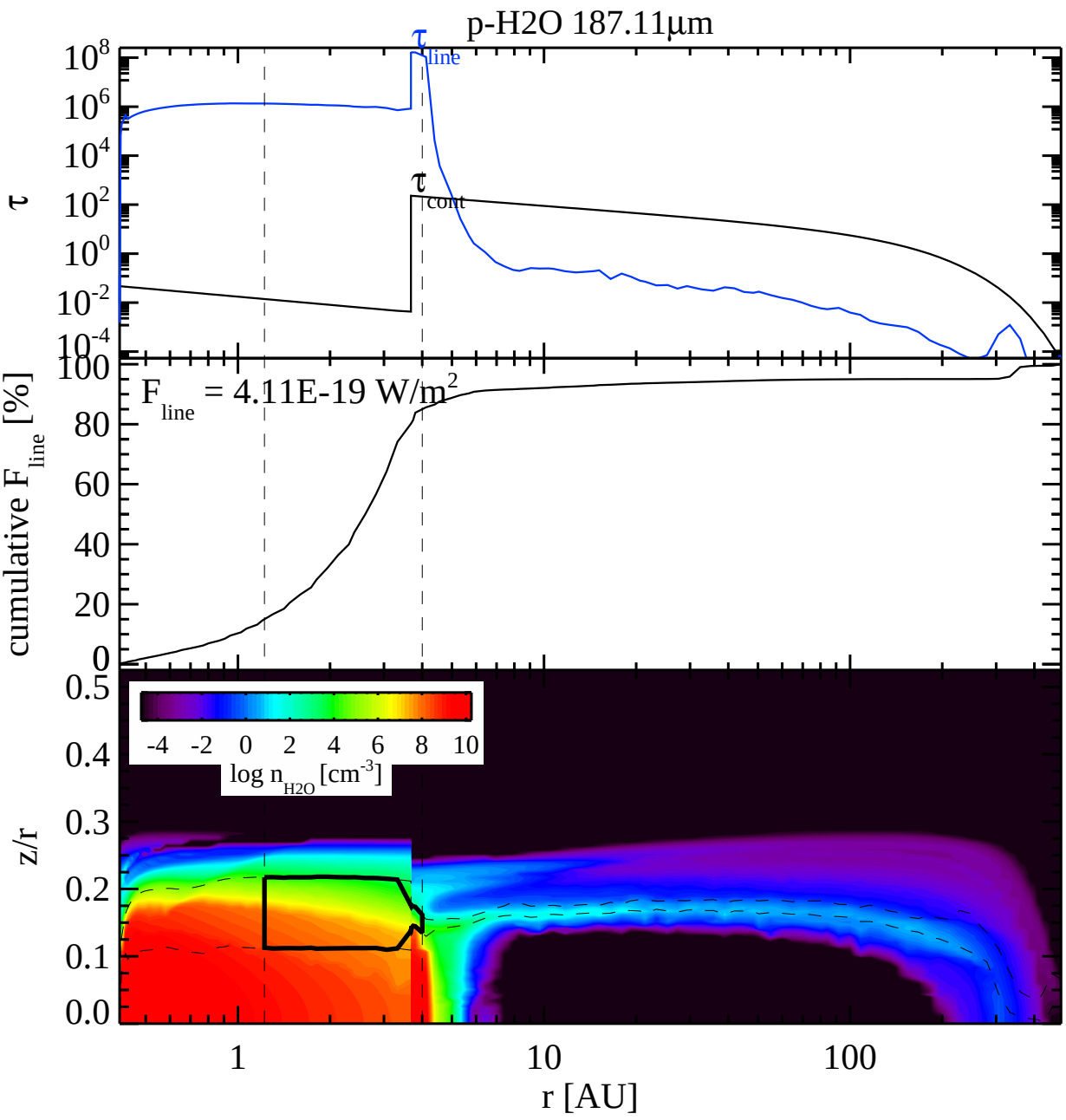

OH_H 27.39µm
τ
10^4
10^2
10^0
10^{-2}
τ cont
τ line
cumulative F line [%]
100
80
60
40
20
0
F line = 9.63E-18 W/m2
z/r
0.5
0.4
0.3
0.2
0.1
0.0
-6 -4 -2 0 2 4 6 8
log n OH [cm-3]
1
10
100
r [AU]

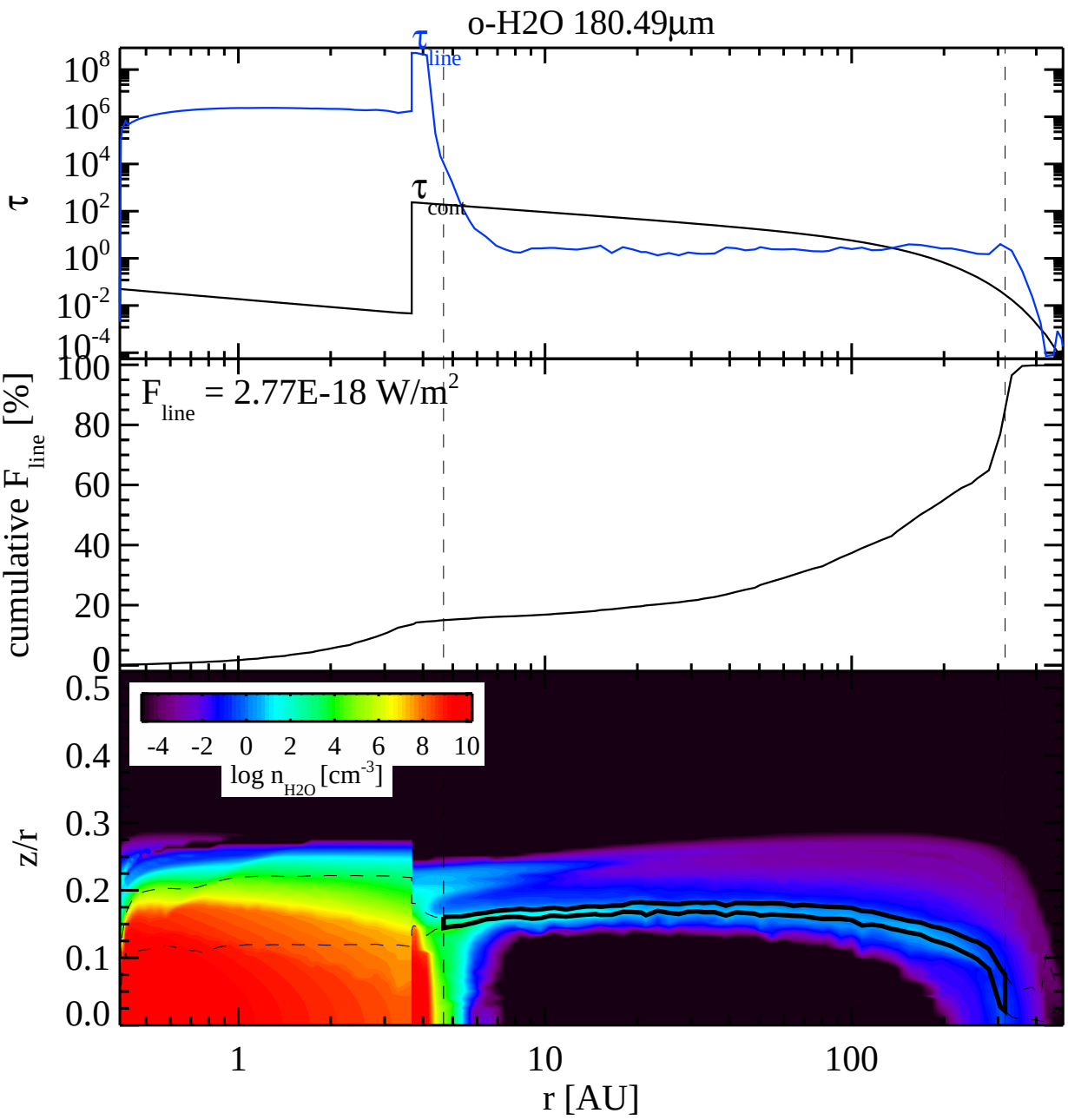

OH_H 30.28µm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 1.03E-17 W/m^2
z/r
0.5
0.4
0.3
0.2
0.1
0.0
-6 -4 -2 0 2 4 6 8
log n_{OH} [cm^{-3}]
1
10
100
r [AU]

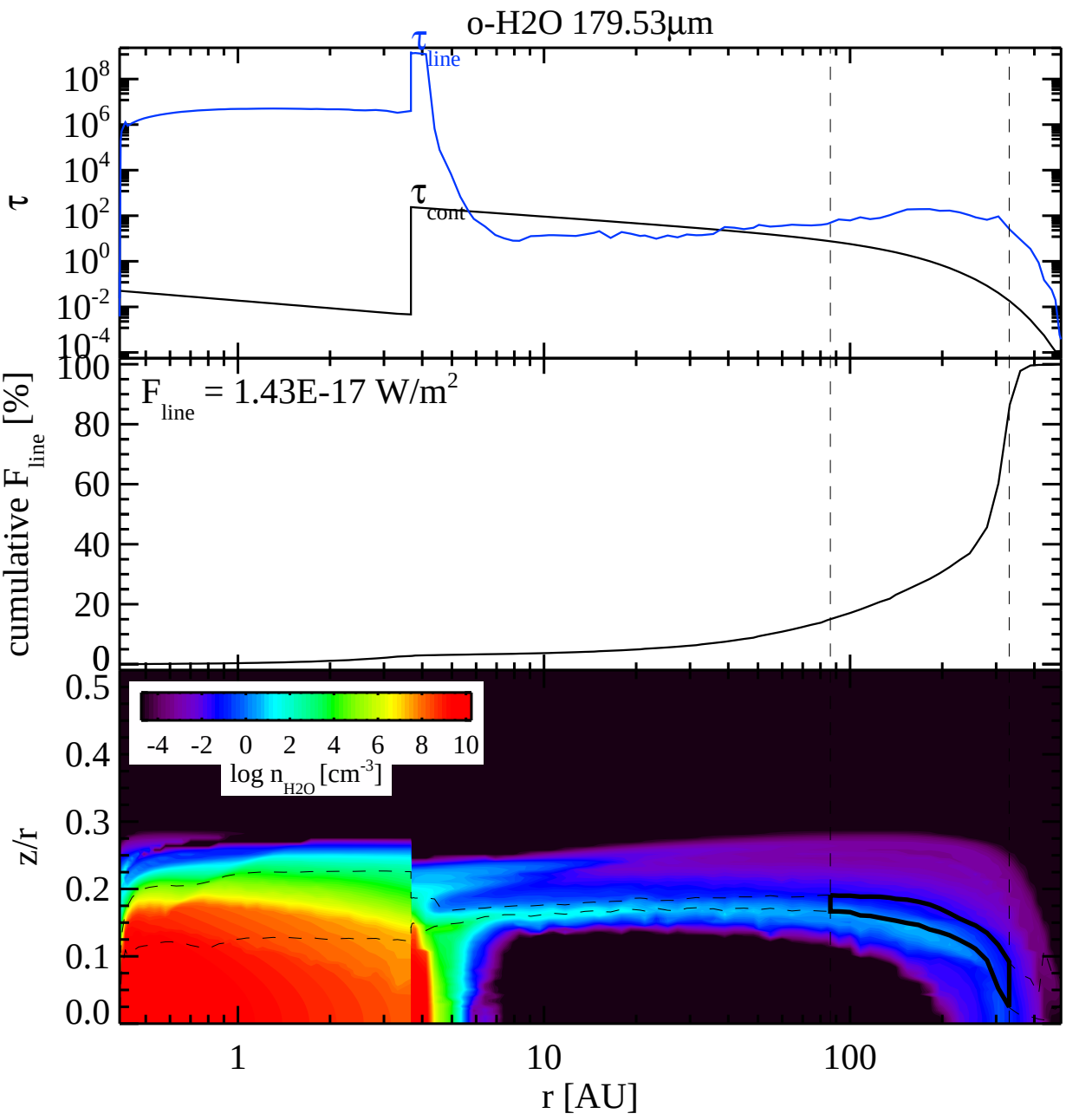

OH_H 33.88µm
τ
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 9.53E-18 W/m^2
z/r
0.5
0.4
0.3
0.2
0.1
0.0
-6 -4 -2 0 2 4 6 8
log n_{OH} [cm^{-3}]
1
10
100
r [AU]

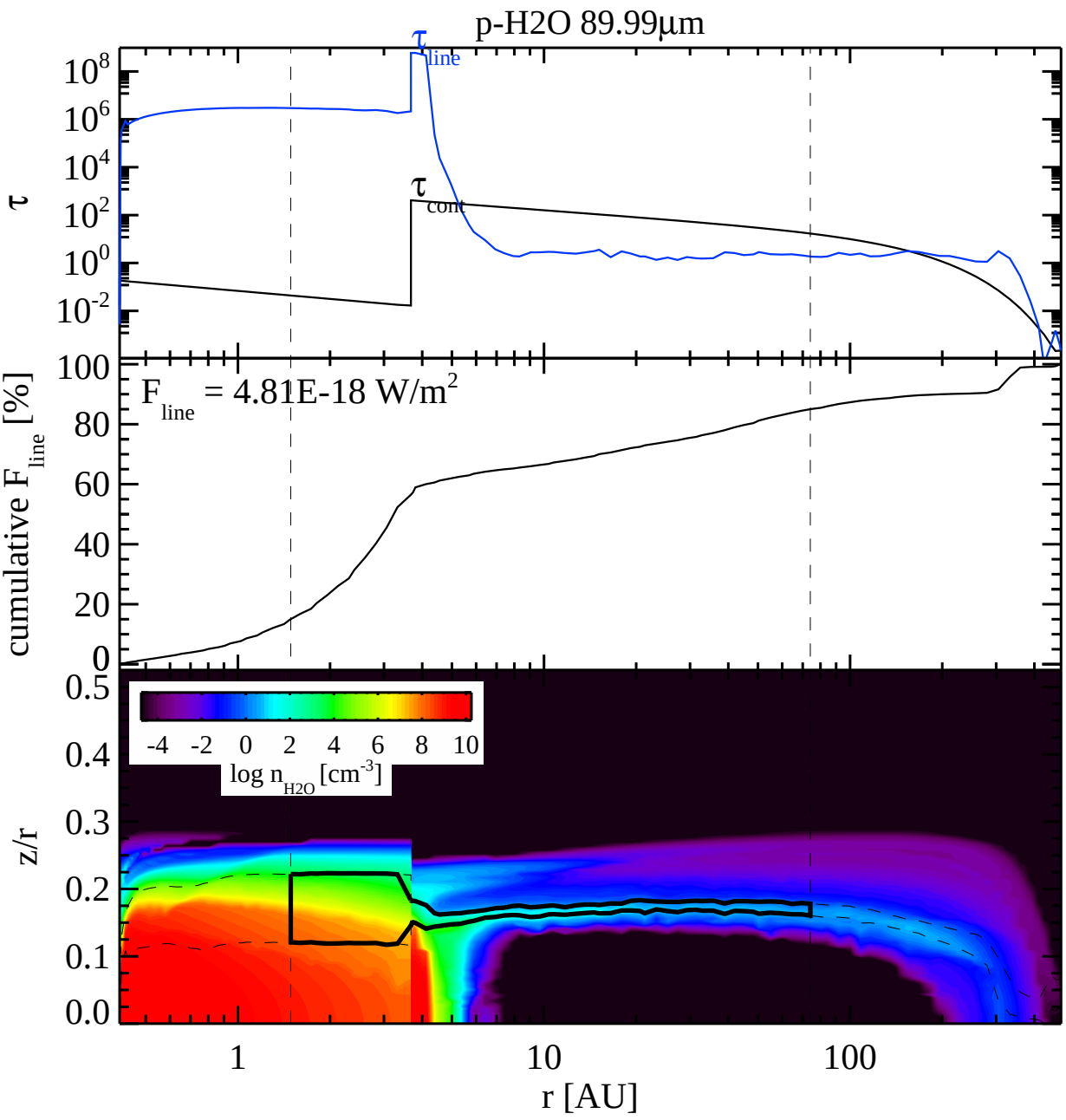

o-H2O 538.29µm
τ line
τ cont
τ
cumulative F line [%]
F line = 1.75E-18 W/m2
log n H2O [cm-3]
z/r
r [AU]

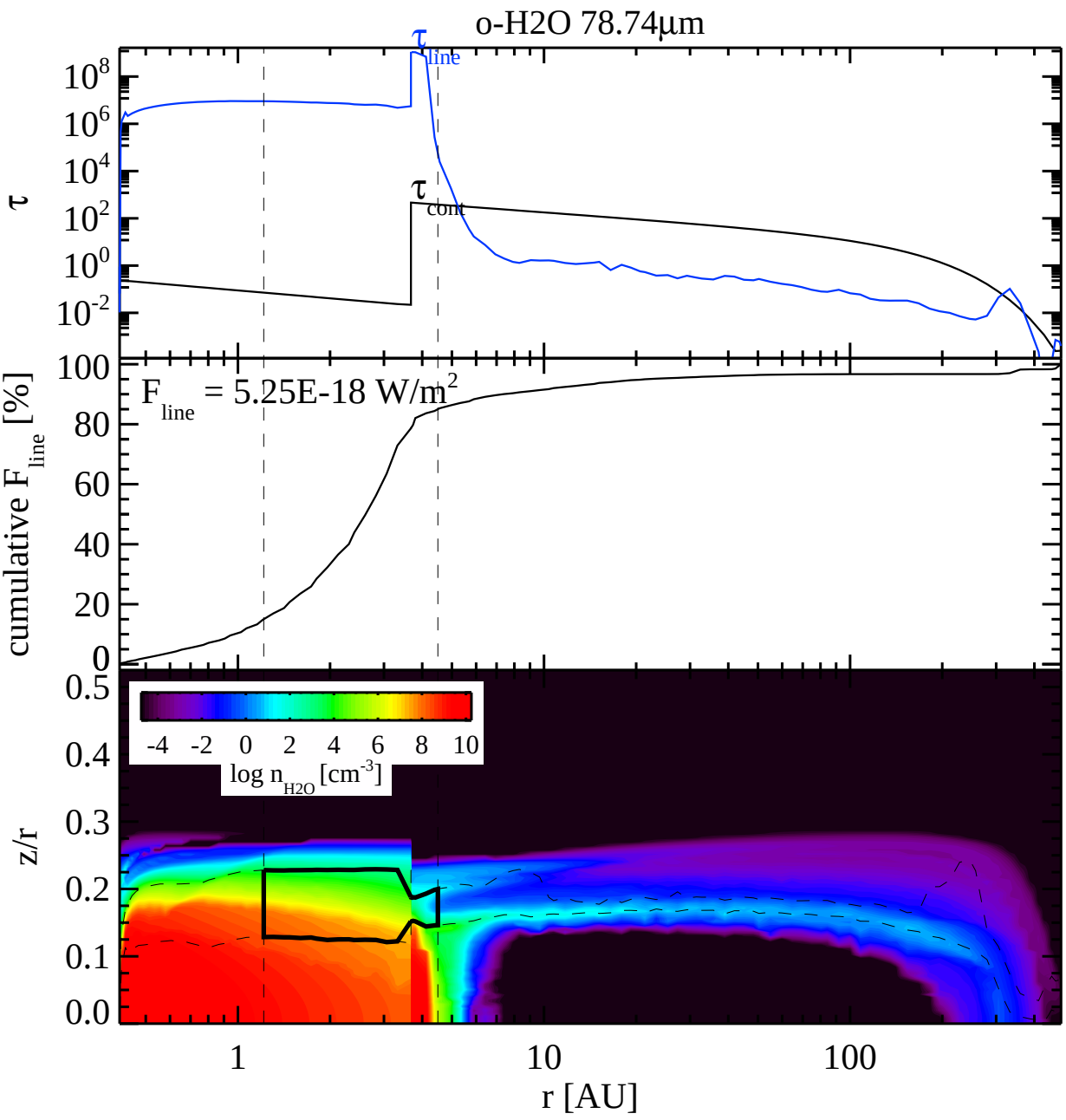

p-H2O 269.27µm
τ line
τ cont
τ
cumulative F line [%]
F line = 7.78E-18 W/m2
log n H2O [cm-3]
z/r
r [AU]

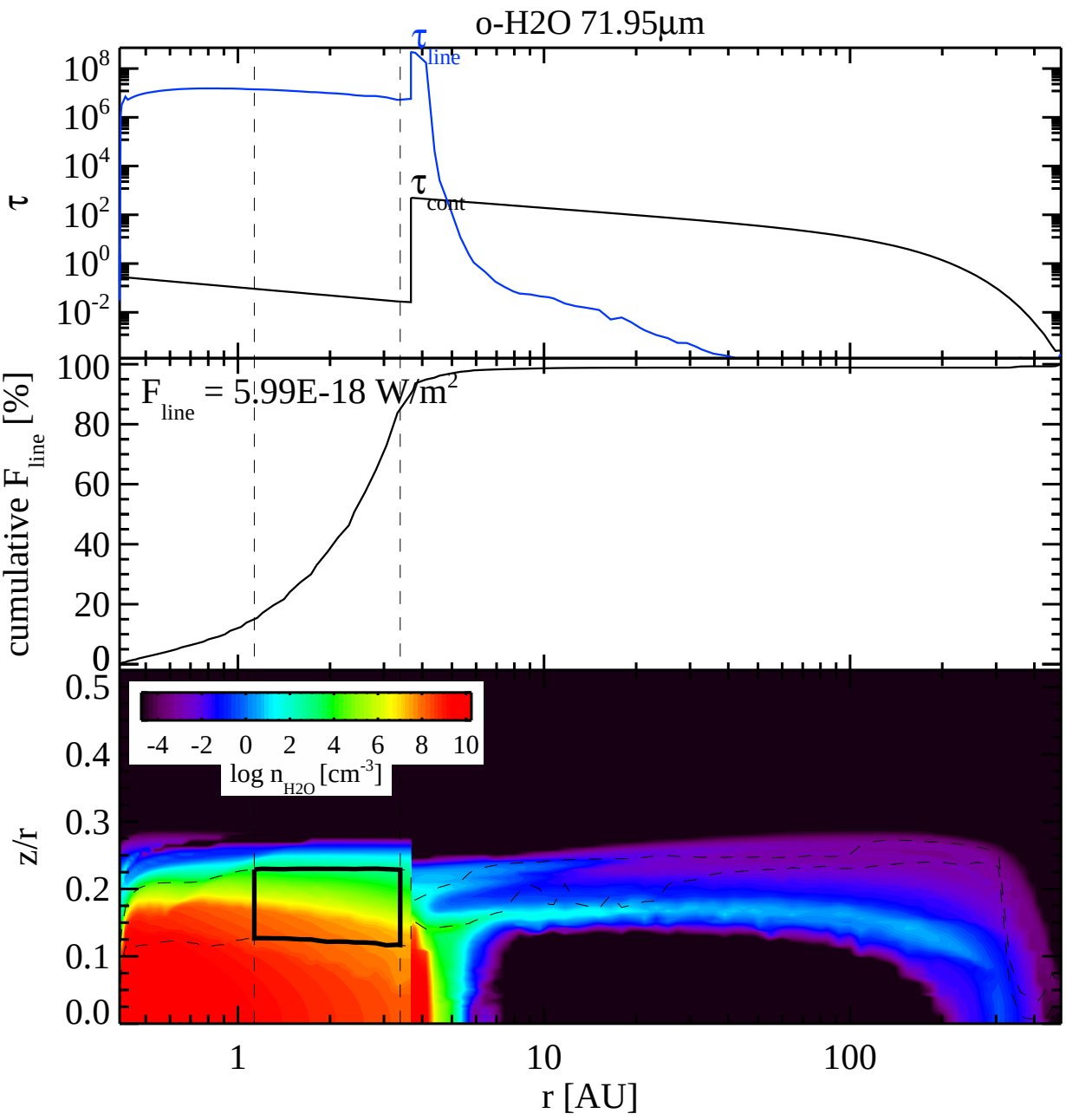

p-H2O 187.11µm
τ line
τ cont
τ
cumulative F line [%]
F line = 4.11E-19 W/m2
log n H2O [cm-3]
z/r
r [AU]

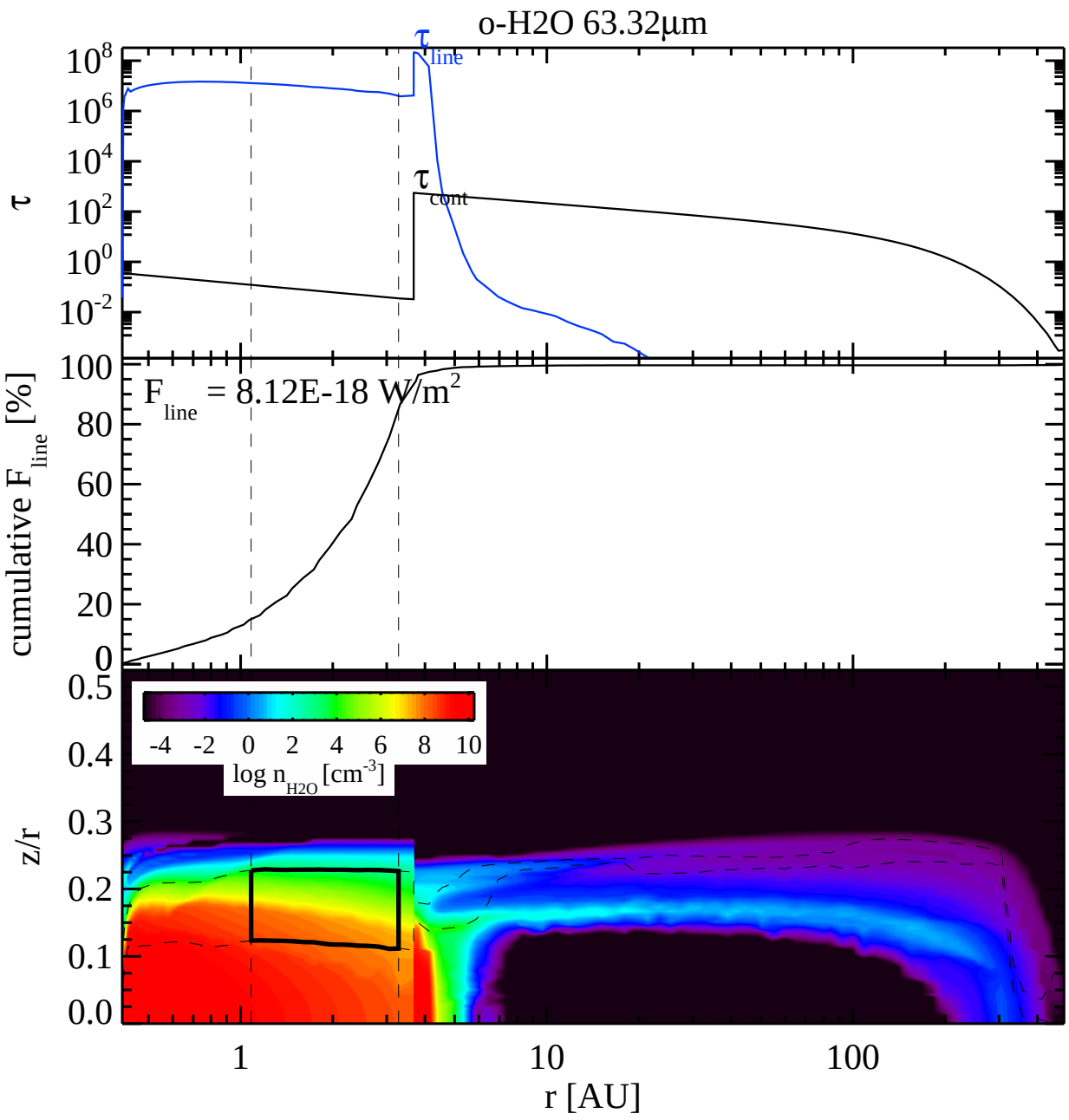

o-H2O 180.49µm
τ line
τ cont
τ
10^8
10^6
10^4
10^2
10^0
10^-2
10^-4
F line = 2.77E-18 W/m^2
cumulative F line [%]
100
80
60
40
20
0
-4 -2 0 2 4 6 8 10
log n H2O [cm^-3]
z/r
0.5
0.4
0.3
0.2
0.1
0.0
1
10
100
r [AU]

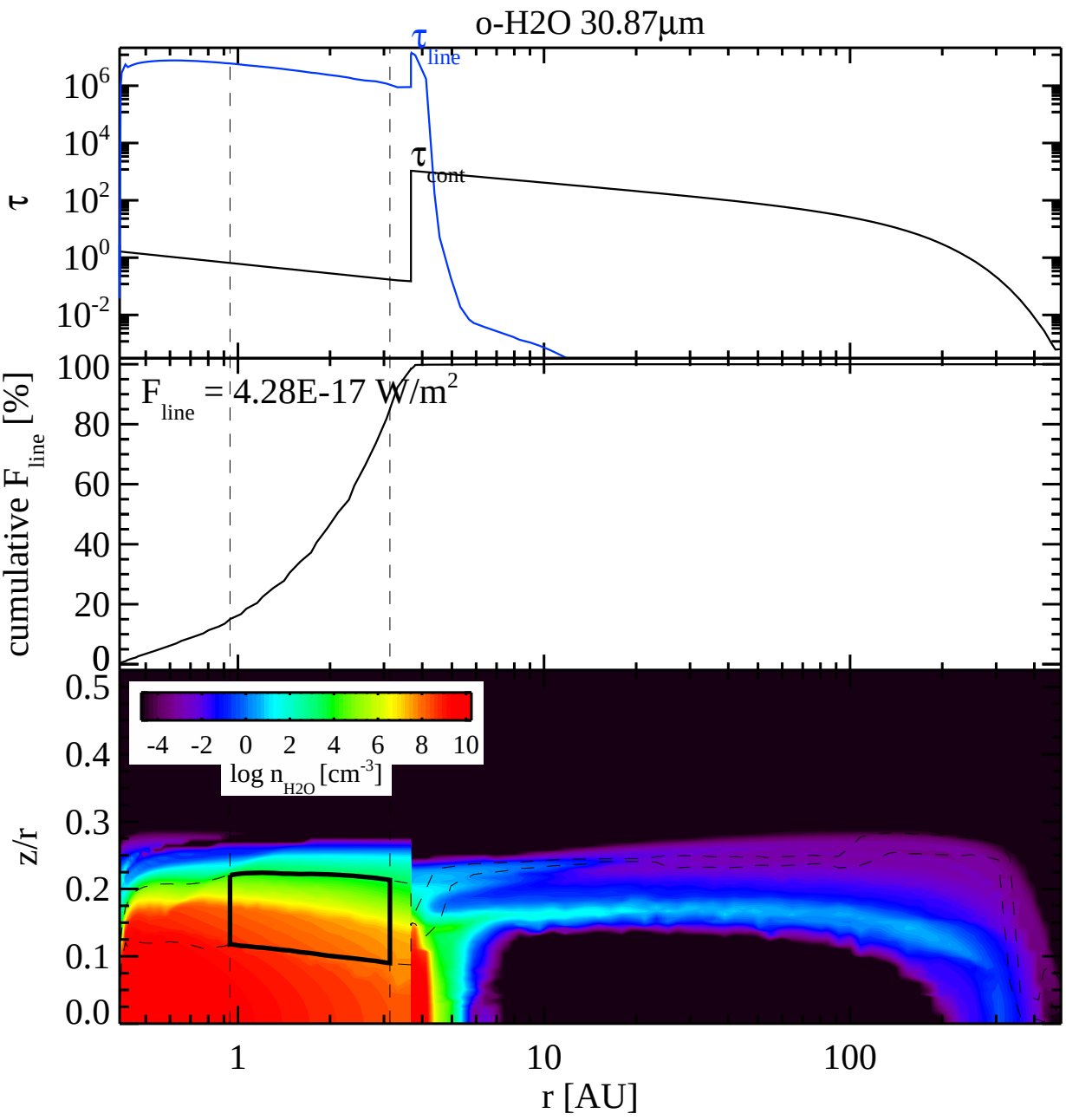

o-H2O 179.53µm
τ line
τ cont
τ
cumulative F line [%]
F line = 1.43E-17 W/m2
log n H2O [cm-3]
-4 -2 0 2 4 6 8 10
z/r
r [AU]
1
10
100

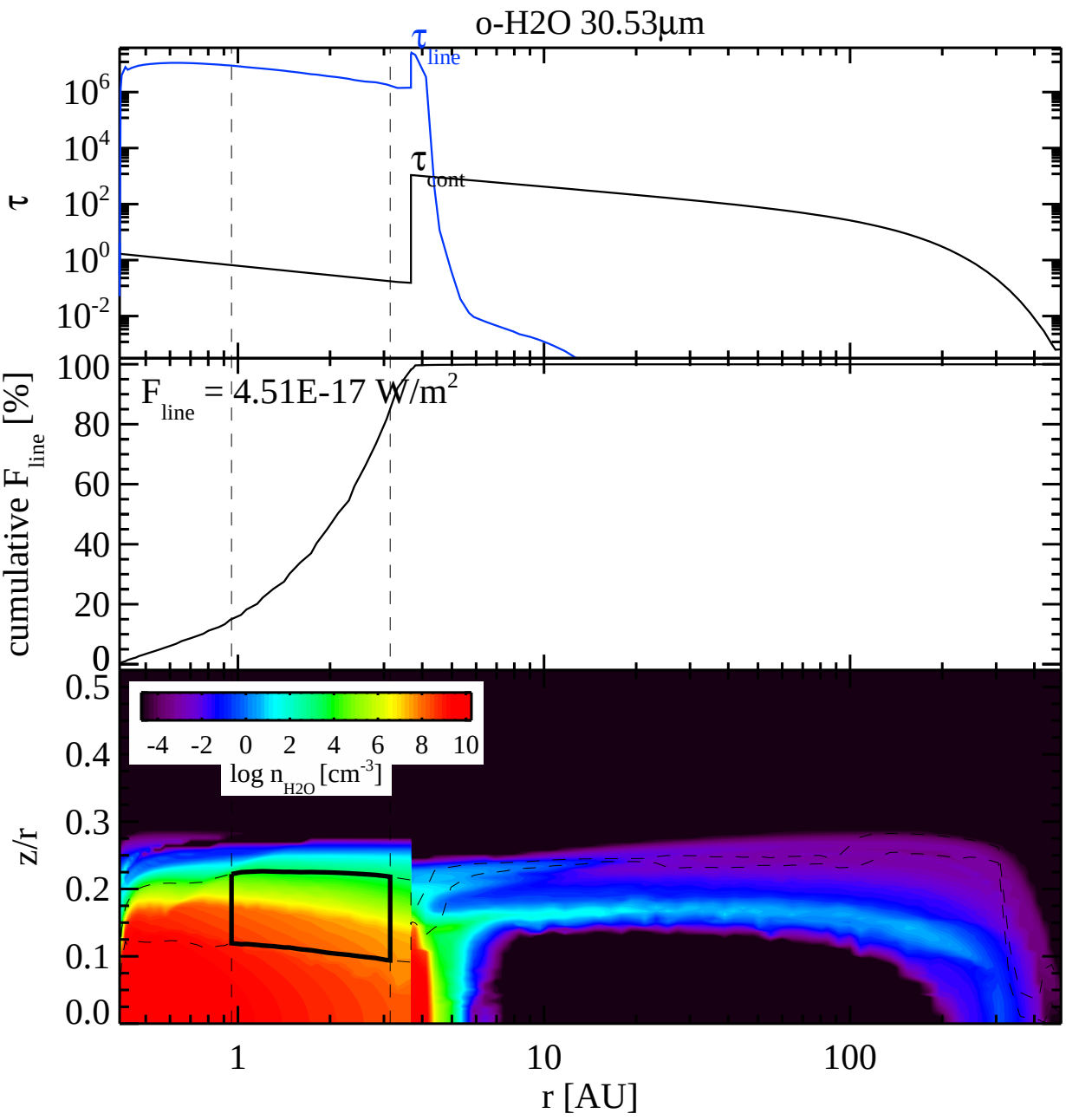

p-H2O 89.99µm
τ line
τ cont
τ
cumulative F line [%]
F line = 4.81E-18 W/m2
log n H2O [cm-3]
-4 -2 0 2 4 6 8 10
z/r
r [AU]
1
10
100

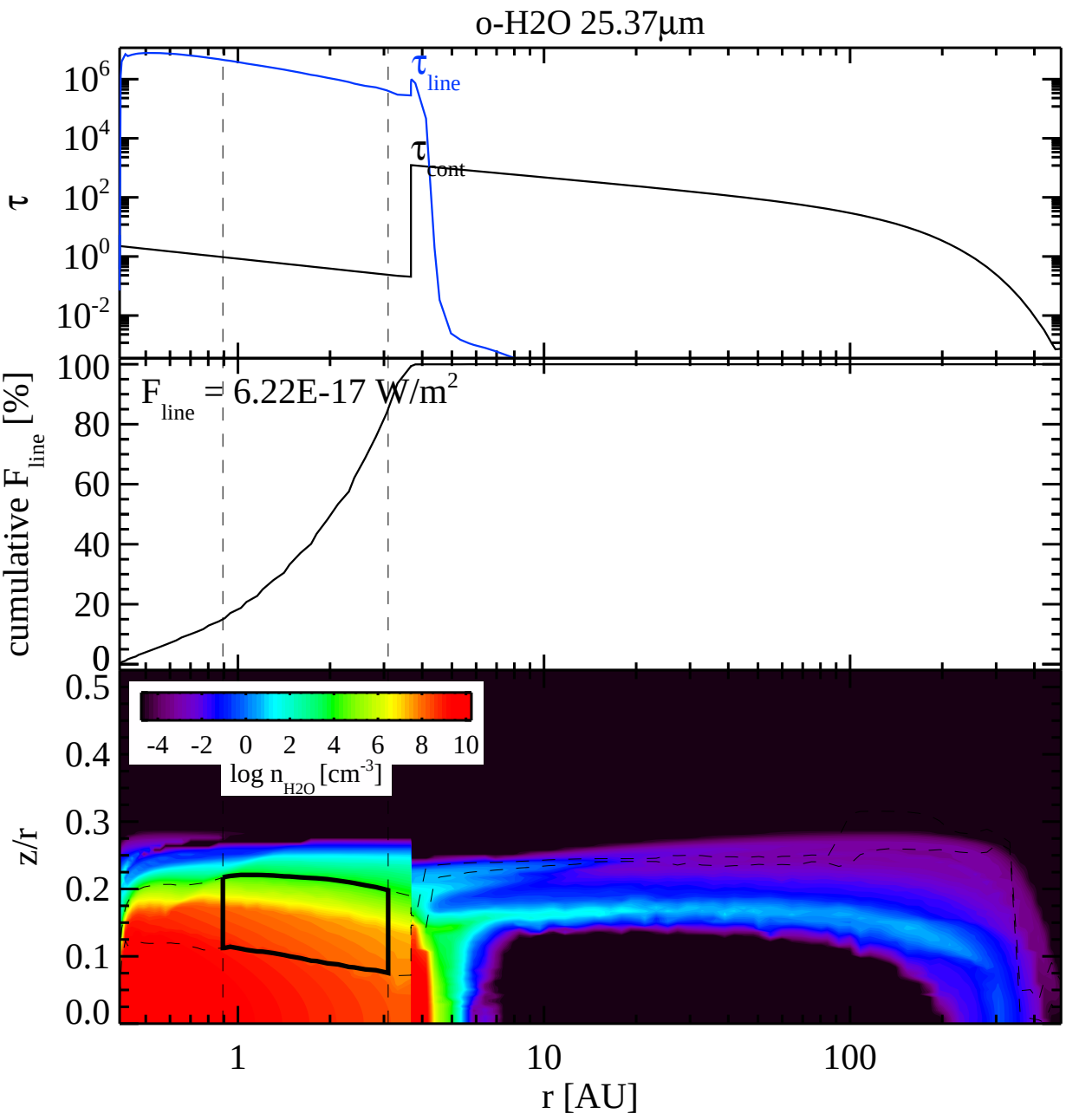

o-H2O 78.74µm
τ line
τ cont
τ
cumulative F line [%]
F line = 5.25E-18 W/m2
log n H2O [cm-3]
z/r
r [AU]

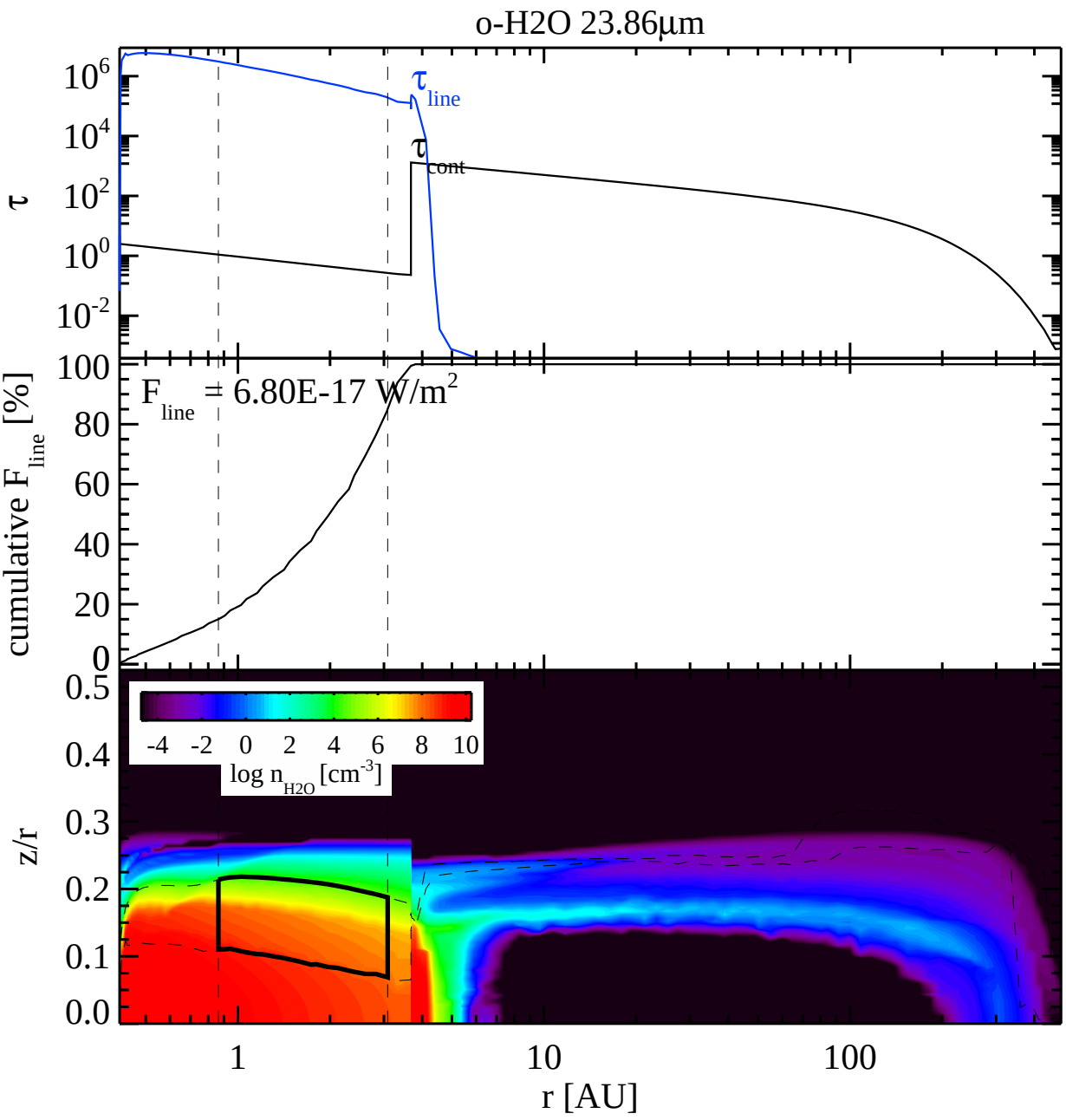

o-H2O 71.95µm
τ line
τ cont
τ
cumulative F line [%]
F line = 5.99E-18 W/m2
log n H2O [cm-3]
z/r
r [AU]

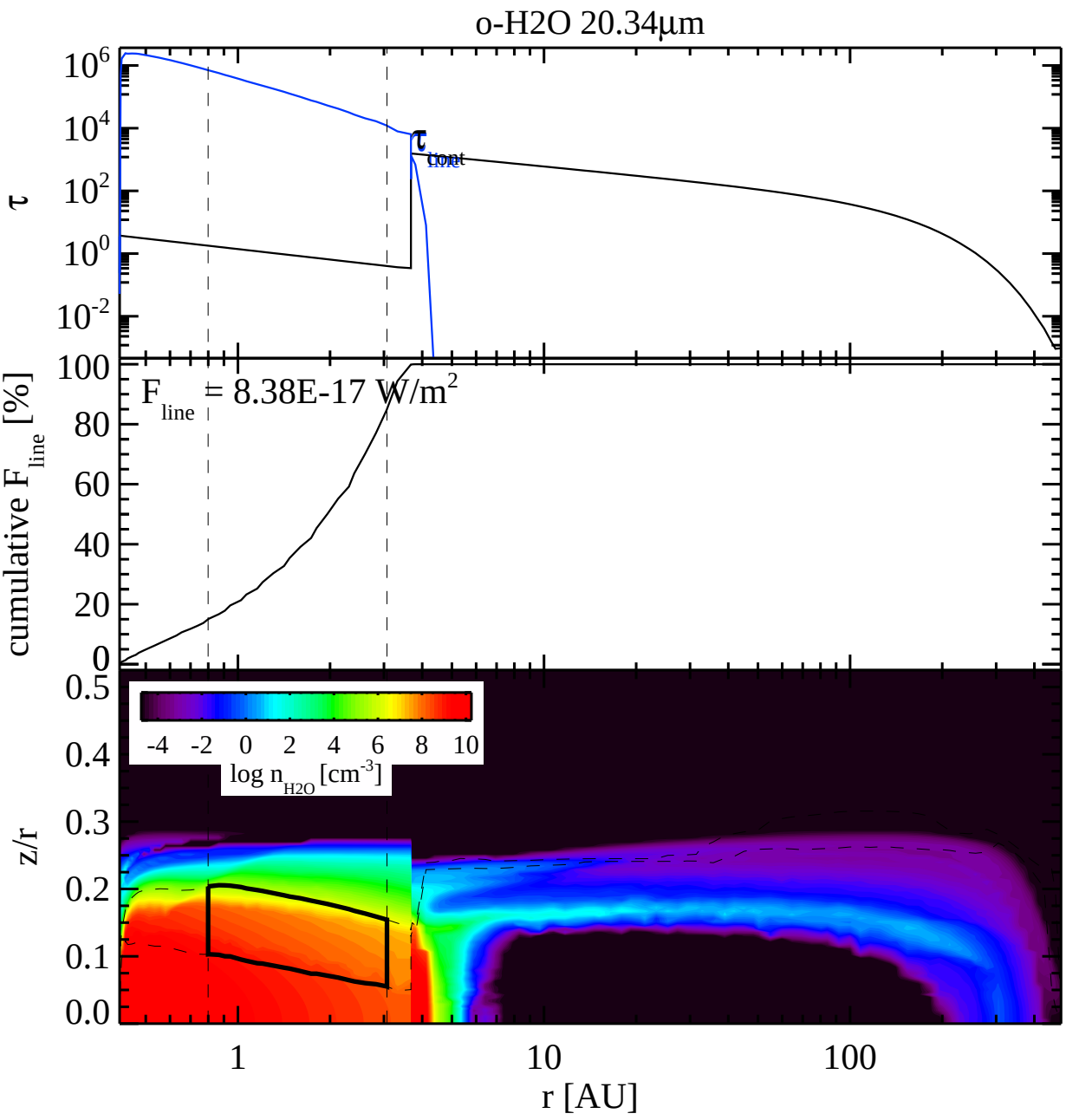

o-H2O 63.32µm
τ line
τ cont
τ
cumulative F line [%]
F line = 8.12E-18 W/m2
log n H2O [cm-3]
-4 -2 0 2 4 6 8 10
z/r
r [AU]
1
10
100

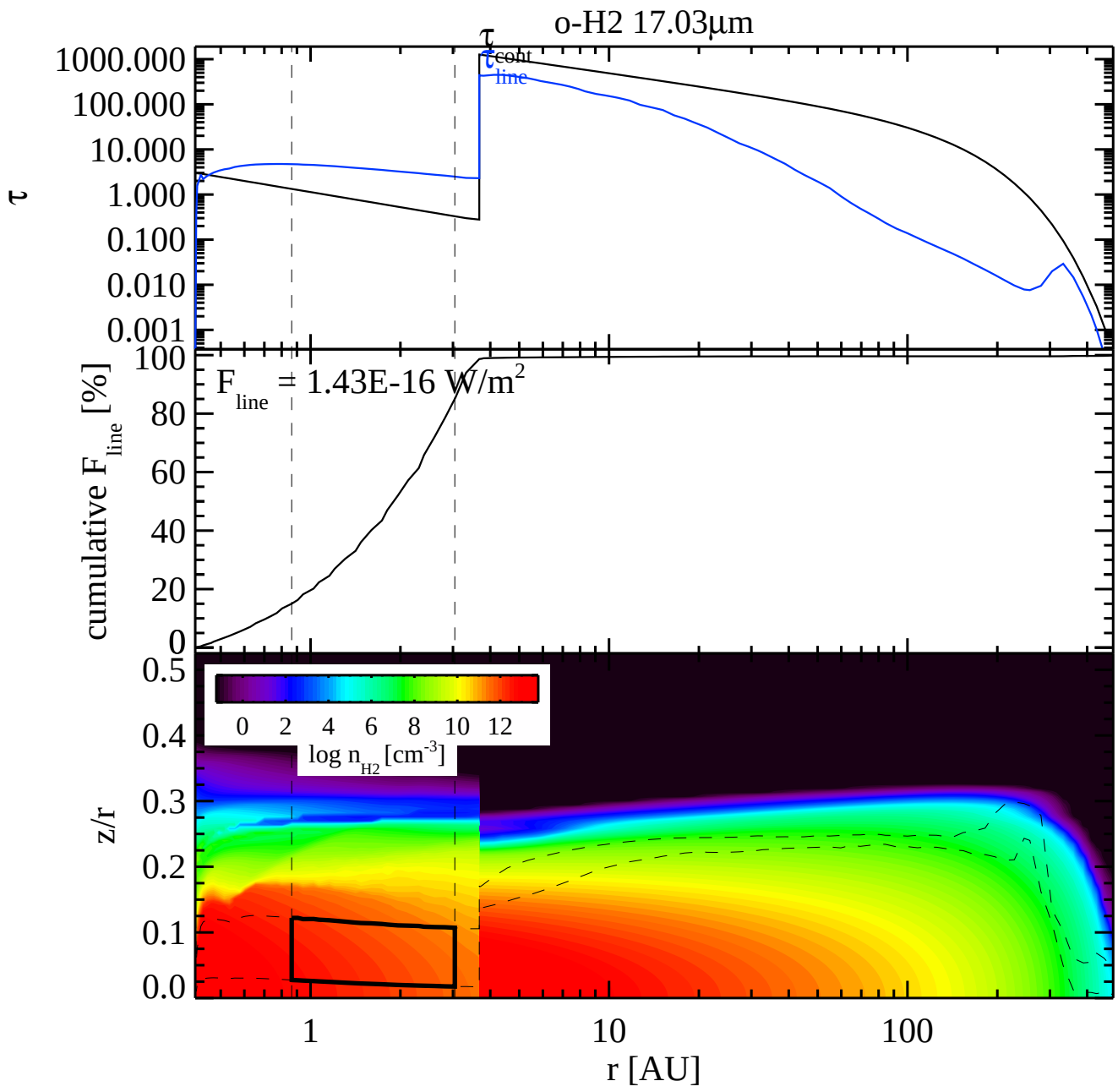

o-H2O 30.87µm
τ line
τ cont
τ
cumulative F line [%]
F line = 4.28E-17 W/m2
log n H2O [cm-3]
z/r
r [AU]

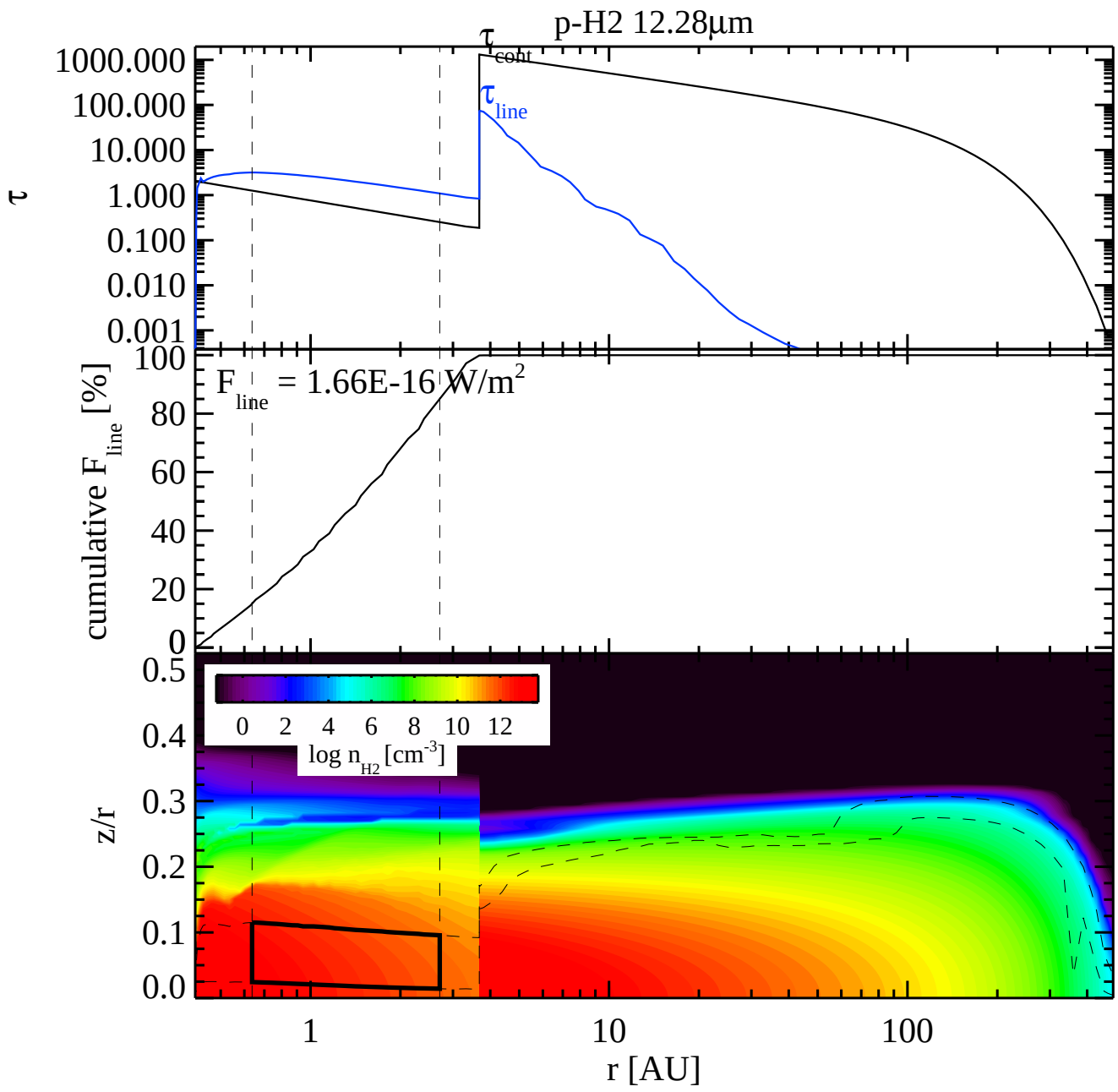

o-H2O 30.53µm
τ line
τ cont
τ
cumulative F line [%]
F line = 4.51E-17 W/m2
log n H2O [cm-3]
-4 -2 0 2 4 6 8 10
z/r
r [AU]
1
10
100

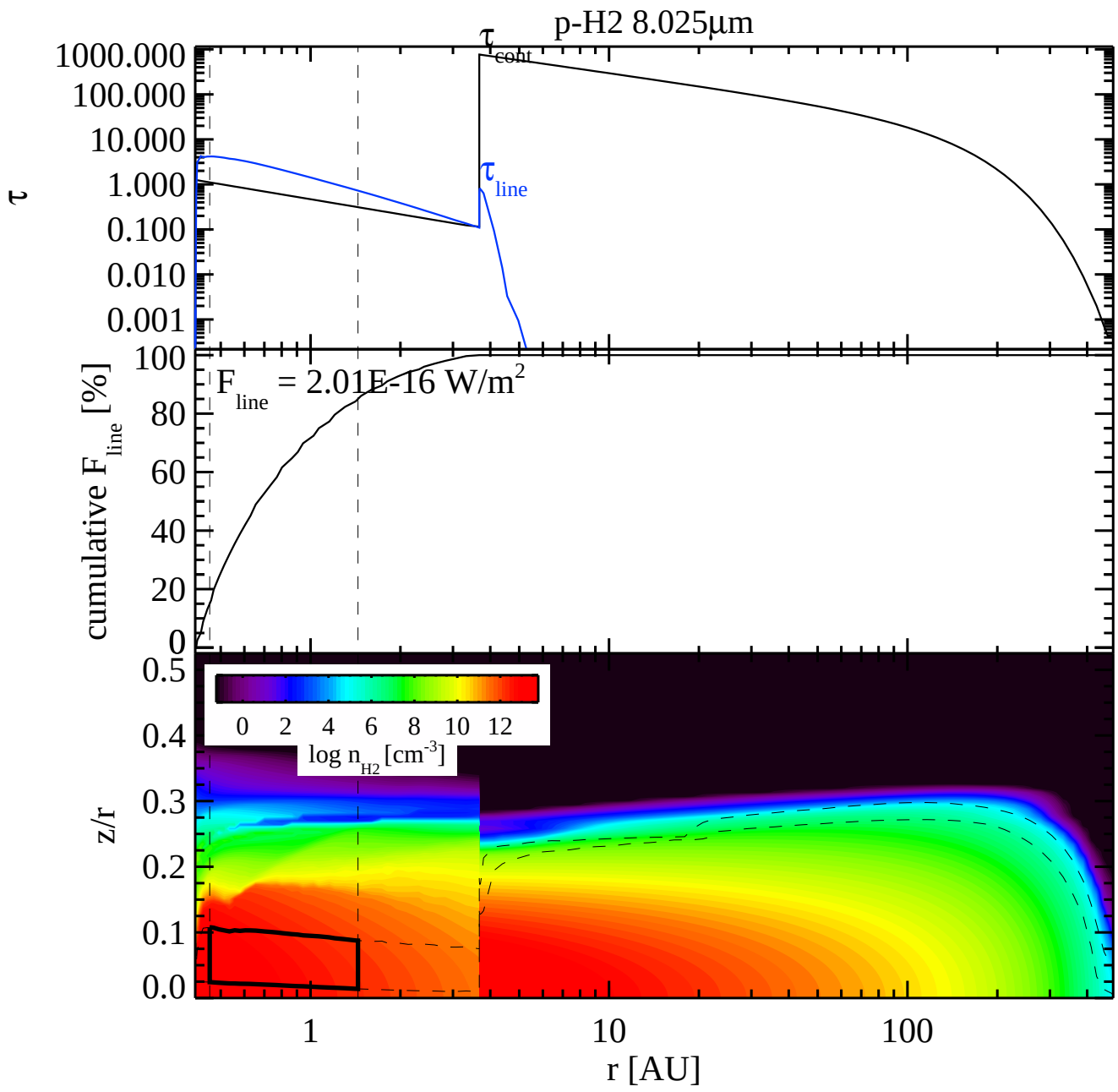

o-H2O 25.37µm
τ
τ line
τ cont
cumulative F line [%]
F line = 6.22E-17 W/m2
log n H2O [cm-3]
-4 -2 0 2 4 6 8 10
z/r
r [AU]
1
10
100

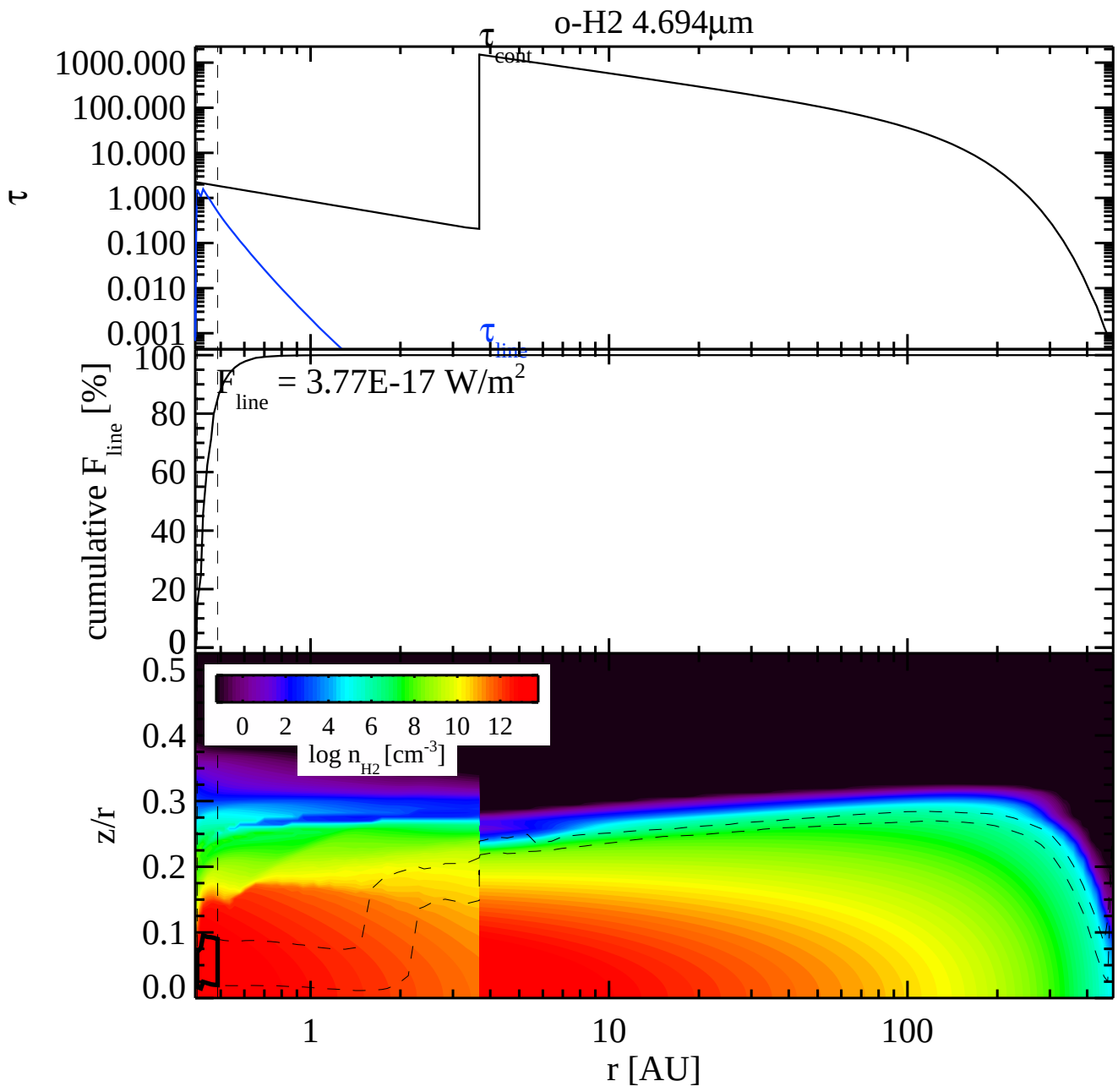

o-H2O 23.86µm
τ
τ line
τ cont
cumulative F line [%]
F line = 6.80E-17 W/m2
log n H2O [cm-3]
z/r
r [AU]

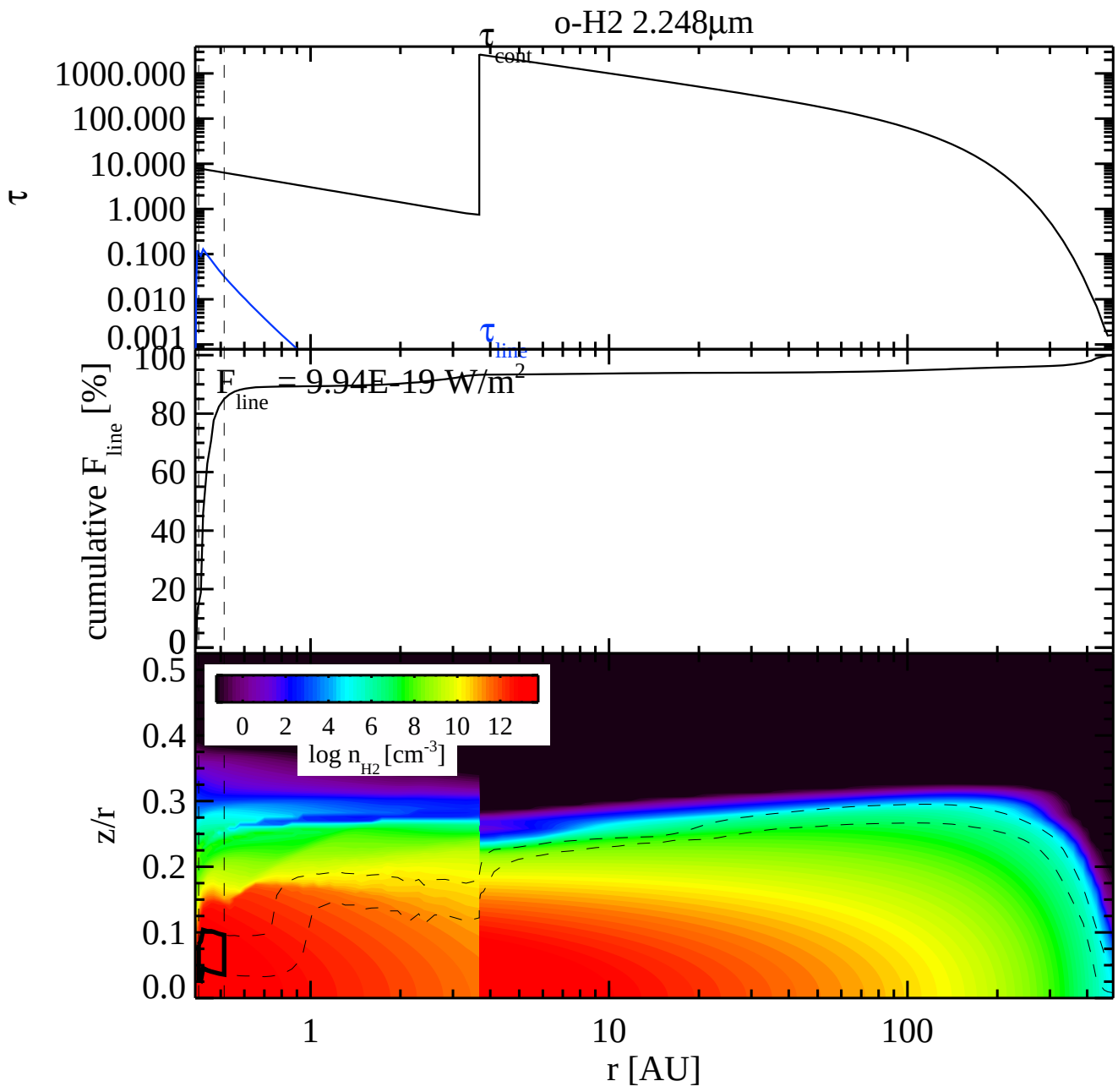

o-H2O 20.34µm
τ
10^6
10^4
10^2
10^0
10^{-2}
τ_{cont}
τ_{line}
cumulative F_{line} [%]
100
80
60
40
20
0
F_{line} = 8.38E-17 W/m^2
z/r
0.5
0.4
0.3
0.2
0.1
0.0
-4 -2 0 2 4 6 8 10
log n_{H2O} [cm^{-3}]
1
10
100
r [AU]

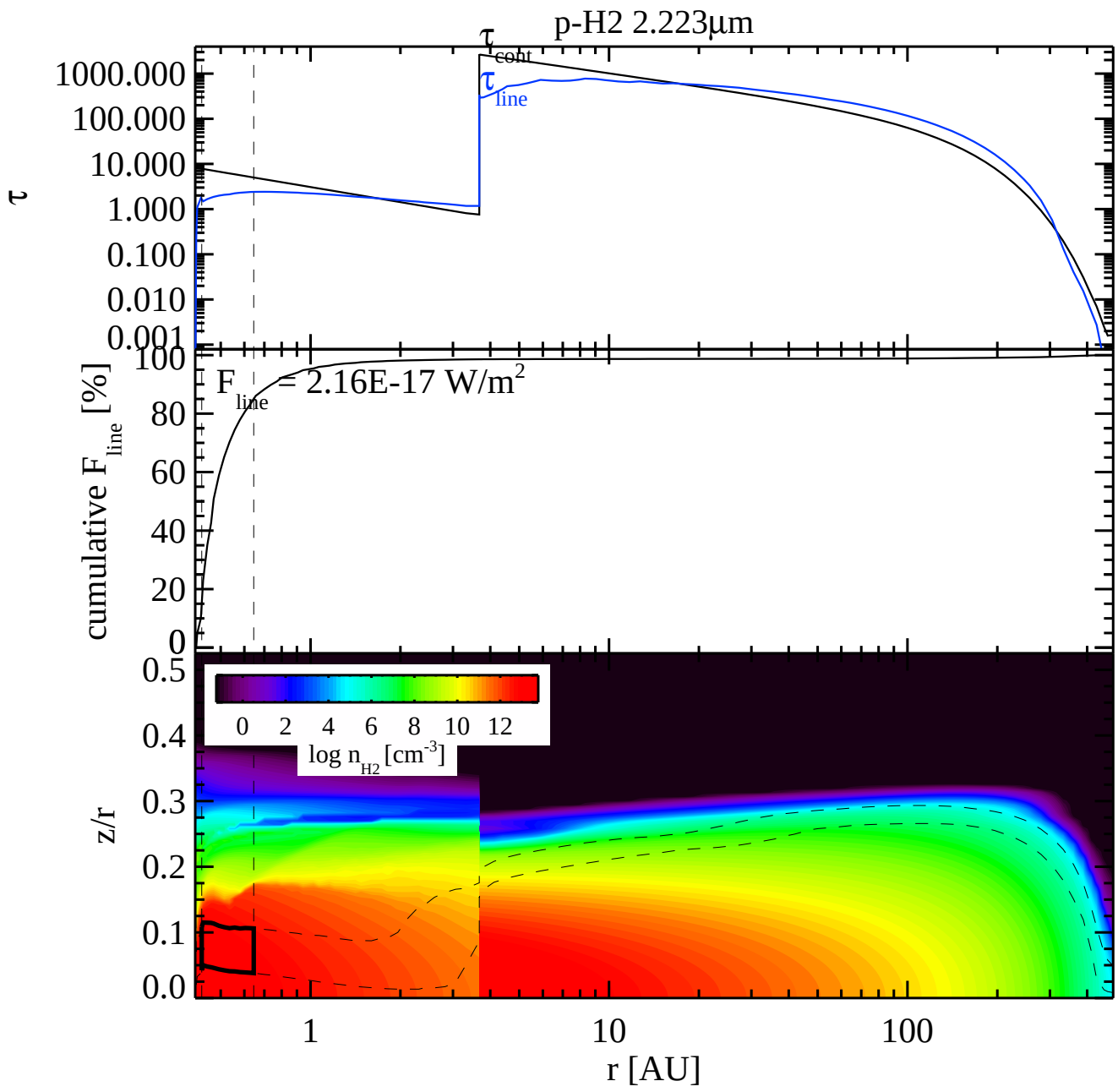

o-H2 17.03µm
τ
τ cont
τ line
1000.000
100.000
10.000
1.000
0.100
0.010
0.001
F line = 1.43E-16 W/m2
cumulative F line [%]
100
80
60
40
20
0
0.5
0.4
0.3
0.2
0.1
0.0
z/r
0 2 4 6 8 10 12
log n H2 [cm-3]
1
10
100
r [AU]

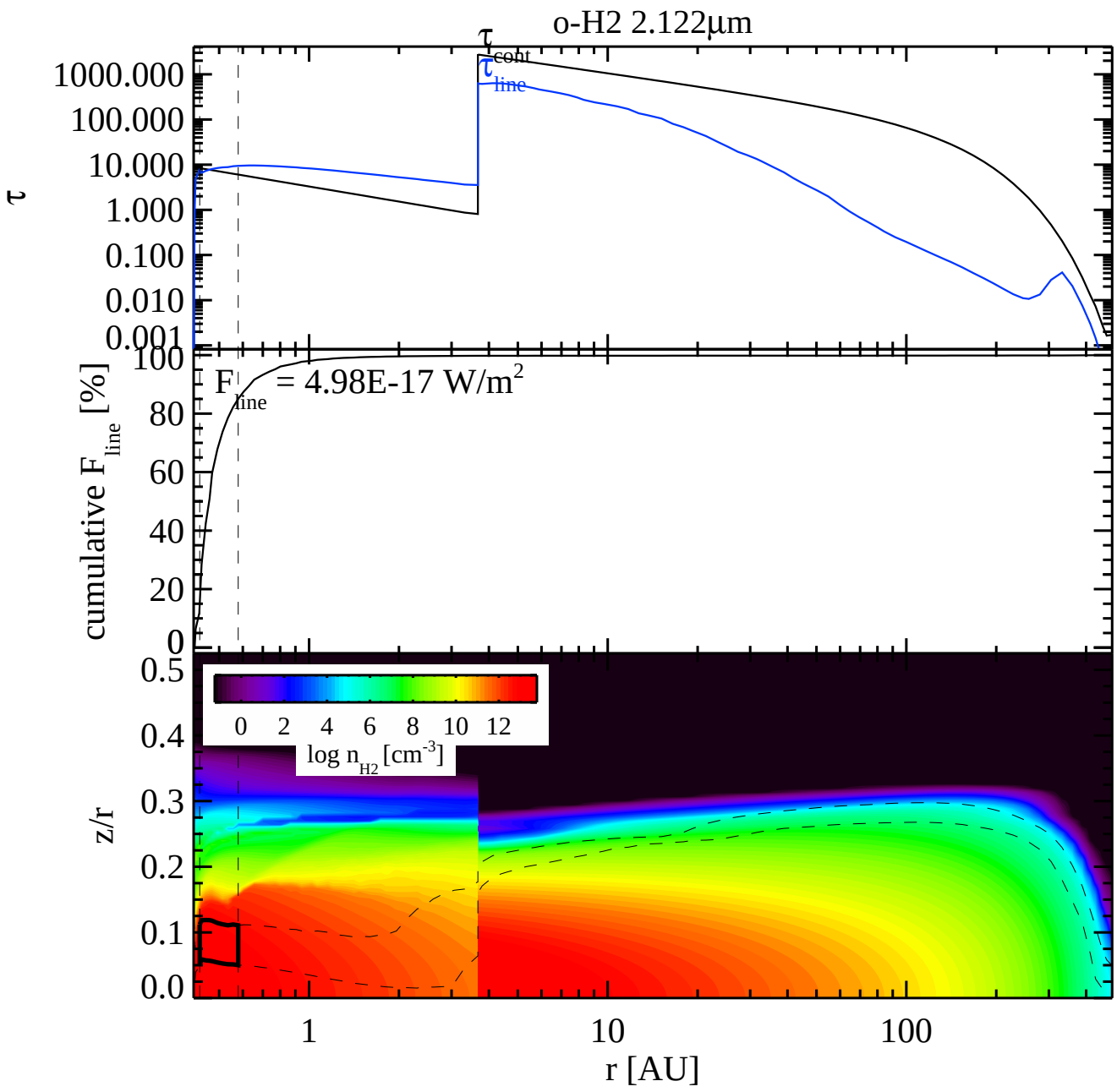

p-H2 12.28µm
τ
τ cont
τ line
1000.000
100.000
10.000
1.000
0.100
0.010
0.001
cumulative F line [%]
F line = 1.66E-16 W/m2
100
80
60
40
20
0
z/r
0.5
0.4
0.3
0.2
0.1
0.0
0 2 4 6 8 10 12
log n H2 [cm-3]
1
10
100
r [AU]

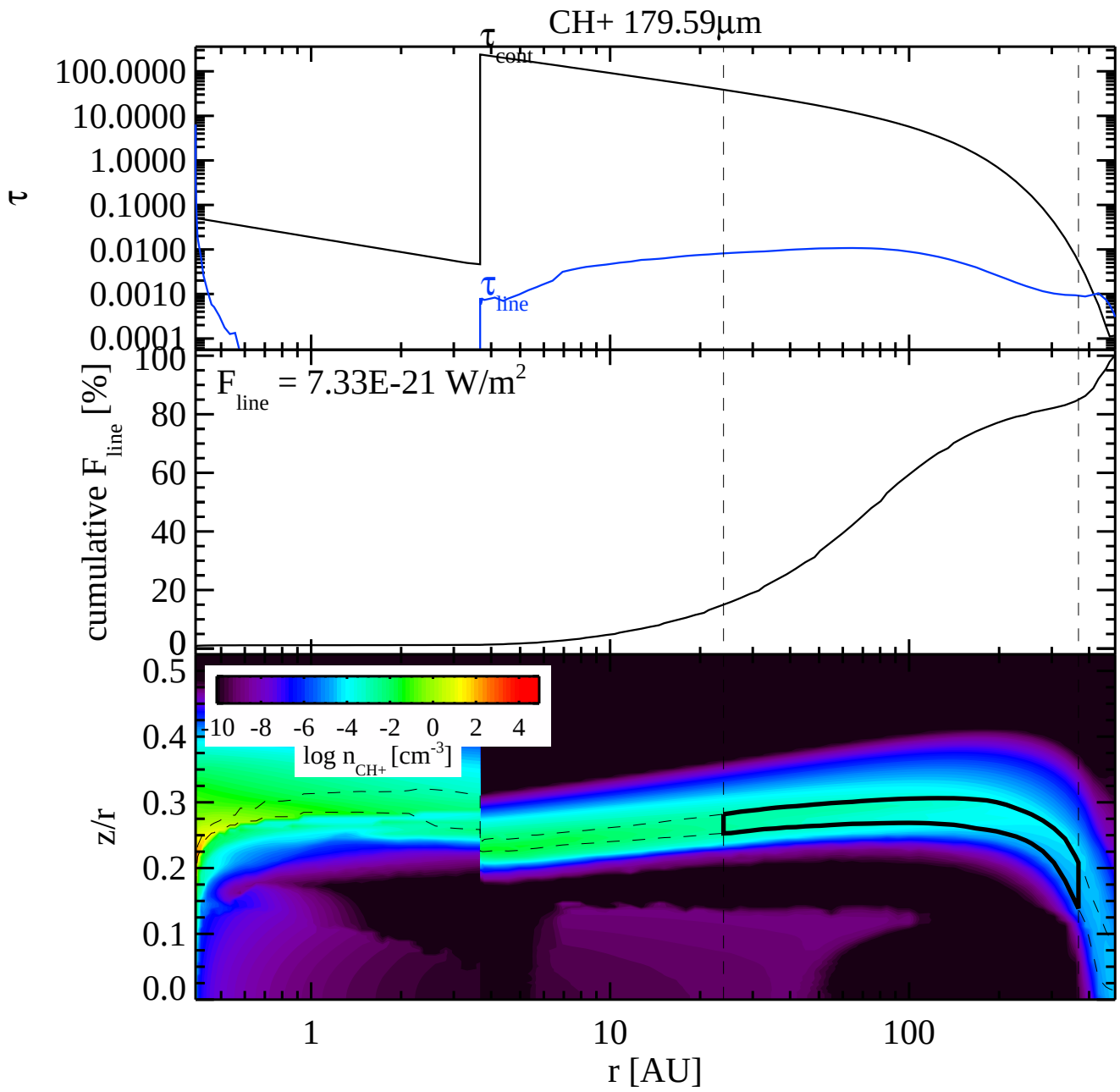

p-H2 8.025µm
τ
τ cont
τ line
1000.000
100.000
10.000
1.000
0.100
0.010
0.001
F line = 2.01E-16 W/m2
cumulative F line [%]
100
80
60
40
20
0
0 2 4 6 8 10 12
log n H2 [cm-3]
z/r
0.5
0.4
0.3
0.2
0.1
0.0
1
10
100
r [AU]

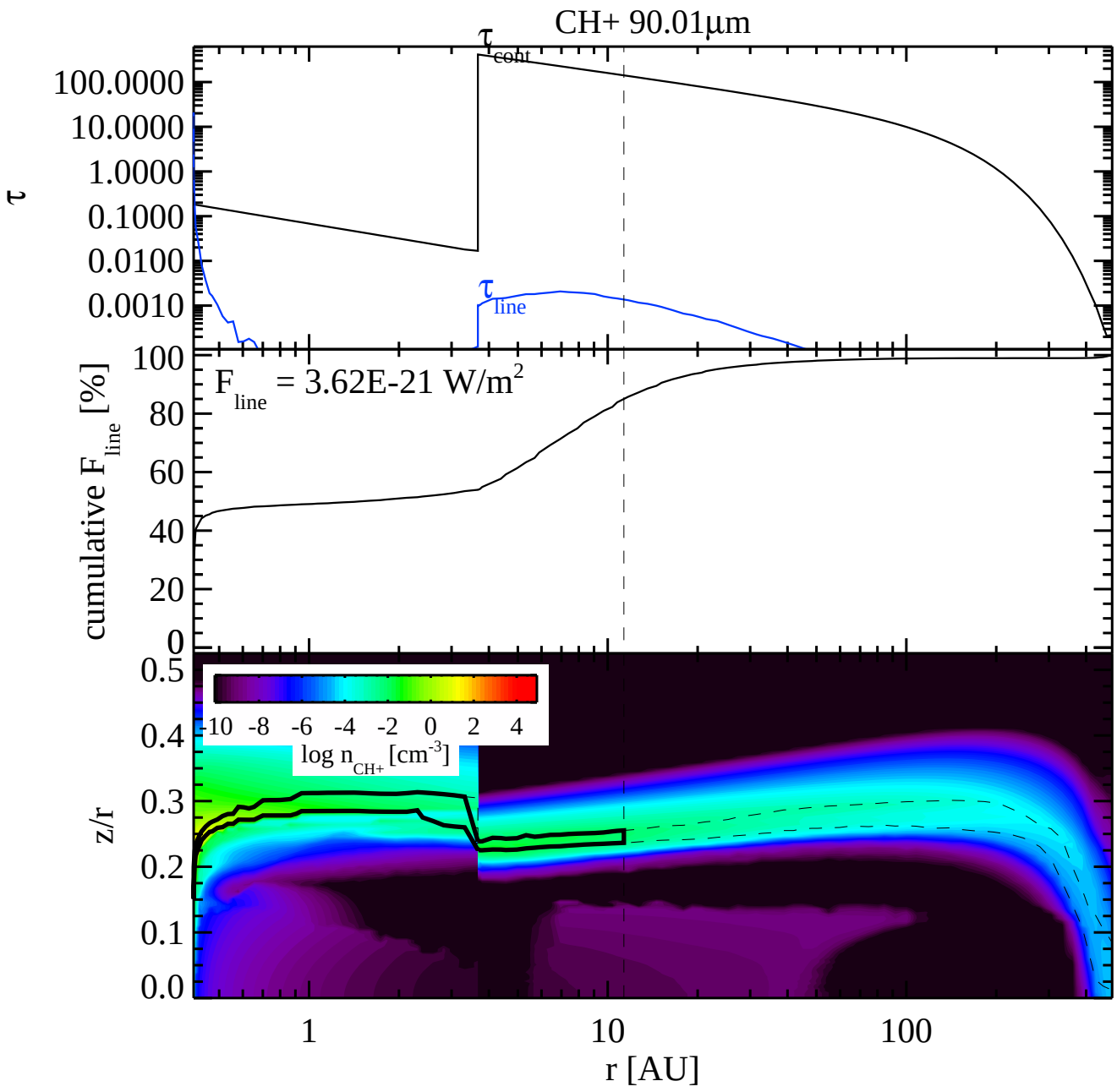

o-H2 4.694µm
τ
τ_cont
τ_line
1000.000
100.000
10.000
1.000
0.100
0.010
0.001
cumulative F_line [%]
F_line = 3.77E-17 W/m²
100
80
60
40
20
0
z/r
0.5
0.4
0.3
0.2
0.1
0.0
0 2 4 6 8 10 12
log n_H2 [cm^-3]
1
10
100
r [AU]

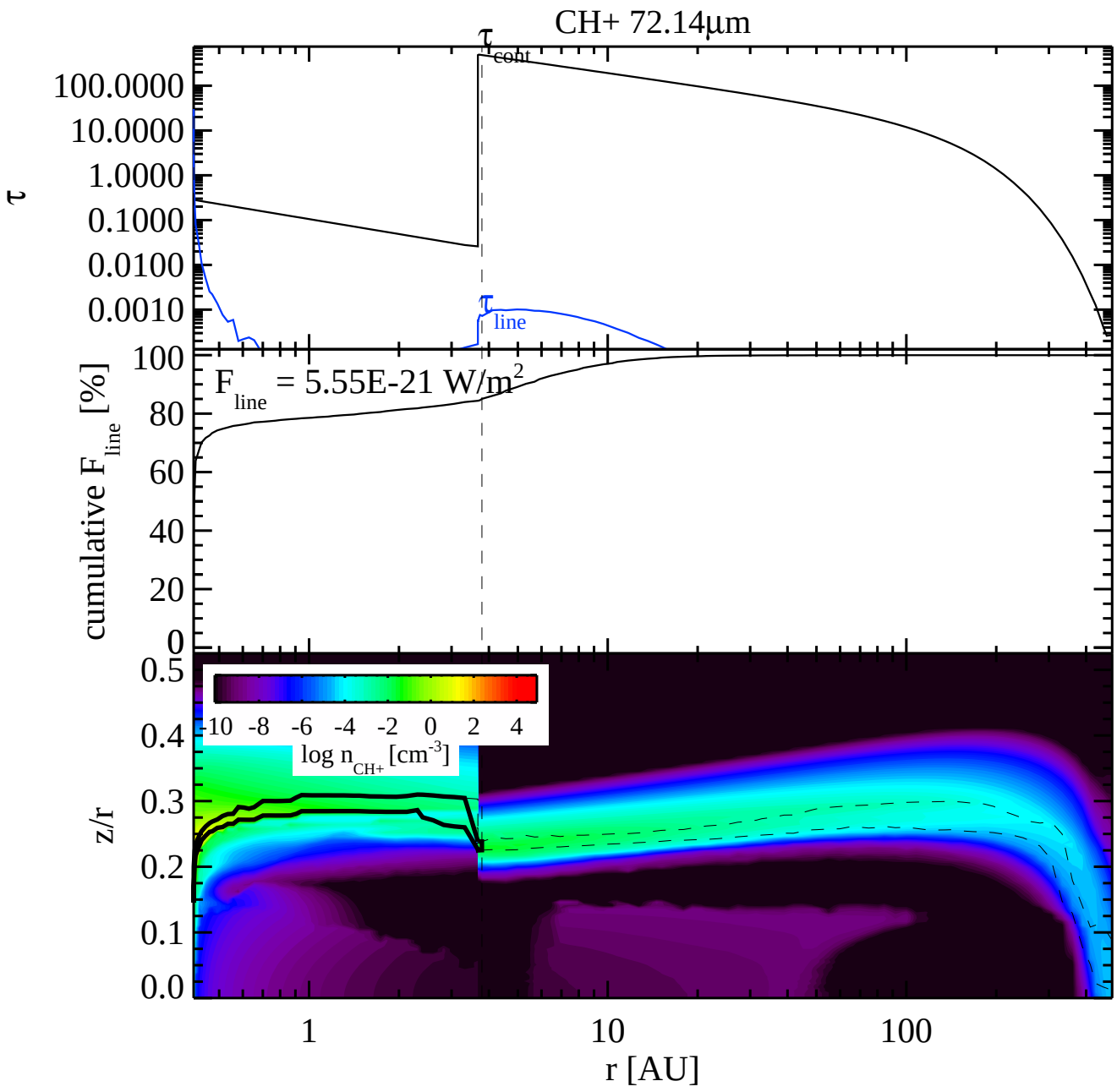

o-H2 2.248µm
τ
τ_cont
τ_line
1000.000
100.000
10.000
1.000
0.100
0.010
0.001
cumulative F_line [%]
F_line = 9.94E-19 W/m²
100
80
60
40
20
0
z/r
0.5
0.4
0.3
0.2
0.1
0.0
0 2 4 6 8 10 12
log n_H2 [cm⁻³]
1
10
100
r [AU]

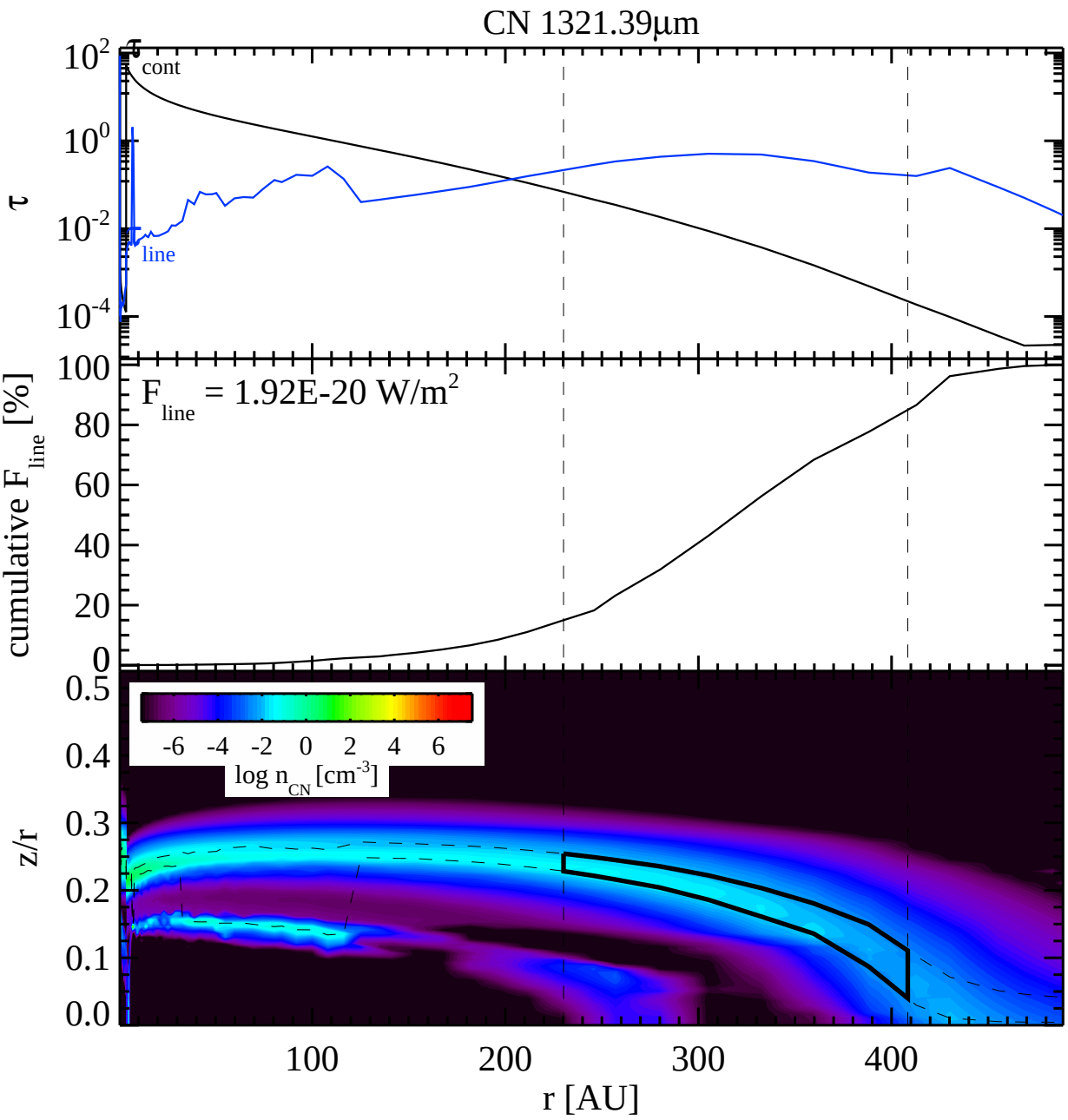

p-H2 2.223µm
τ
τ cont
τ line
1000.000
100.000
10.000
1.000
0.100
0.010
0.001
cumulative F line [%]
F line = 2.16E-17 W/m2
100
80
60
40
20
0
z/r
0.5
0.4
0.3
0.2
0.1
0.0
0 2 4 6 8 10 12
log n H2 [cm-3]
1
10
100
r [AU]

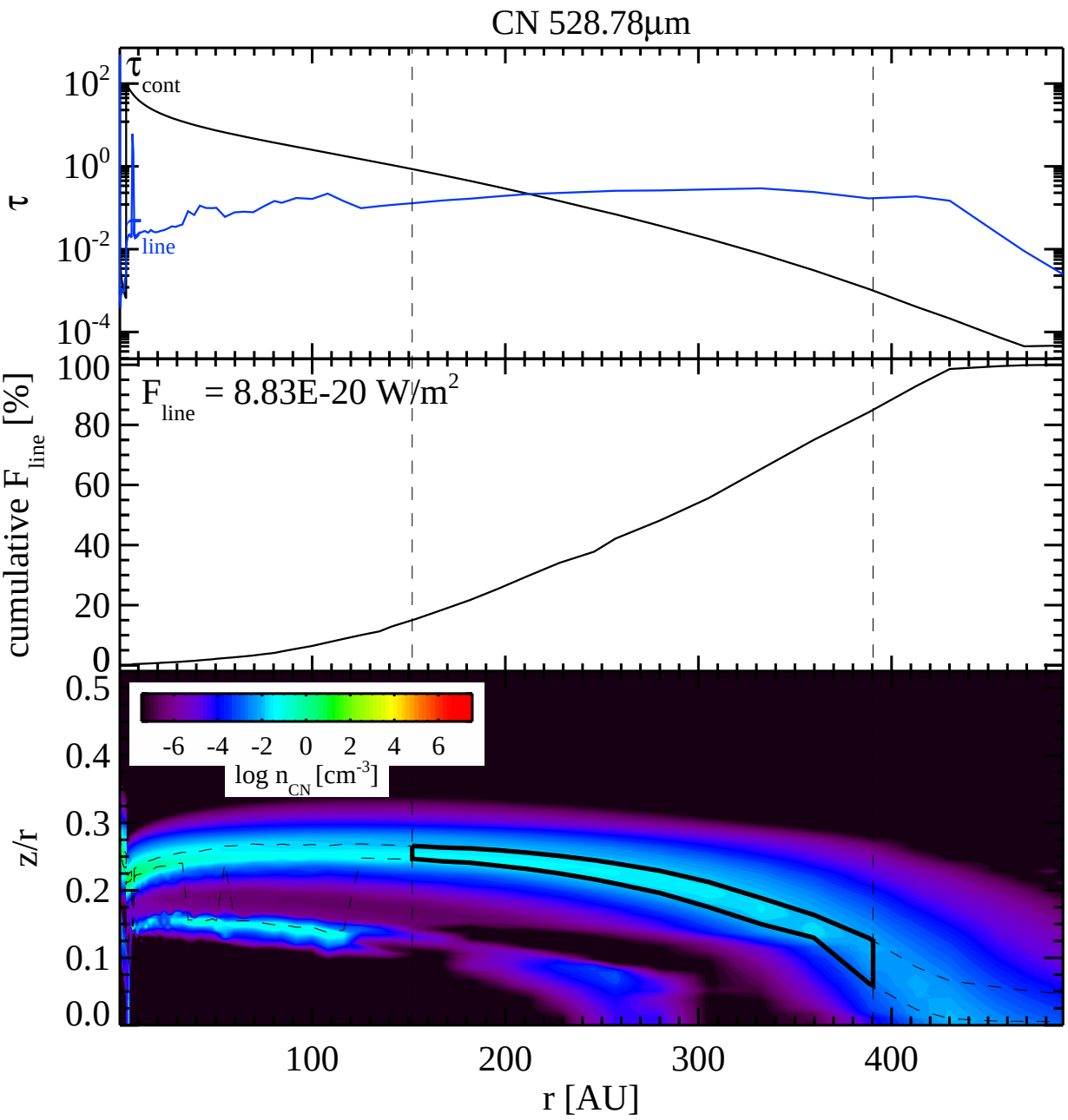

o-H2 2.122µm
τ
τ_cont
τ_line
1000.000
100.000
10.000
1.000
0.100
0.010
0.001
cumulative F_line [%]
F_line = 4.98E-17 W/m²
100
80
60
40
20
0
0.5
0.4
0.3
0.2
0.1
0.0
z/r
0 2 4 6 8 10 12
log n_H2 [cm^-3]
1
10
100
r [AU]

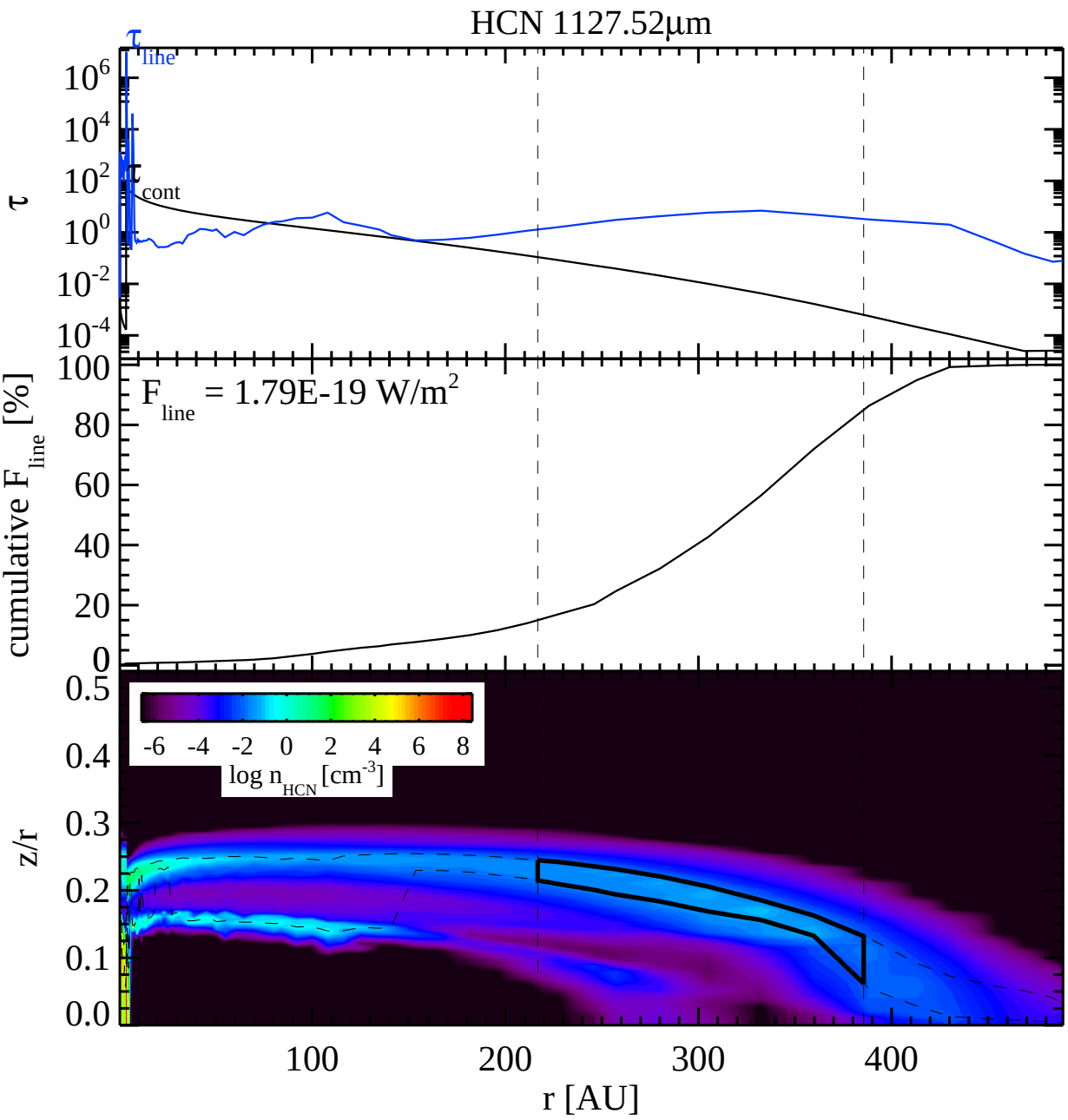

CH+ 179.59µm
τ
τ cont
τ line
100.0000
10.0000
1.0000
0.1000
0.0100
0.0010
0.0001
F line = 7.33E-21 W/m2
cumulative F line [%]
100
80
60
40
20
0
z/r
0.5
0.4
0.3
0.2
0.1
0.0
-10 -8 -6 -4 -2 0 2 4
log n CH+ [cm-3]
1
10
100
r [AU]

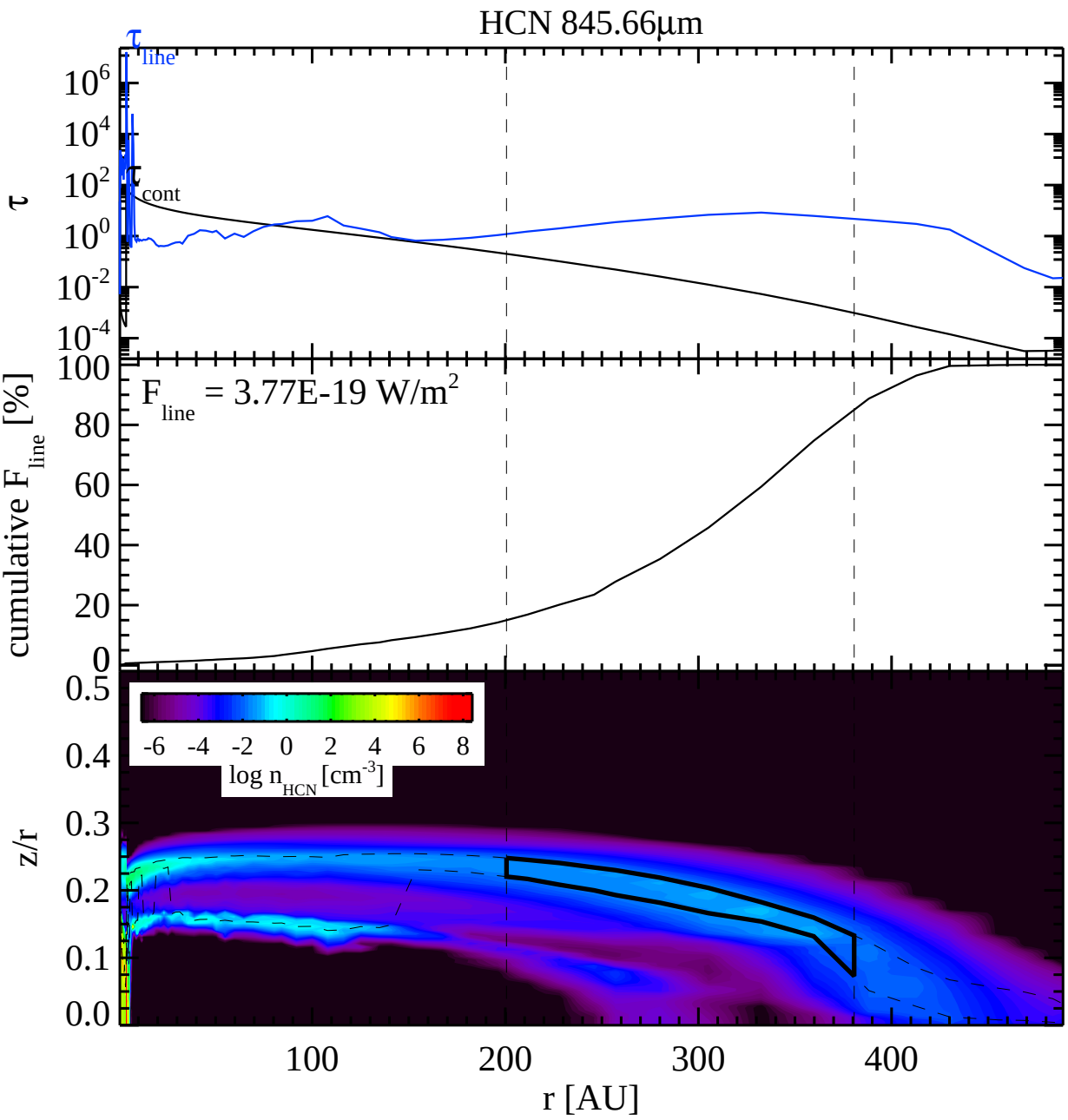

CH+ 90.01µm
τ
τ cont
τ line
100.0000
10.0000
1.0000
0.1000
0.0100
0.0010
F line = 3.62E-21 W/m2
cumulative F line [%]
100
80
60
40
20
0
-10 -8 -6 -4 -2 0 2 4
log n CH+ [cm-3]
z/r
0.5
0.4
0.3
0.2
0.1
0.0
1
10
100
r [AU]

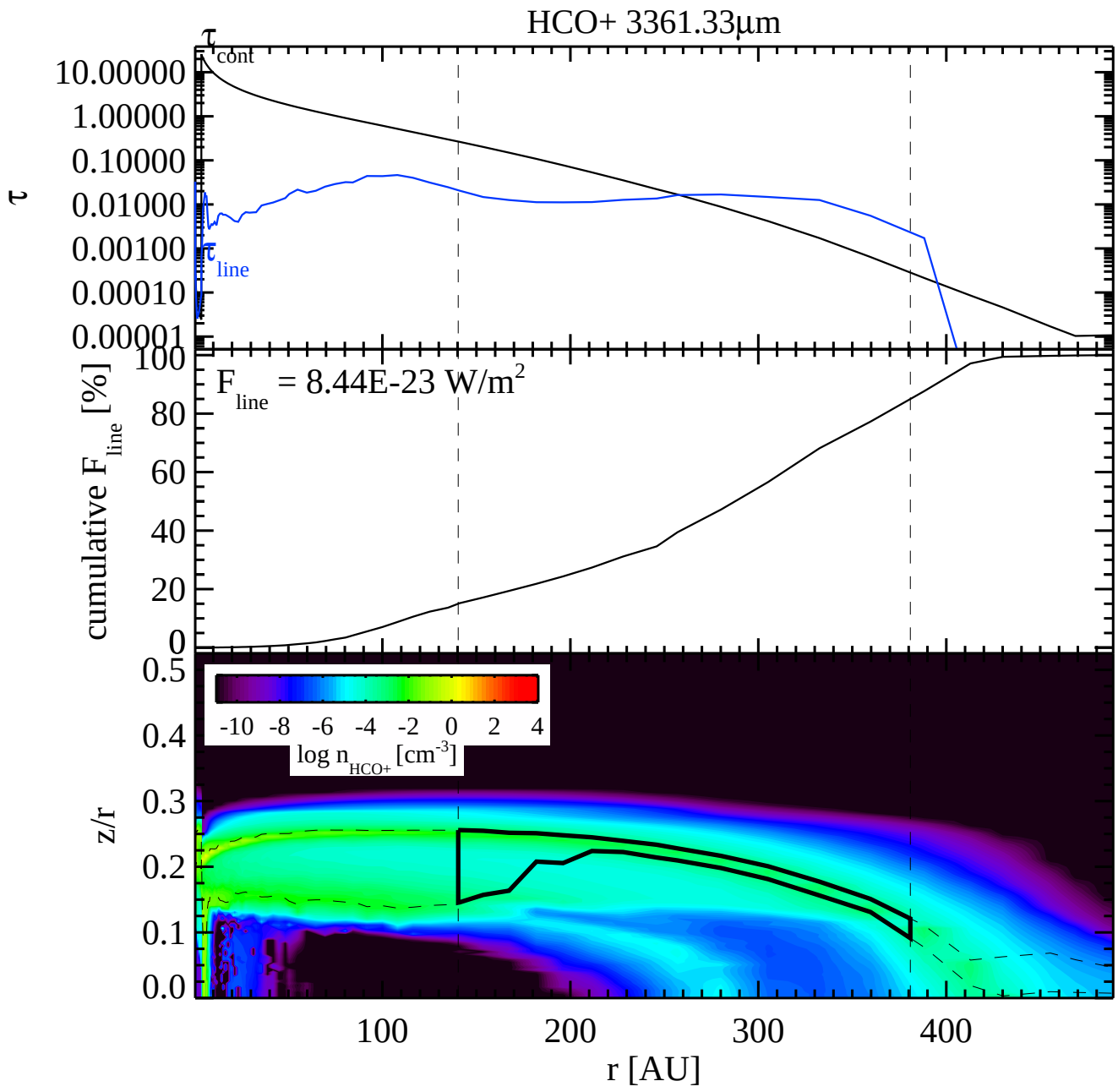

CH+ 72.14µm
τ
τ continuum
τ line
100.0000
10.0000
1.0000
0.1000
0.0100
0.0010
F line = 5.55E-21 W/m2
cumulative F line [%]
100
80
60
40
20
0
log n CH+ [cm-3]
-10 -8 -6 -4 -2 0 2 4
z/r
0.5
0.4
0.3
0.2
0.1
0.0
1
10
100
r [AU]

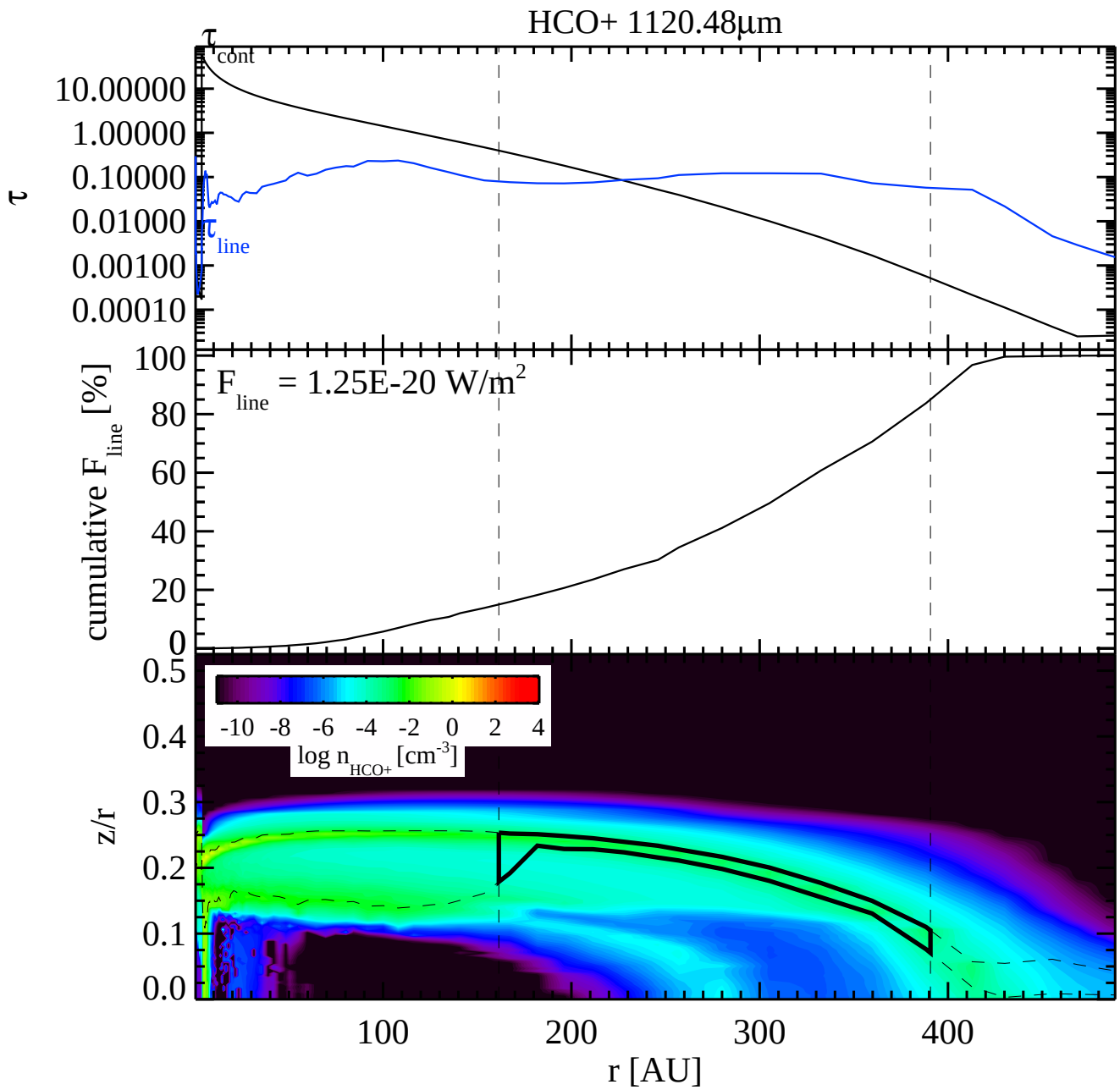

CN 1321.39µm
τ
cont
line
cumulative F line [%]
F line = 1.92E-20 W/m2
log n CN [cm-3]
z/r
r [AU]

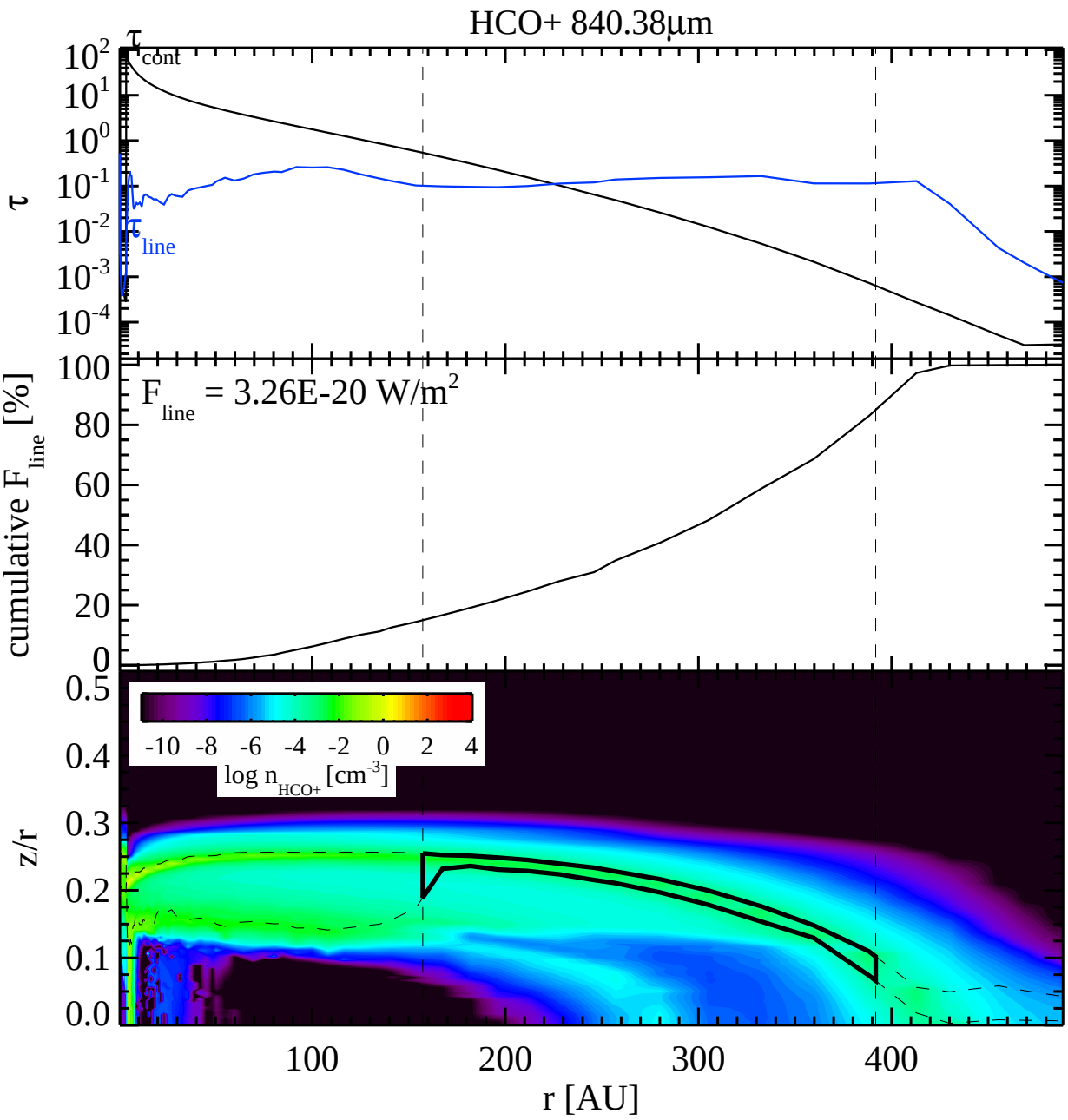

CN 528.78µm
τ
τ cont
τ line
10^2
10^0
10^-2
10^-4
F line = 8.83E-20 W/m^2
cumulative F line [%]
100
80
60
40
20
0
log n CN [cm^-3]
-6 -4 -2 0 2 4 6
z/r
0.5
0.4
0.3
0.2
0.1
0.0
100
200
300
400
r [AU]

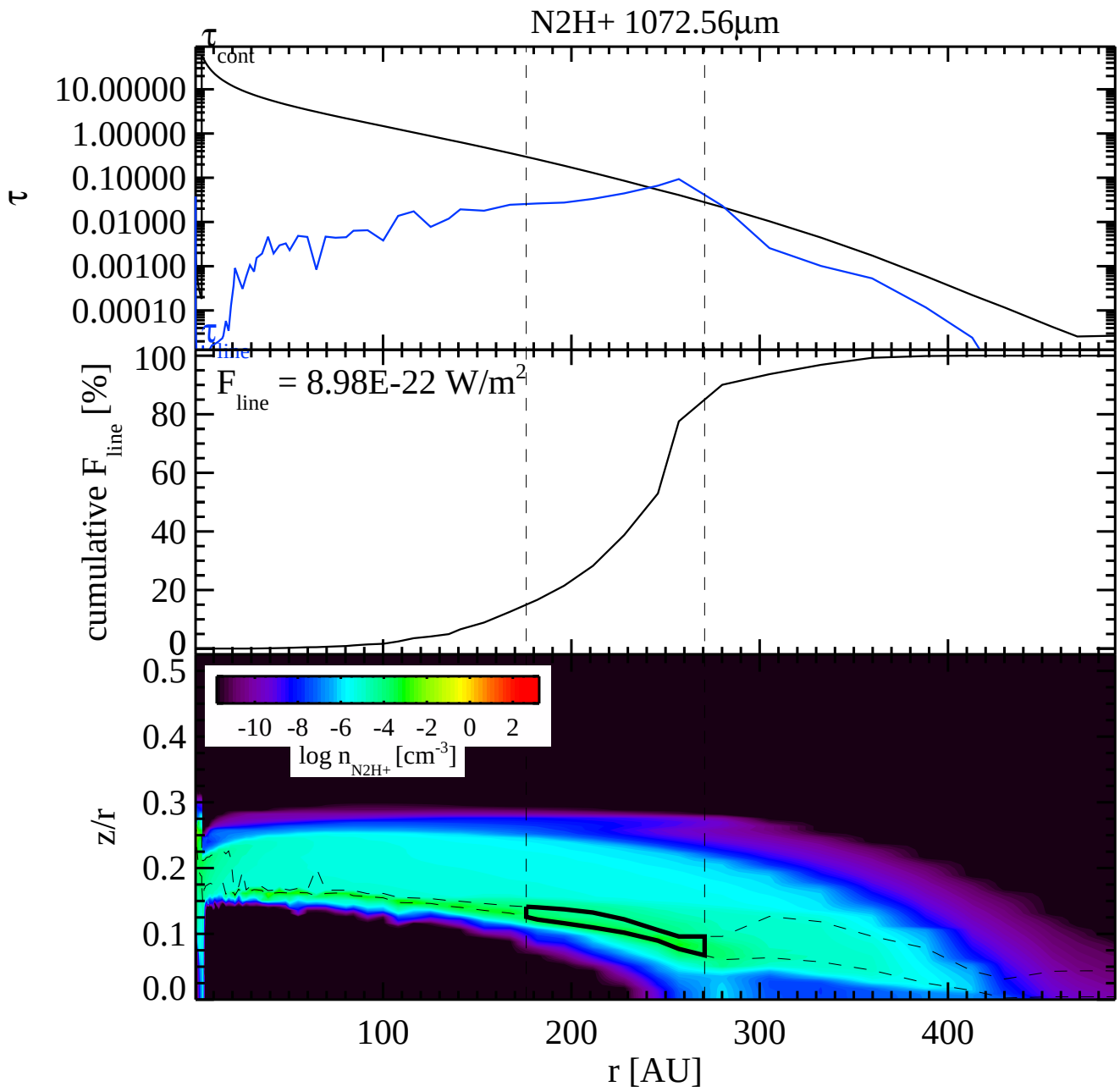

HCN 1127.52µm
τ line
τ cont
τ
10^6
10^4
10^2
10^0
10^-2
10^-4
F line = 1.79E-19 W/m^2
cumulative F line [%]
100
80
60
40
20
0
-6 -4 -2 0 2 4 6 8
log n HCN [cm^-3]
z/r
0.5
0.4
0.3
0.2
0.1
0.0
100
200
300
400
r [AU]

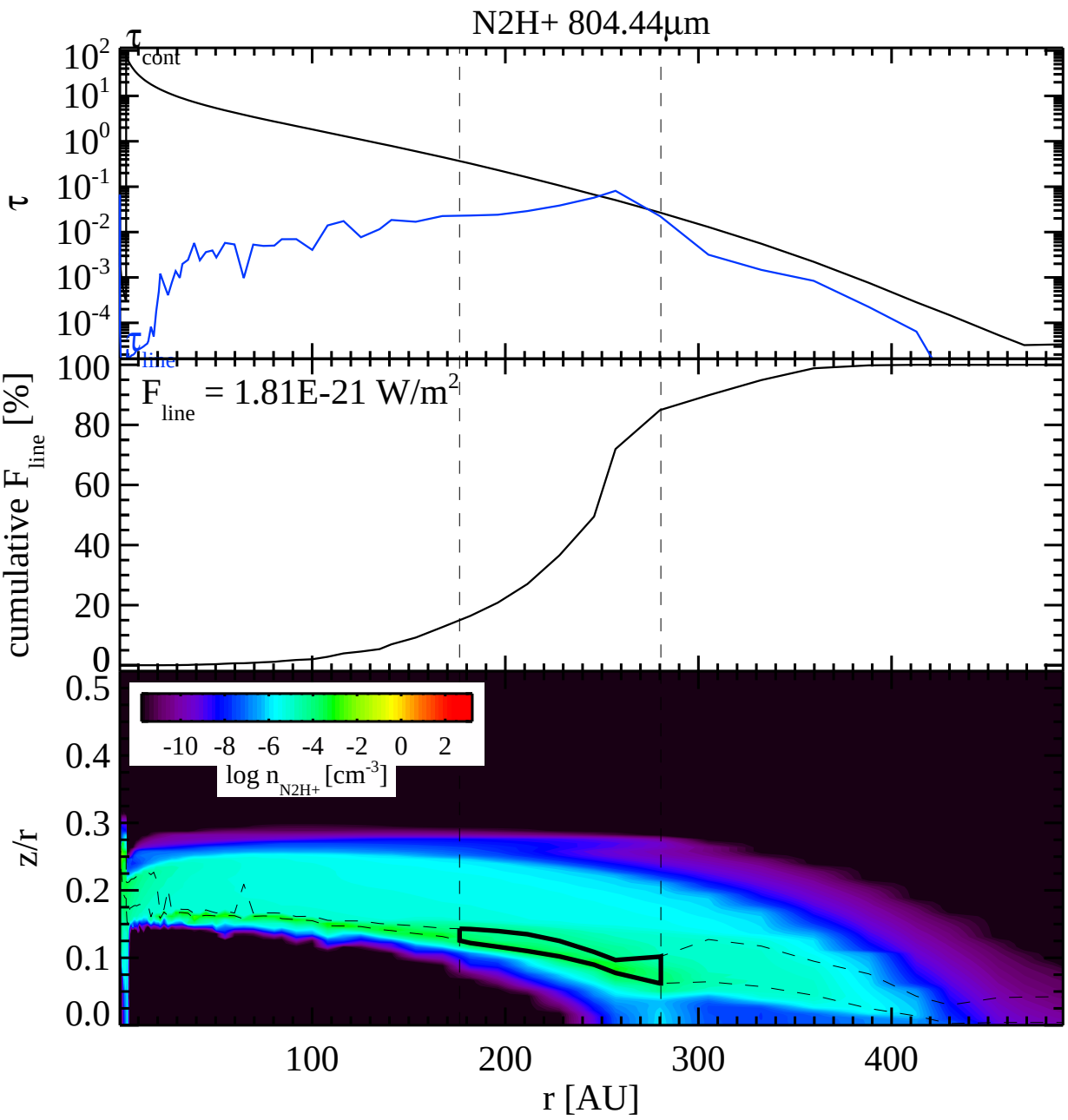

HCN 845.66µm
τ line
τ cont
τ
10^6
10^4
10^2
10^0
10^-2
10^-4
F line = 3.77E-19 W/m^2
cumulative F line [%]
100
80
60
40
20
0
-6 -4 -2 0 2 4 6 8
log n HCN [cm^-3]
z/r
0.5
0.4
0.3
0.2
0.1
0.0
100
200
300
400
r [AU]

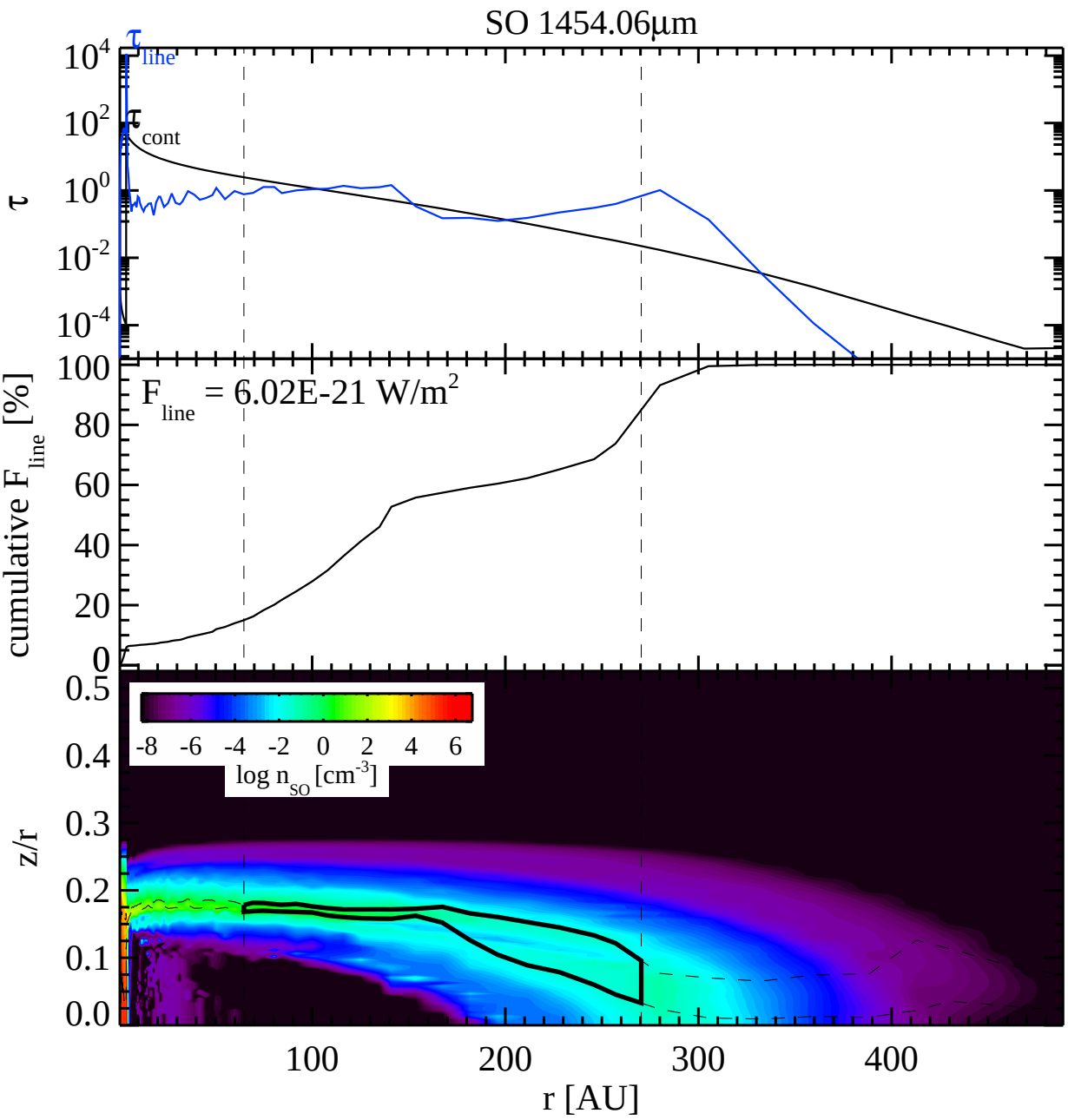

HCO+ 3361.33µm
τ
τ cont
τ line
10.00000
1.00000
0.10000
0.01000
0.00100
0.00010
0.00001
F line = 8.44E-23 W/m2
cumulative F line [%]
100
80
60
40
20
0
-10 -8 -6 -4 -2 0 2 4
log n HCO+ [cm-3]
z/r
0.5
0.4
0.3
0.2
0.1
0.0
100
200
300
400
r [AU]

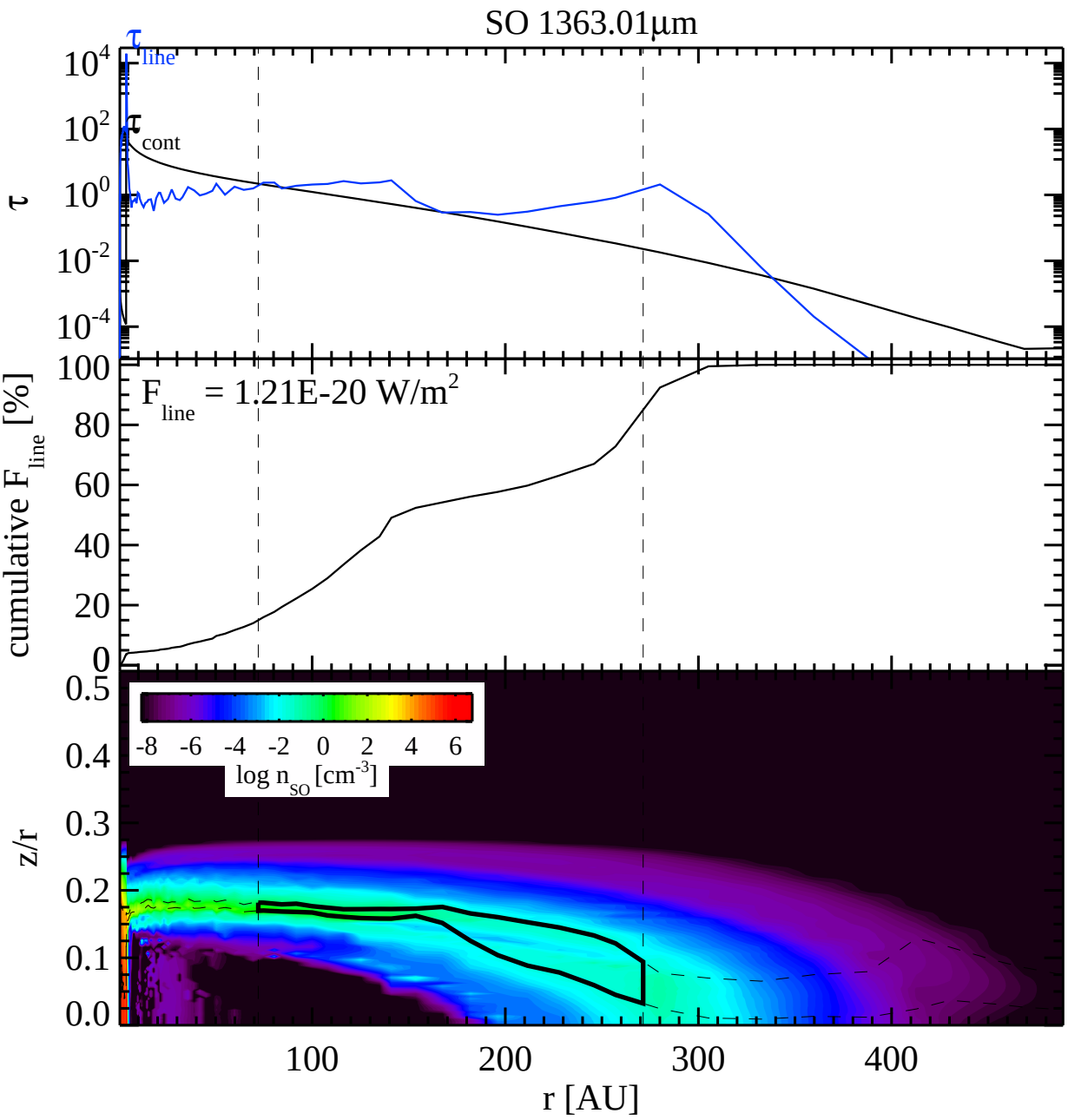

HCO+ 1120.48µm
τ
τ cont
τ line
10.00000
1.00000
0.10000
0.01000
0.00100
0.00010
F line = 1.25E-20 W/m2
cumulative F line [%]
100
80
60
40
20
0
-10 -8 -6 -4 -2 0 2 4
log n HCO+ [cm-3]
z/r
0.5
0.4
0.3
0.2
0.1
0.0
100
200
300
400
r [AU]

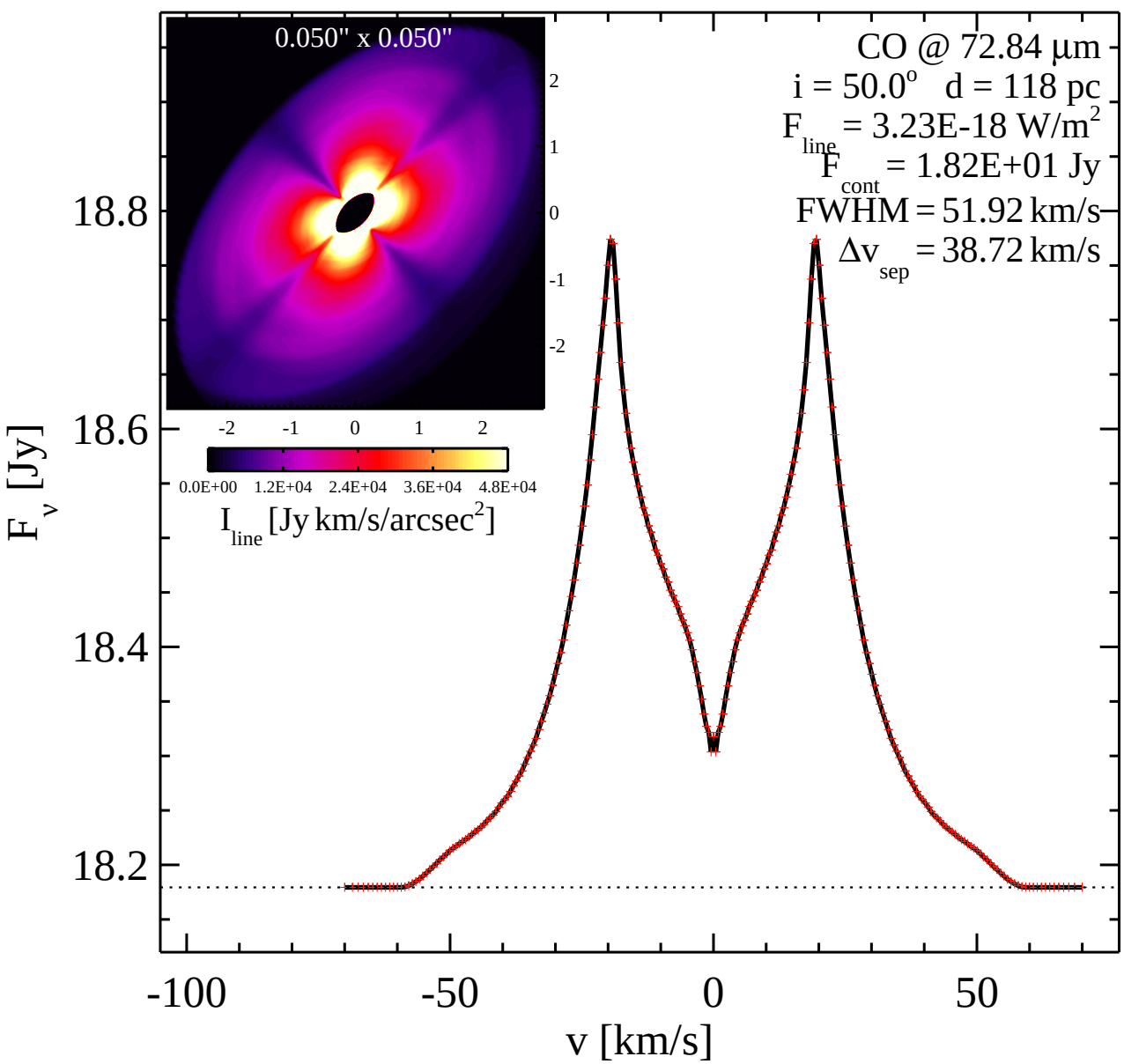

HCO+ 840.38µm
τ
τ cont
τ line
cumulative F line [%]
F line = 3.26E-20 W/m2
-10 -8 -6 -4 -2 0 2 4
log n HCO+ [cm-3]
z/r
r [AU]

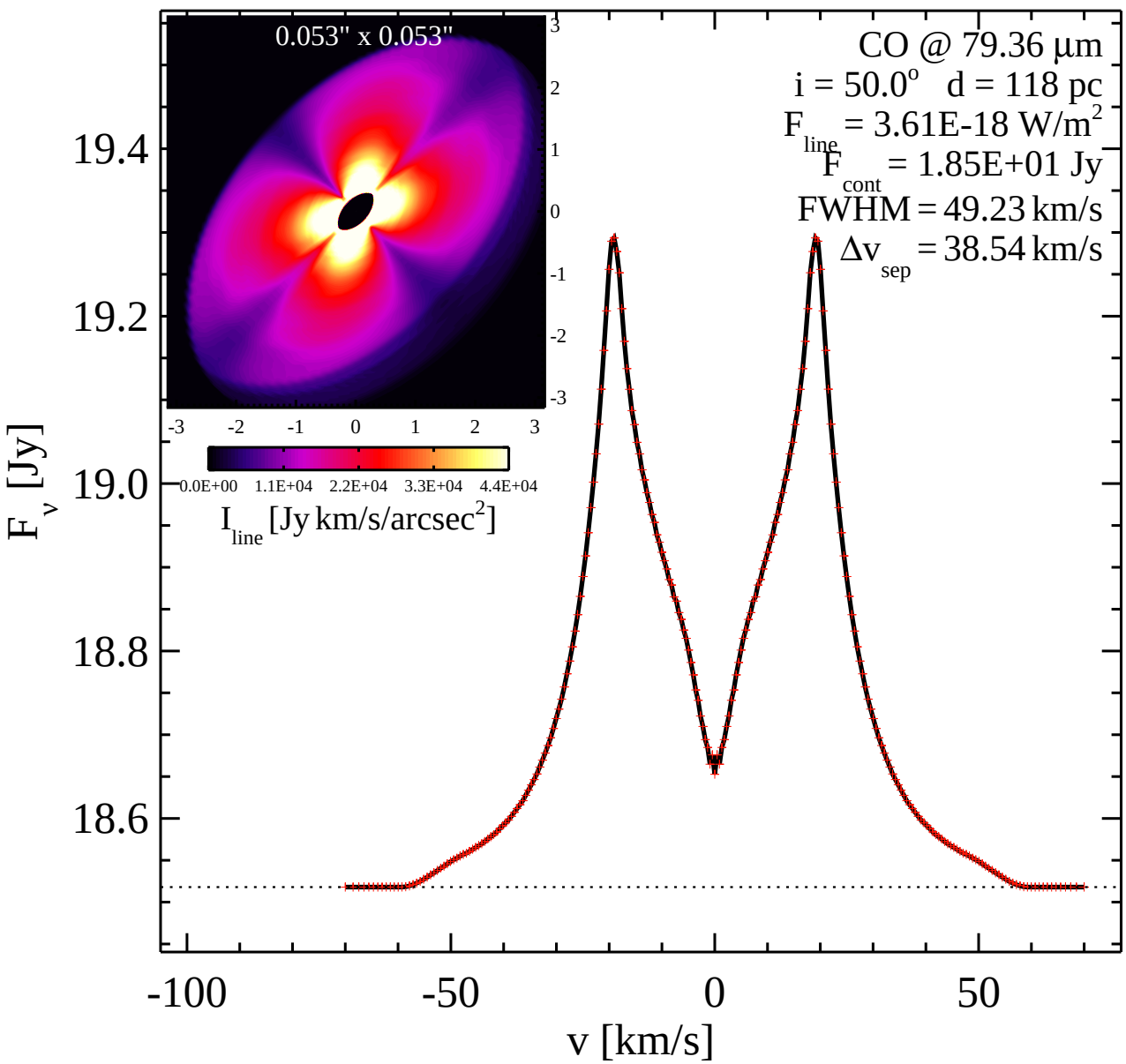

N2H+ 1072.56µm
τ
τ cont
τ line
10.00000
1.00000
0.10000
0.01000
0.00100
0.00010
F line = 8.98E-22 W/m2
cumulative F line [%]
100
80
60
40
20
0
-10 -8 -6 -4 -2 0 2
log n N2H+ [cm-3]
z/r
0.5
0.4
0.3
0.2
0.1
0.0
100
200
300
400
r [AU]

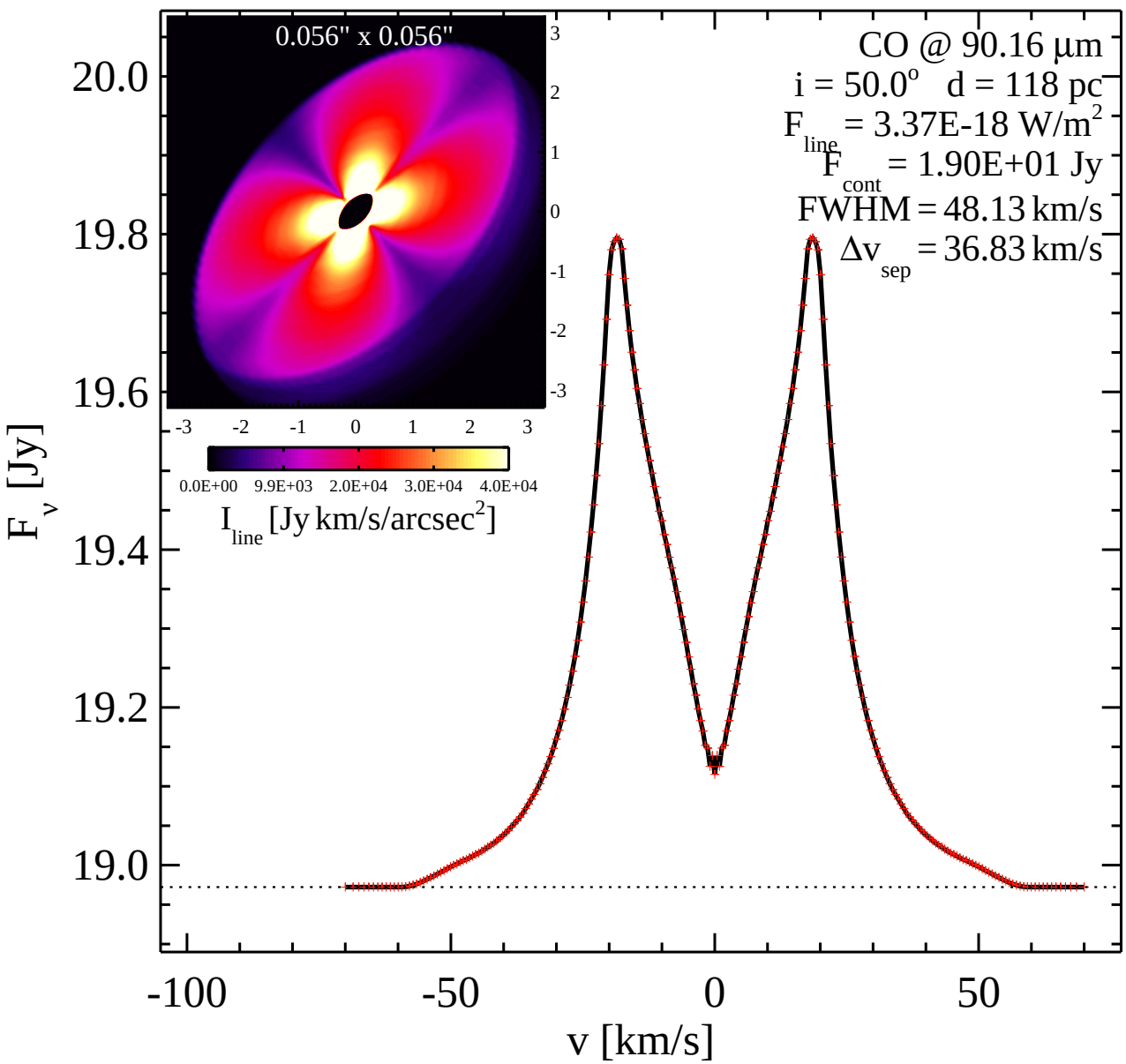

N2H+ 804.44µm
τ
cont
τ
line
τ
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
F
line
= 1.81E-21 W/m^2
cumulative F
line
[%]
100
80
60
40
20
0
-10 -8 -6 -4 -2 0 2
log n
N2H+
[cm^-3]
z/r
0.5
0.4
0.3
0.2
0.1
0.0
100
200
300
400
r [AU]

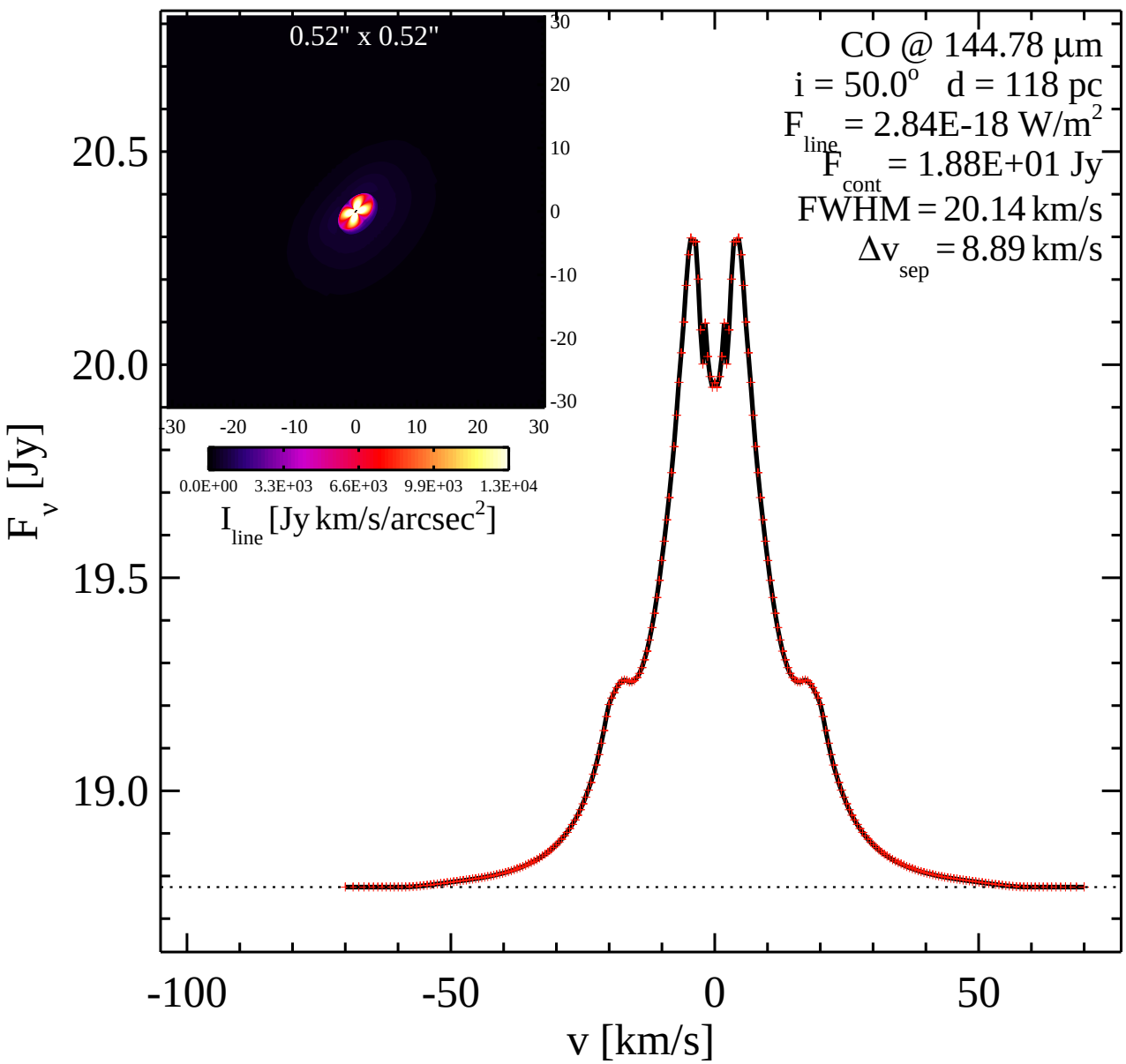

SO 1454.06µm
τ line
τ cont
τ
cumulative F line [%]
F line = 6.02E-21 W/m2
log n SO [cm-3]
-8 -6 -4 -2 0 2 4 6
z/r
r [AU]
100
200
300
400

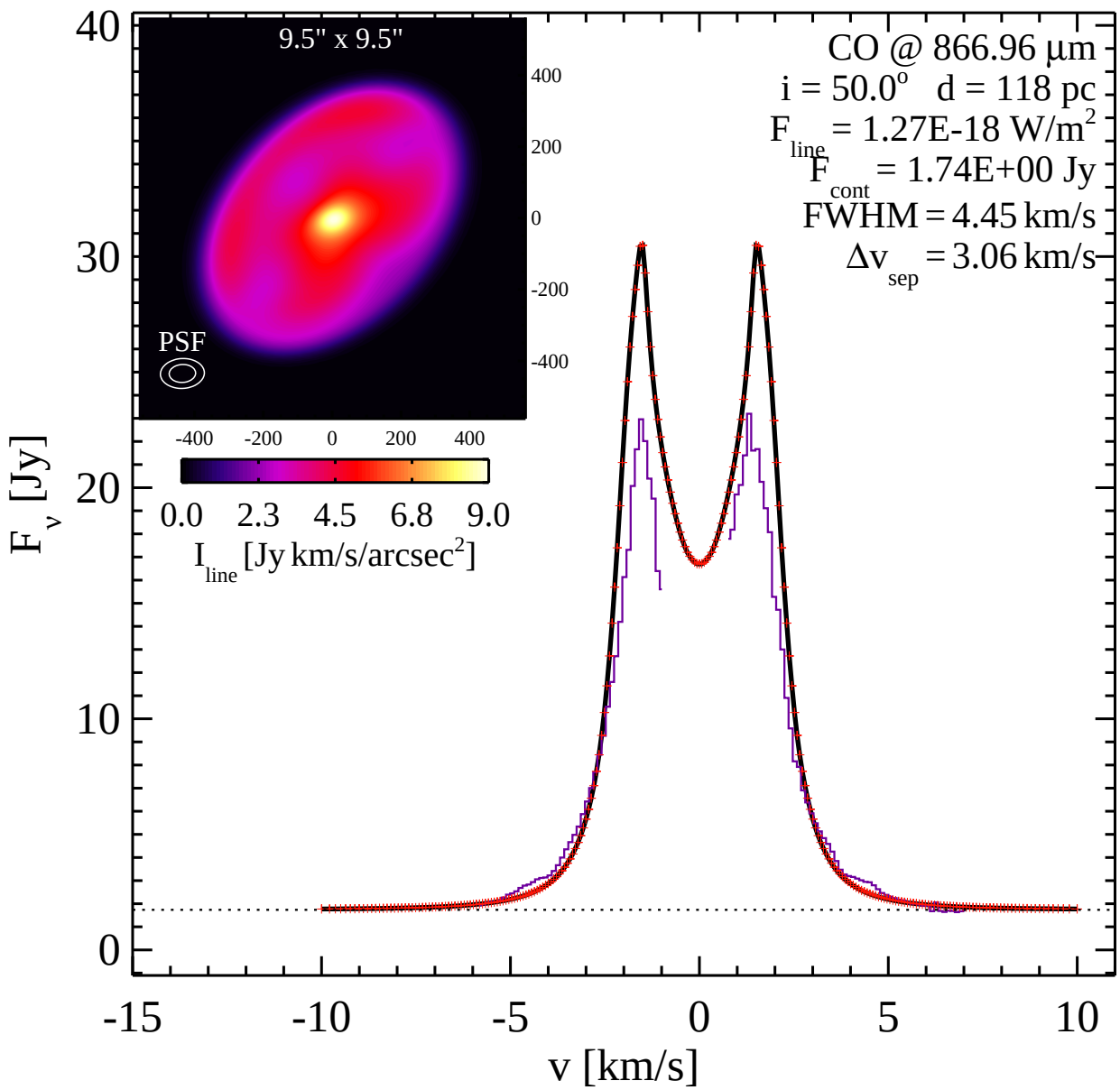

SO 1363.01µm
τ line
τ cont
τ
cumulative F line [%]
F line = 1.21E-20 W/m2
log n SO [cm-3]
z/r
r [AU]

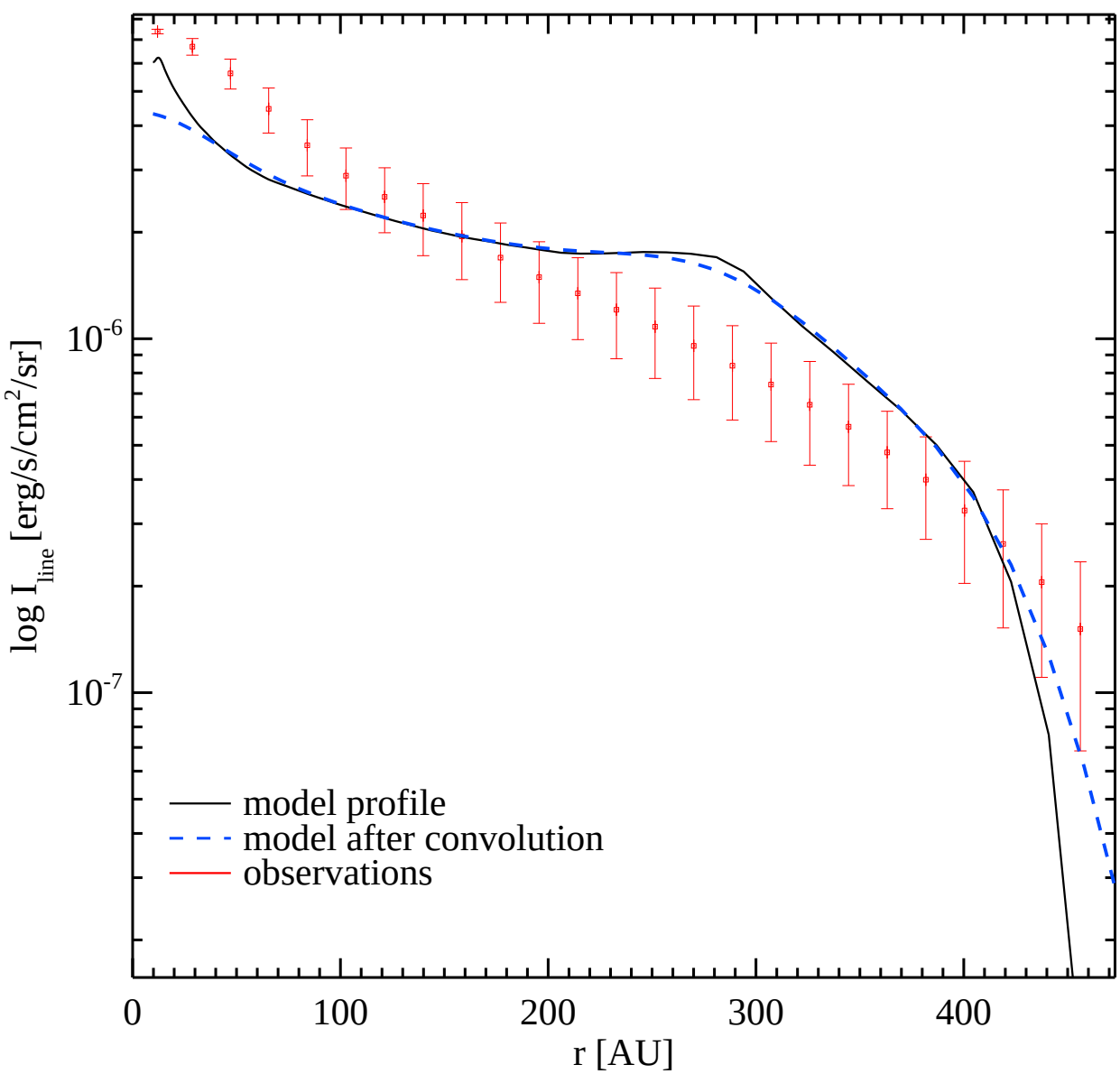

0.050" x 0.050"
2
1
0
-1
-2
-2 -1 0 1 2
0.0E+00 1.2E+04 2.4E+04 3.6E+04 4.8E+04
I line [Jy km/s/arcsec2]
CO @ 72.84 µm
i = 50.0o d = 118 pc
F line = 3.23E-18 W/m2
F cont = 1.82E+01 Jy
FWHM = 51.92 km/s
Δv sep = 38.72 km/s
F v [Jy]
18.8
18.6
18.4
18.2
-100
-50
0
50
v [km/s]

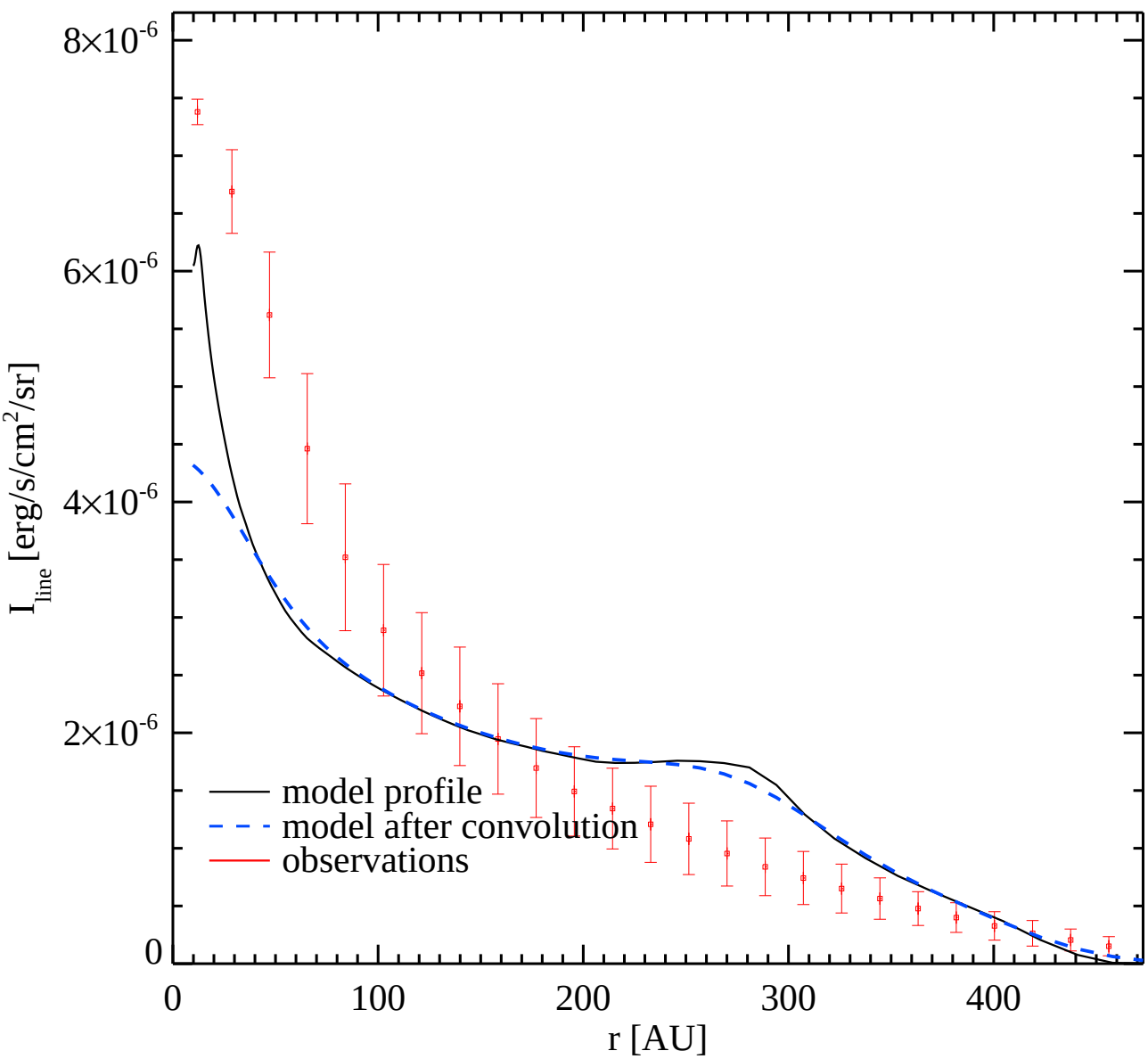

0.053" x 0.053"
CO @ 79.36 µm
i = 50.0° d = 118 pc
F line = 3.61E-18 W/m2
F cont = 1.85E+01 Jy
FWHM = 49.23 km/s
Δv sep = 38.54 km/s
I line [Jy km/s/arcsec2]
0.0E+00 1.1E+04 2.2E+04 3.3E+04 4.4E+04
F v [Jy]
v [km/s]

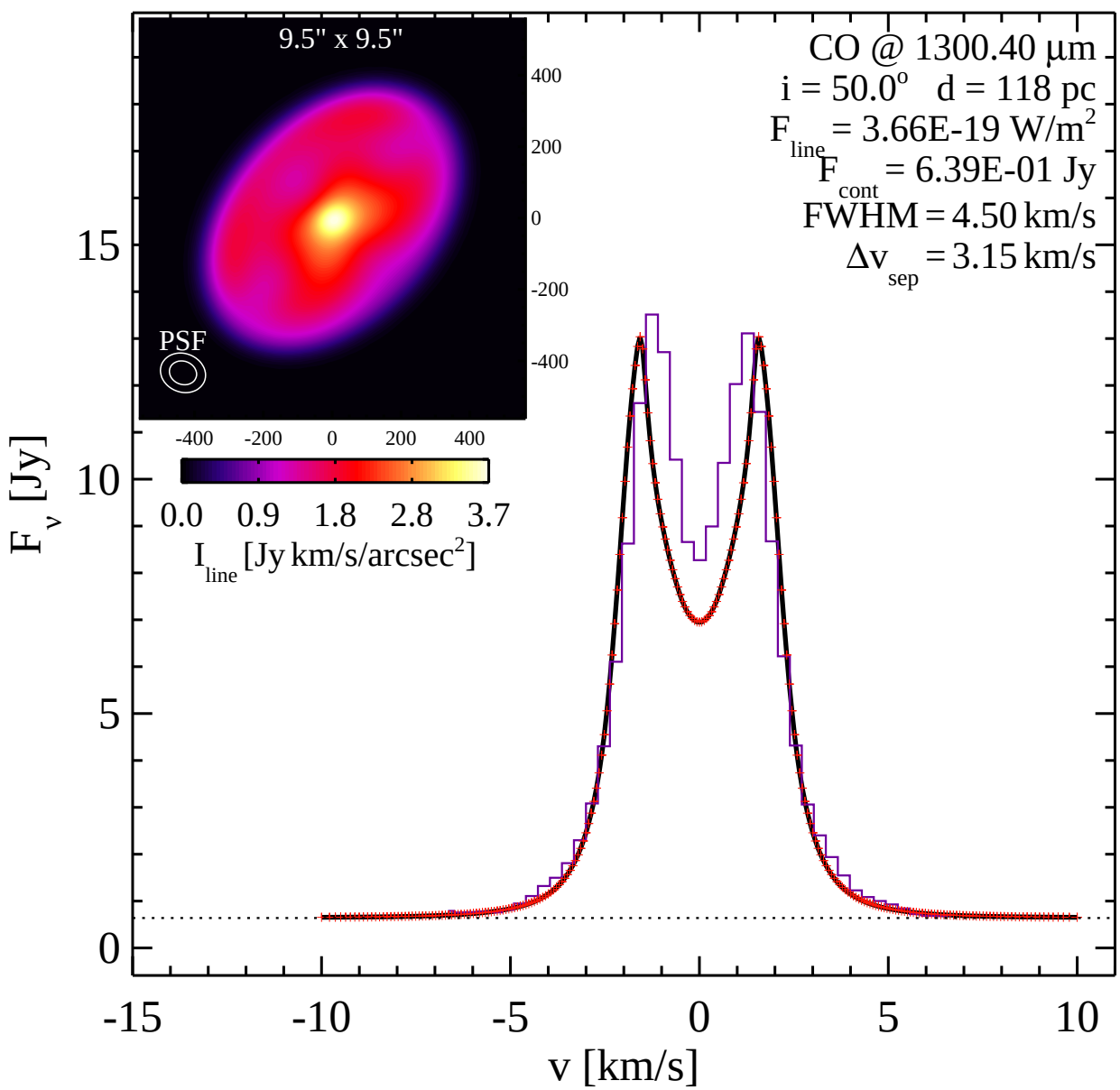

0.056" x 0.056"
CO @ 90.16 μm
i = 50.0° d = 118 pc
F line = 3.37E-18 W/m2
F cont = 1.90E+01 Jy
FWHM = 48.13 km/s
Δv sep = 36.83 km/s
I line [Jy km/s/arcsec2]
0.0E+00 9.9E+03 2.0E+04 3.0E+04 4.0E+04
F v [Jy]
v [km/s]

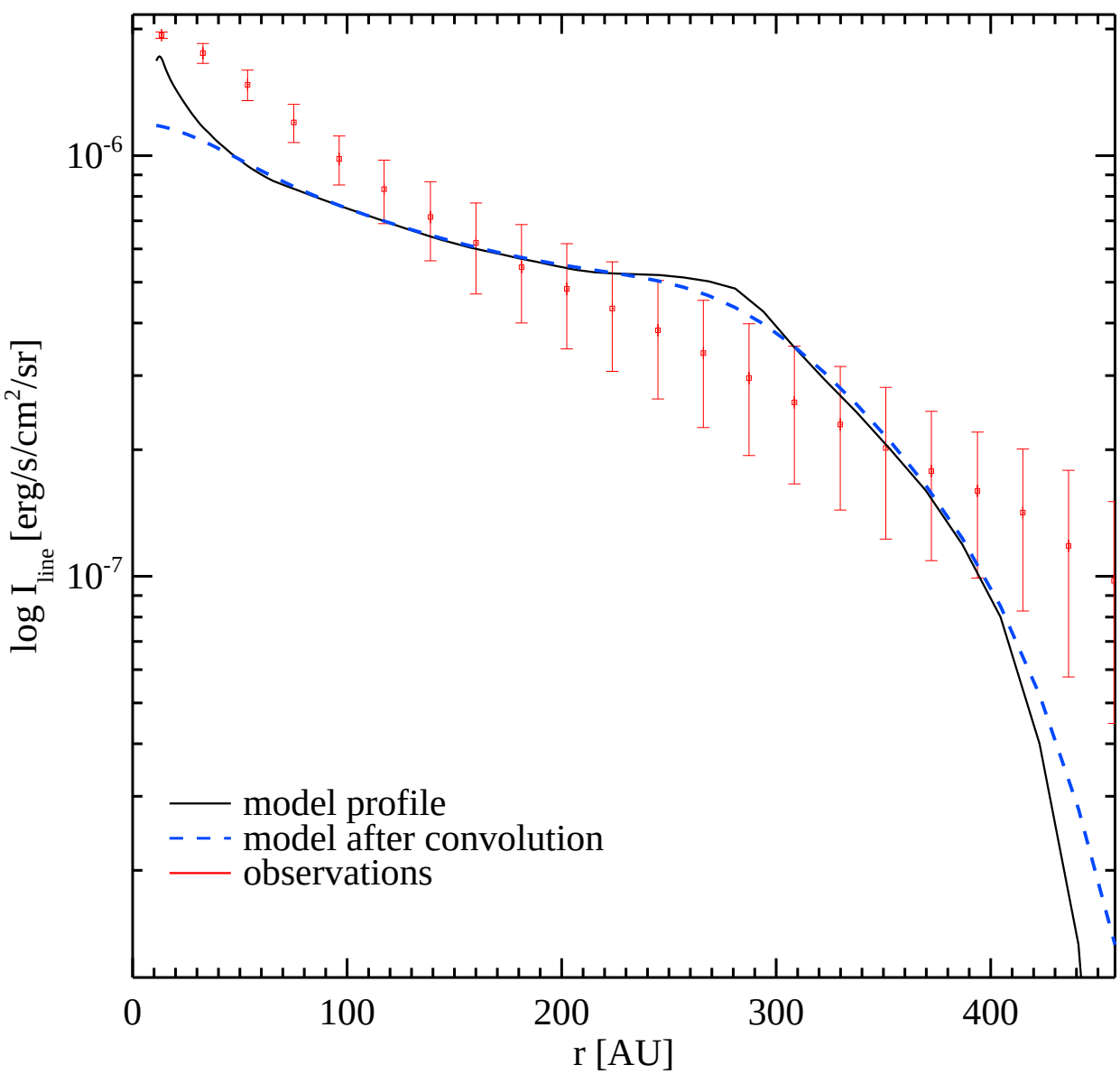

0.52" x 0.52"
CO @ 144.78 µm
i = 50.0° d = 118 pc
F line = 2.84E-18 W/m2
F cont = 1.88E+01 Jy
FWHM = 20.14 km/s
Δv sep = 8.89 km/s
I line [Jy km/s/arcsec2]
0.0E+00 3.3E+03 6.6E+03 9.9E+03 1.3E+04
F v [Jy]
v [km/s]

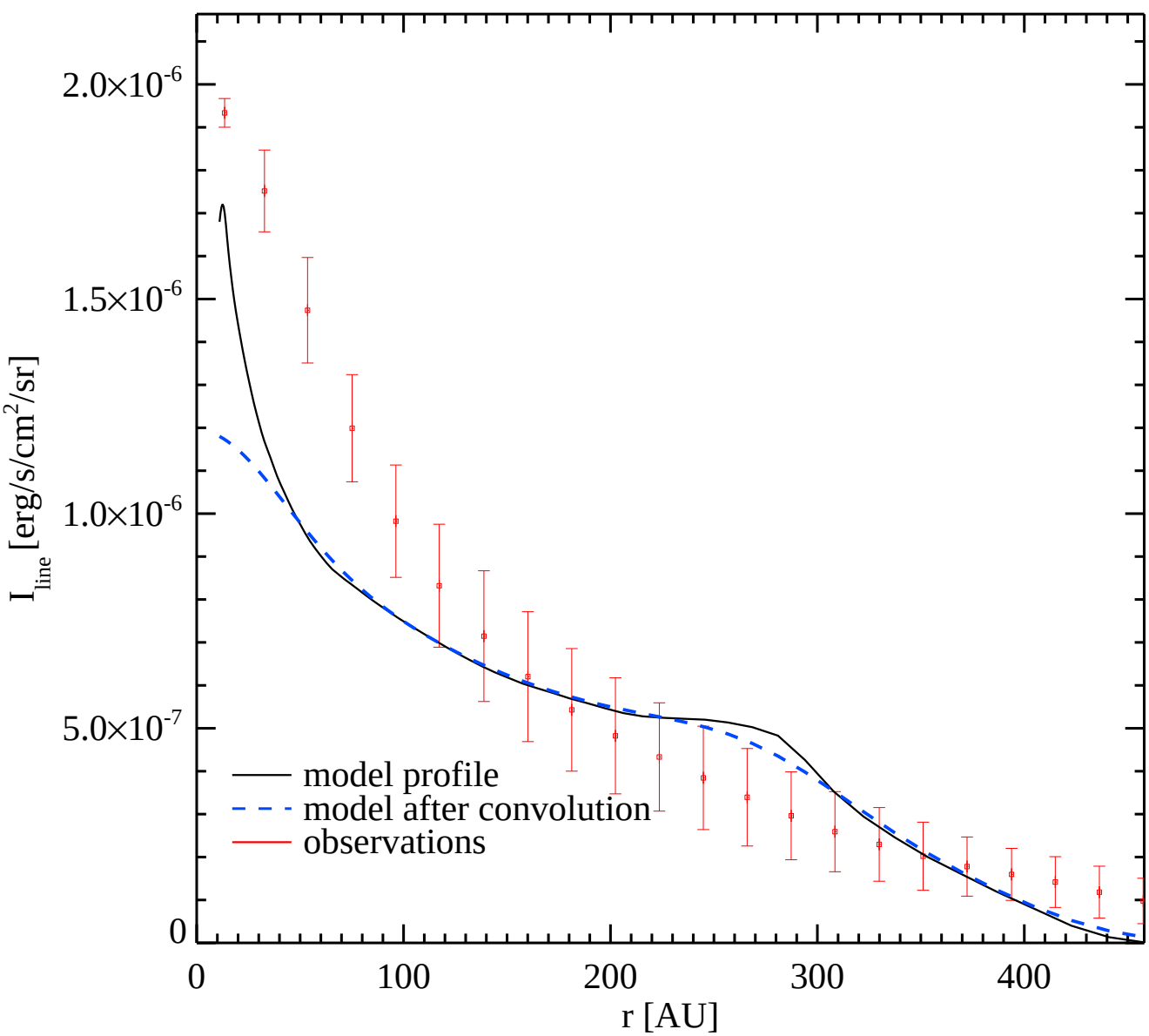

9.5" x 9.5"
PSF
400
200
0
-200
-400
-400 -200 0 200 400
0.0 2.3 4.5 6.8 9.0
I line [Jy km/s/arcsec2]
CO @ 866.96 µm
i = 50.0o d = 118 pc
F line = 1.27E-18 W/m2
F cont = 1.74E+00 Jy
FWHM = 4.45 km/s
Δv sep = 3.06 km/s
F v [Jy]
v [km/s]
40
30
20
10
0
-15
-10
-5
0
5
10

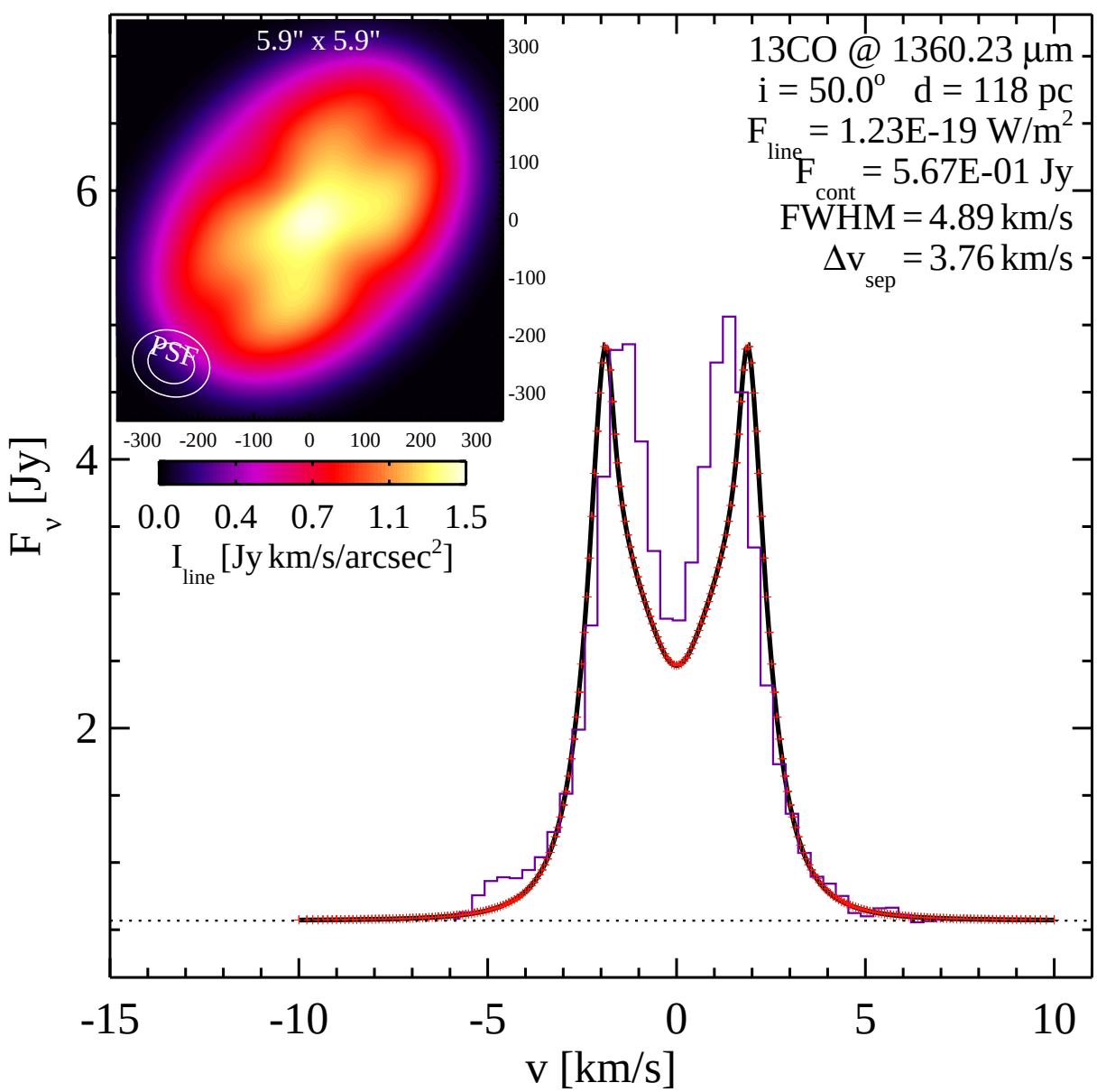

log I_line [erg/s/cm^2/sr]
10^-6
10^-7
0
100
200
300
400
r [AU]
model profile
model after convolution
observations

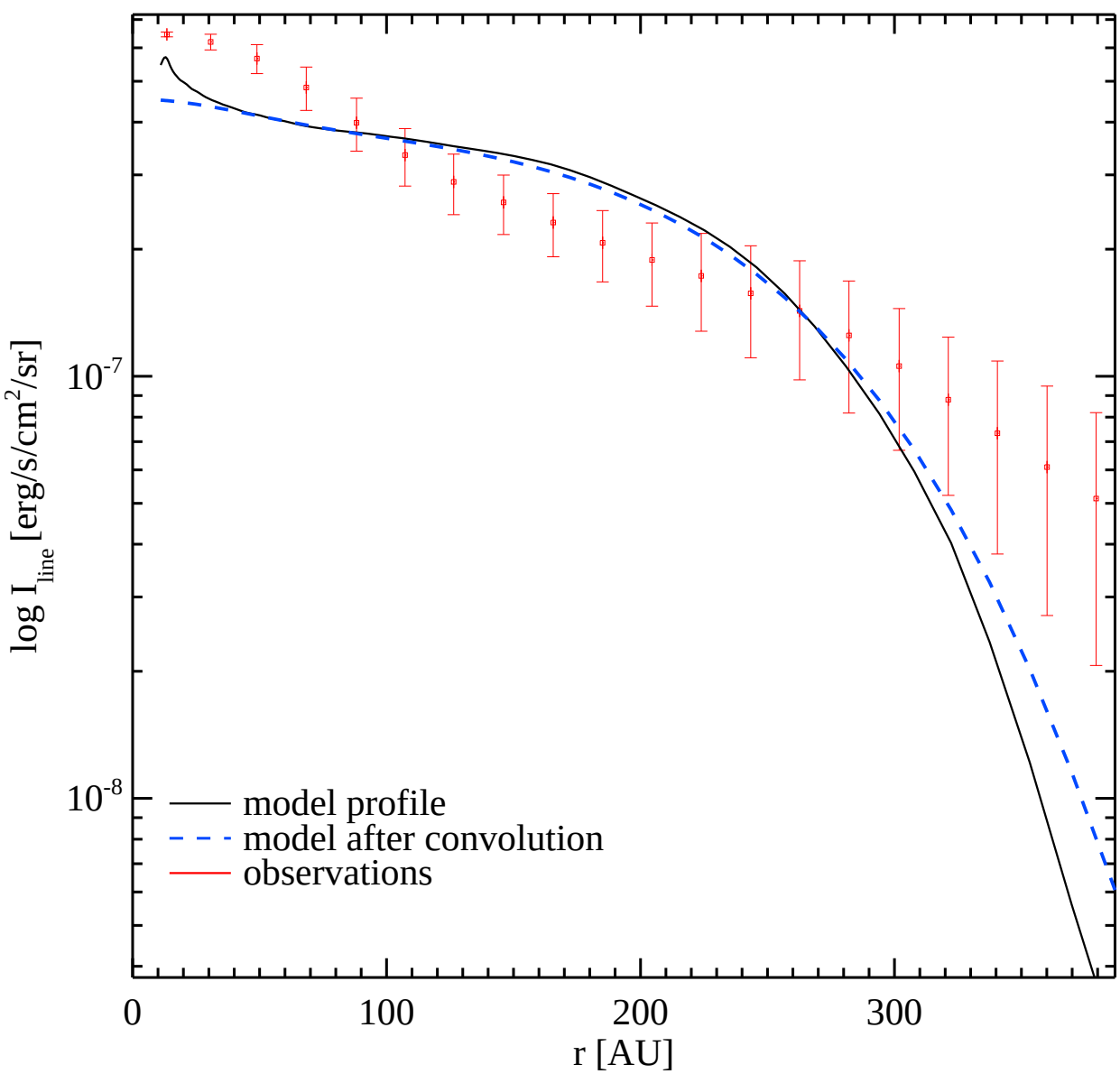

8×10-6
6×10-6
4×10-6
2×10-6
0
I line [erg/s/cm2/sr]
0
100
200
300
400
r [AU]
model profile
model after convolution
observations

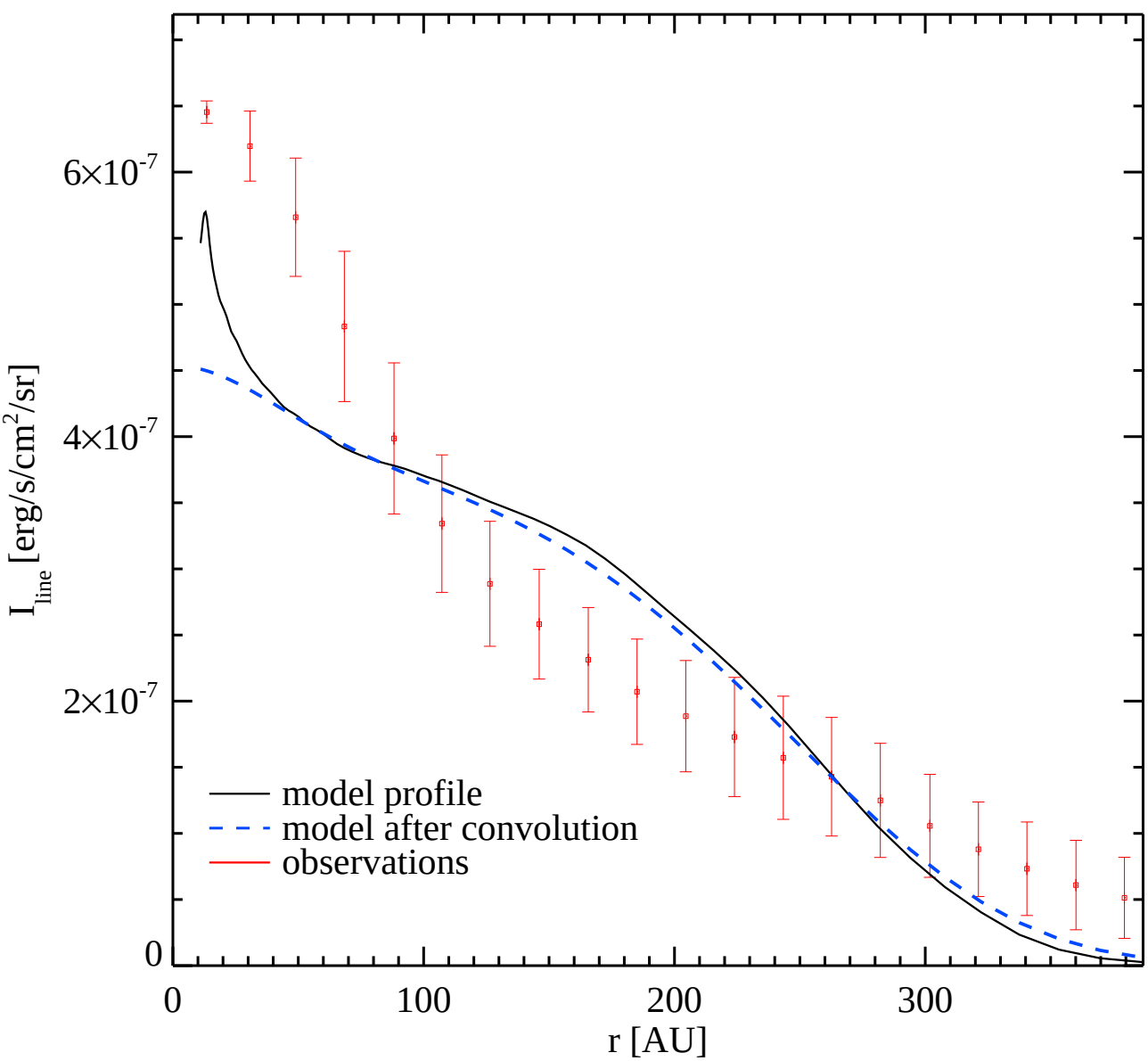

9.5" x 9.5"
PSF
400
200
0
-200
-400
-400 -200 0 200 400
0.0 0.9 1.8 2.8 3.7
I line [Jy km/s/arcsec2]
CO @ 1300.40 µm
i = 50.0o d = 118 pc
F line = 3.66E-19 W/m2
F cont = 6.39E-01 Jy
FWHM = 4.50 km/s
Δv sep = 3.15 km/s
F v [Jy]
v [km/s]
0
5
10
15
-15
-10
-5
0
5
10

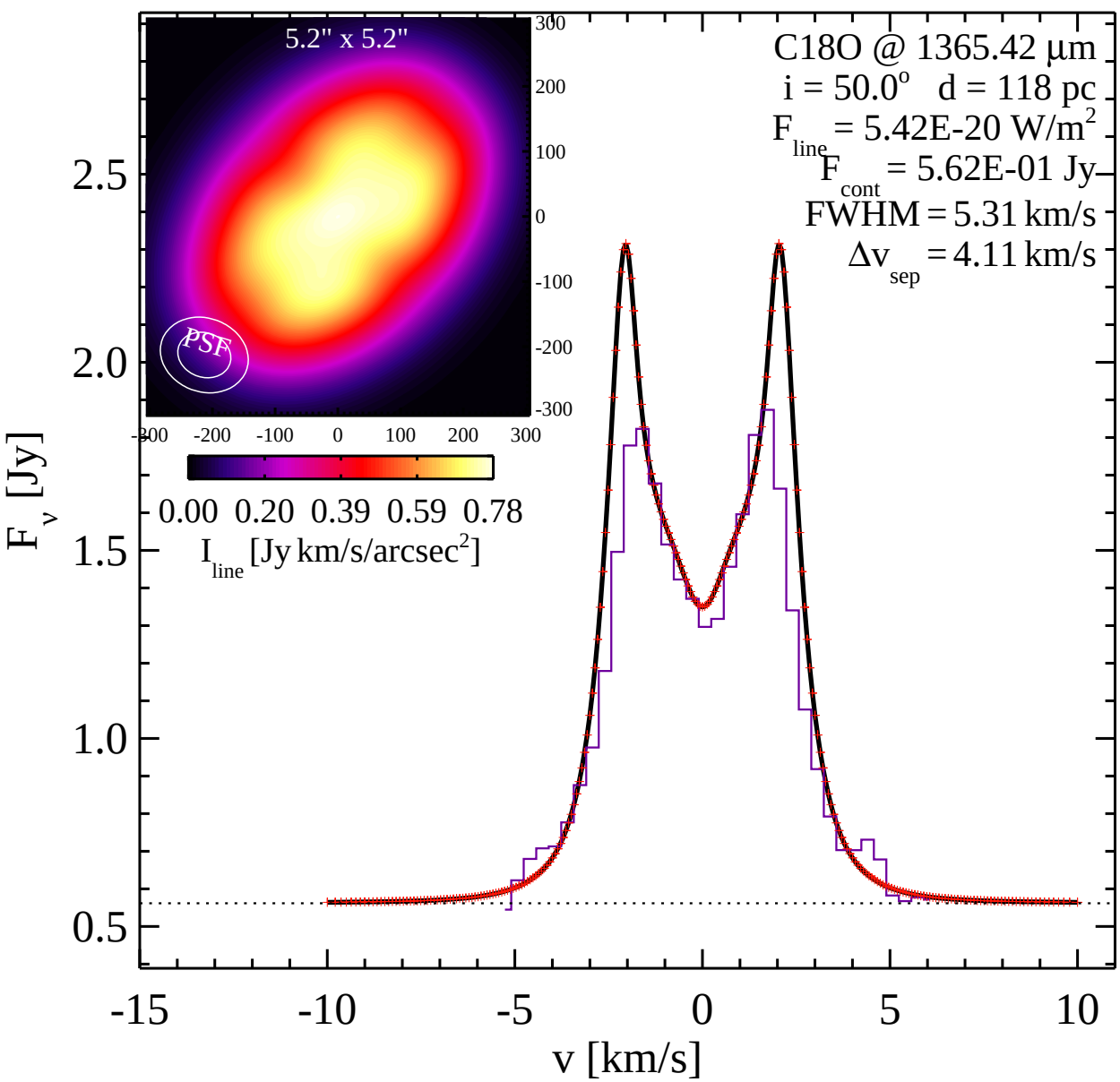

log I_line [erg/s/cm^2/sr]
10^-6
10^-7
0
100
200
300
400
r [AU]
model profile
model after convolution
observations

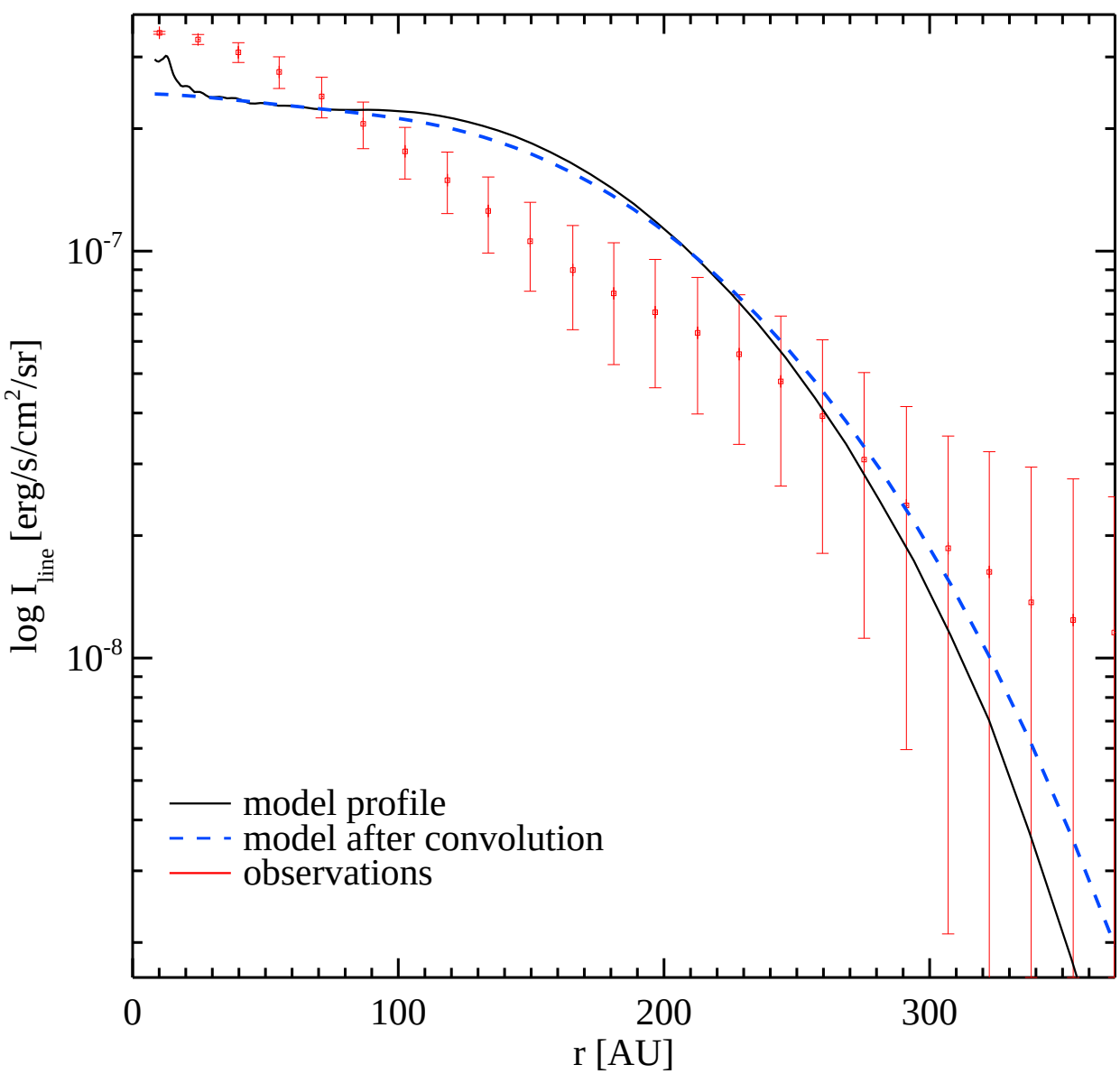

2.0×10-6
1.5×10-6
1.0×10-6
5.0×10-7
0
I line [erg/s/cm2/sr]
0
100
200
300
400
r [AU]
model profile
model after convolution
observations

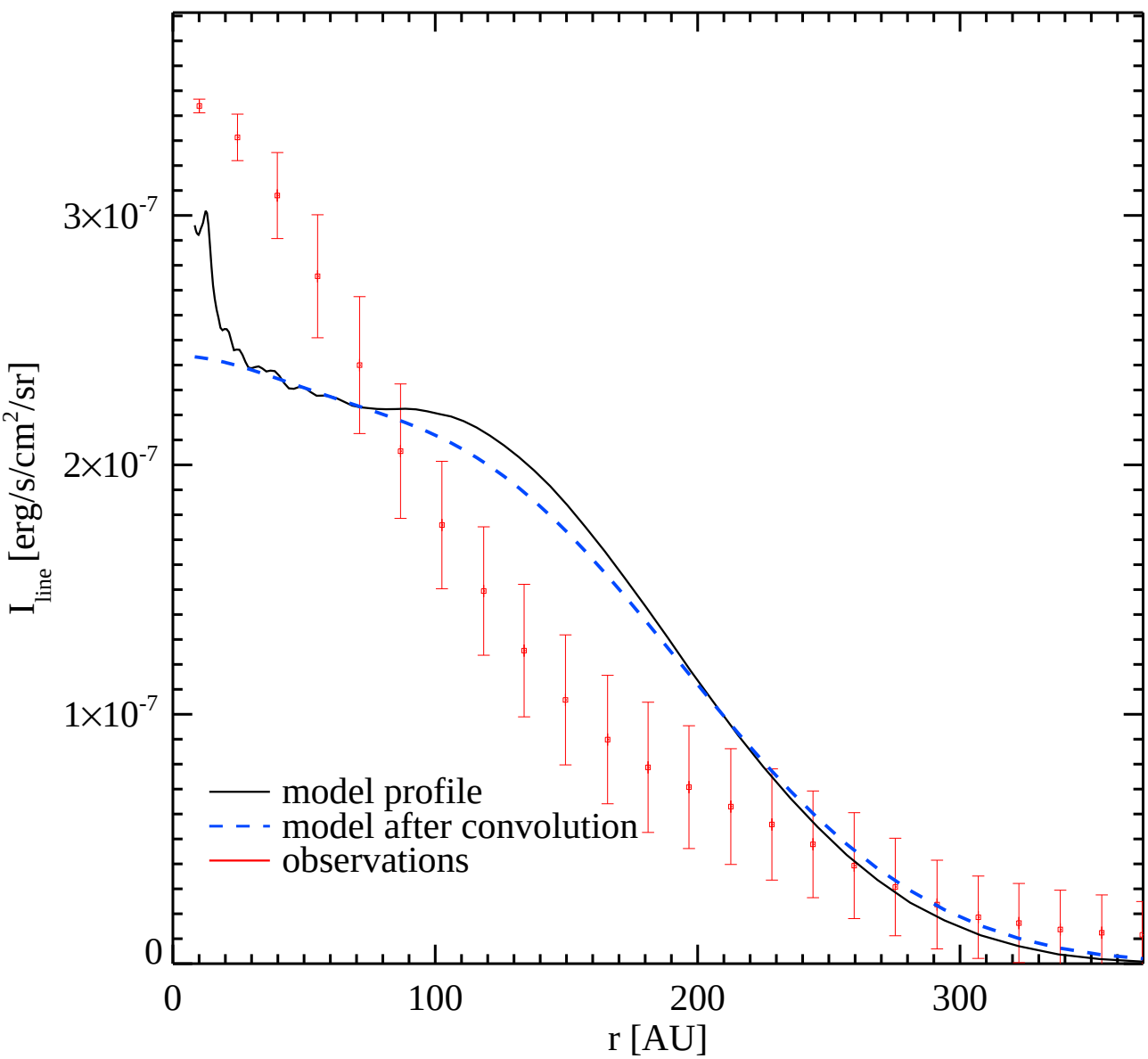

5.9" x 5.9"
PSF
300
200
100
0
-100
-200
-300
-300 -200 -100 0 100 200 300
0.0 0.4 0.7 1.1 1.5
I line [Jy km/s/arcsec2]
13CO @ 1360.23 µm
i = 50.0o d = 118 pc
F line = 1.23E-19 W/m2
F cont = 5.67E-01 Jy
FWHM = 4.89 km/s
Δv sep = 3.76 km/s
F v [Jy]
6
4
2
-15 -10 -5 0 5 10
v [km/s]

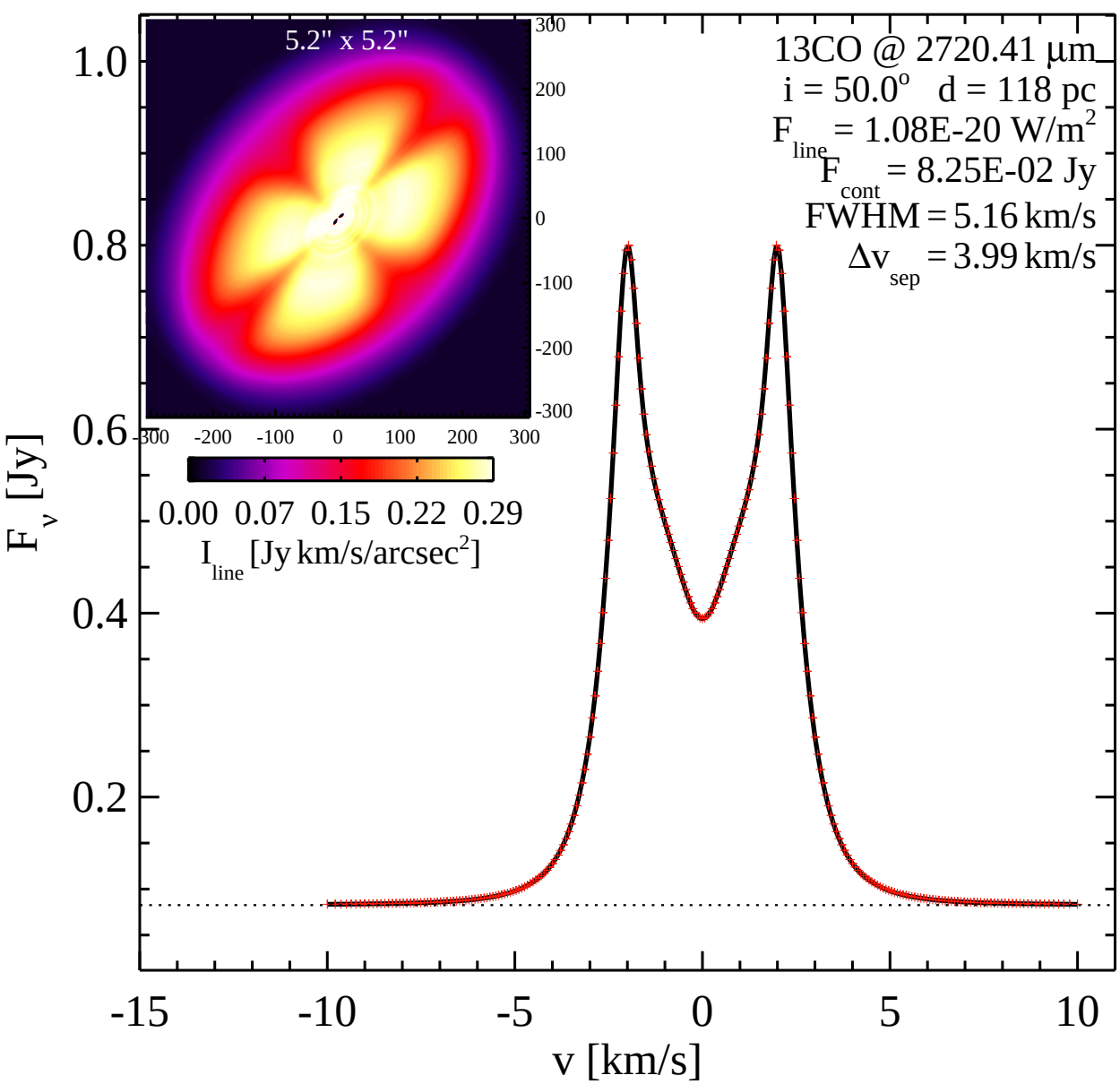

log I_line [erg/s/cm^2/sr]
10^-7
10^-8
0
100
200
300
r [AU]
model profile
model after convolution
observations

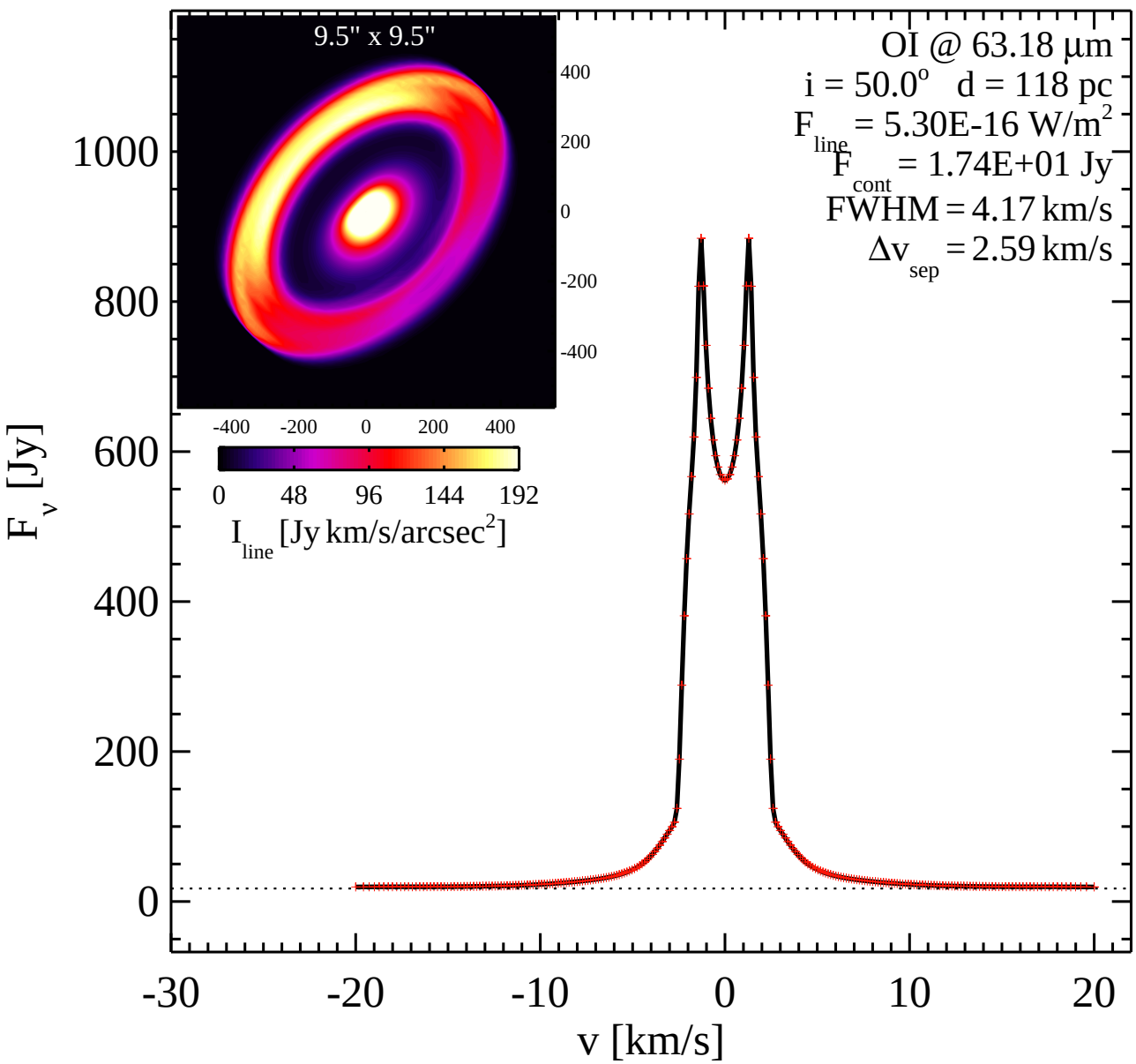

6×10-7
4×10-7
2×10-7
0
Iline [erg/s/cm2/sr]
0
100
200
300
r [AU]
model profile
model after convolution
observations

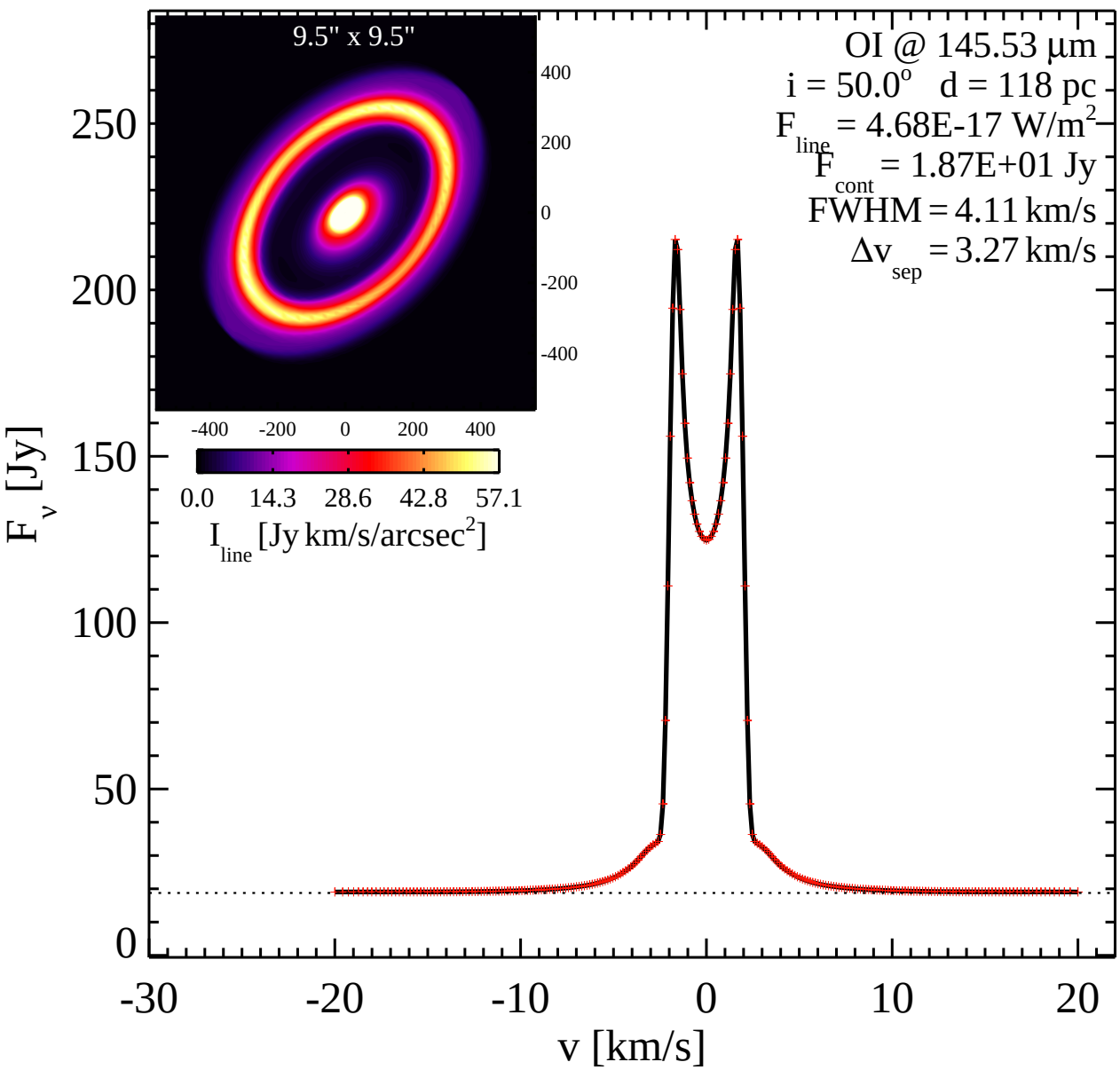

5.2" x 5.2"
PSF
300
200
100
0
-100
-200
-300
-300 -200 -100 0 100 200 300
0.00 0.20 0.39 0.59 0.78
I line [Jy km/s/arcsec2]
C18O @ 1365.42 µm
i = 50.0o d = 118 pc
F line = 5.42E-20 W/m2
F cont = 5.62E-01 Jy
FWHM = 5.31 km/s
Δv sep = 4.11 km/s
F v [Jy]
2.5
2.0
1.5
1.0
0.5
-15 -10 -5 0 5 10
v [km/s]

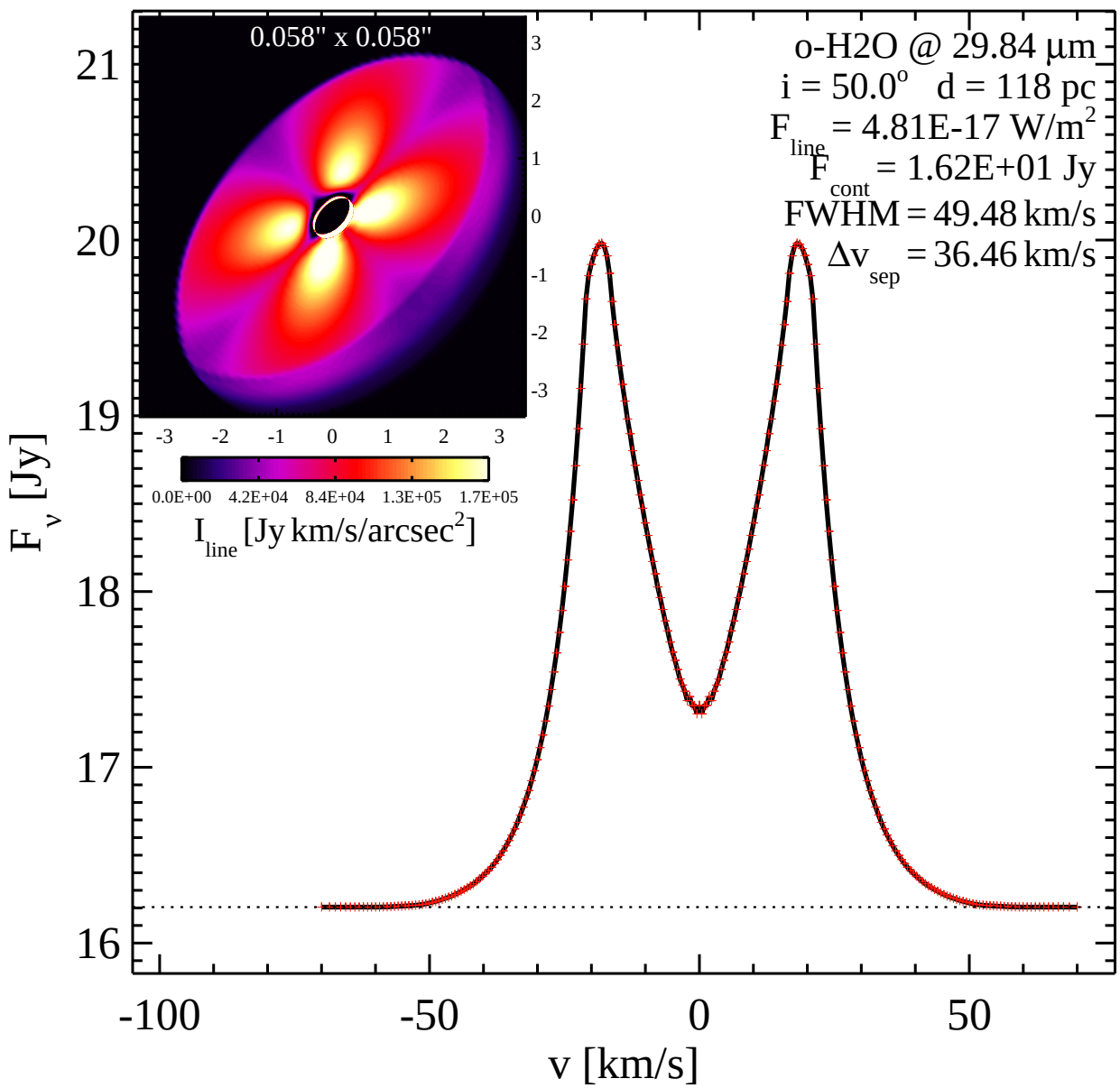

log I_line [erg/s/cm^2/sr]
10^-7
10^-8
0
100
200
300
r [AU]
model profile
model after convolution
observations

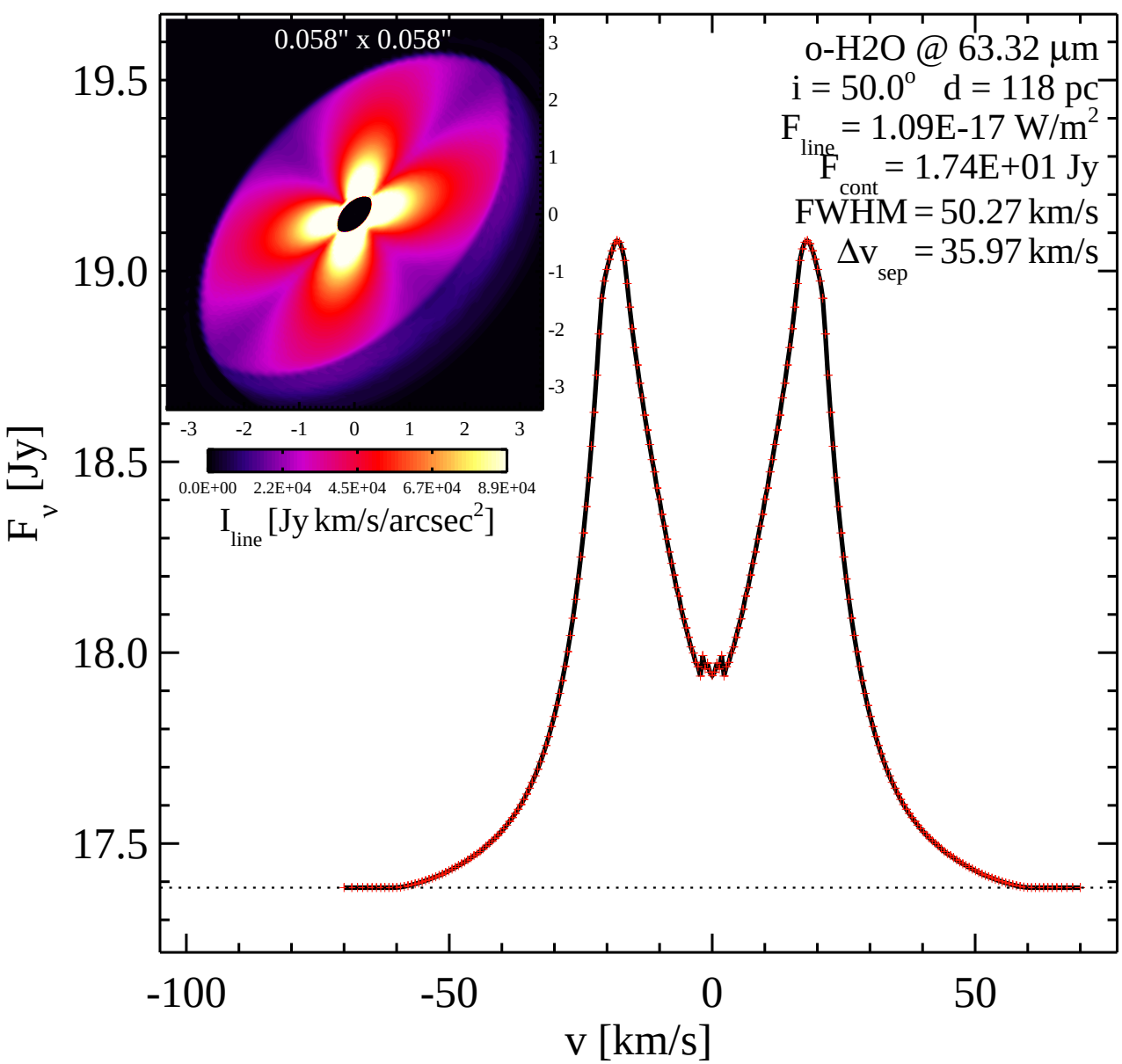

3×10-7
2×10-7
1×10-7
0
I line [erg/s/cm2/sr]
0
100
200
300
r [AU]
model profile
model after convolution
observations

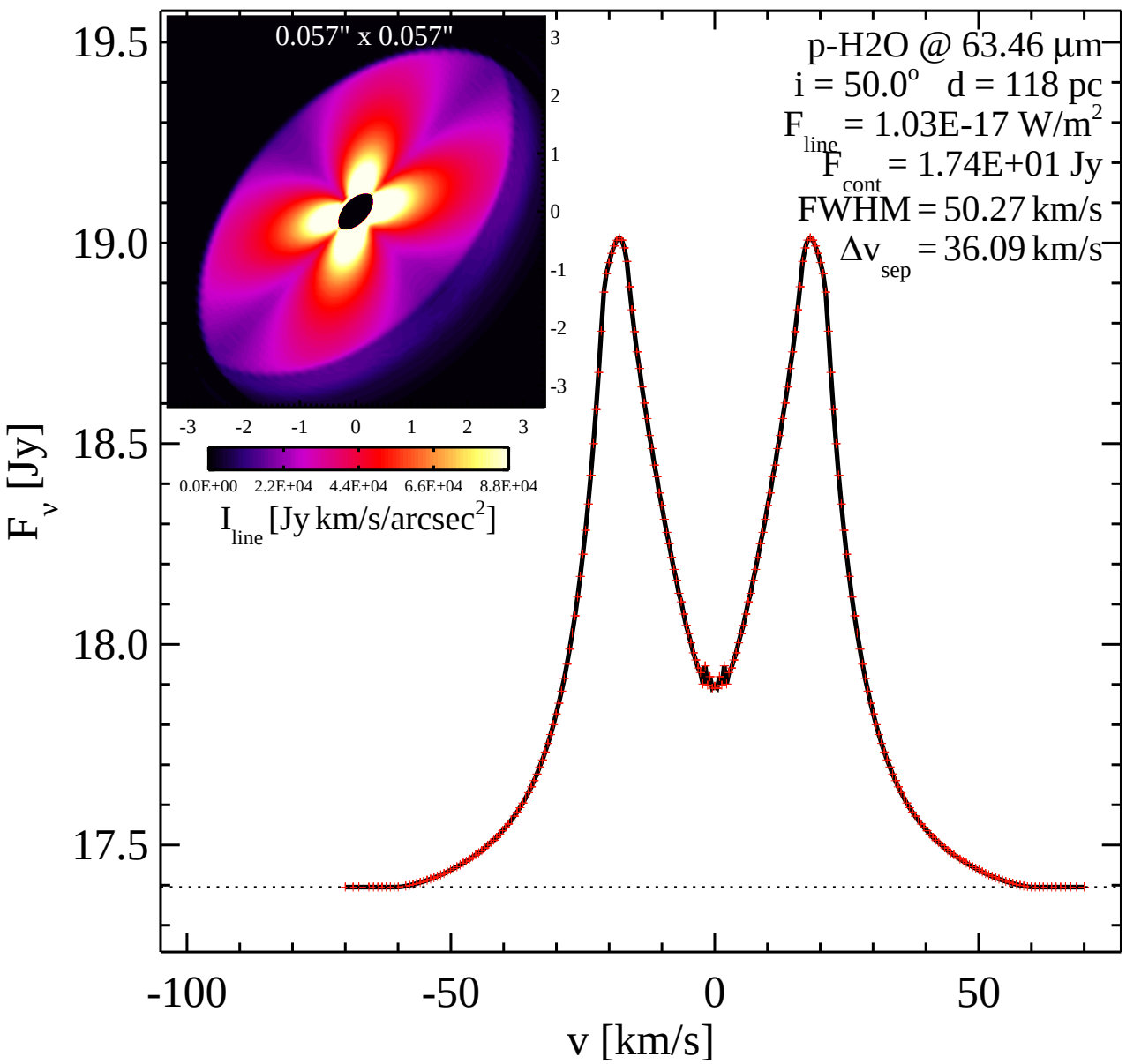

5.2" x 5.2"
13CO @ 2720.41 µm
i = 50.0° d = 118 pc
F line = 1.08E-20 W/m2
F cont = 8.25E-02 Jy
FWHM = 5.16 km/s
Δv sep = 3.99 km/s
0.00 0.07 0.15 0.22 0.29
I line [Jy km/s/arcsec2]
F v [Jy]
v [km/s]

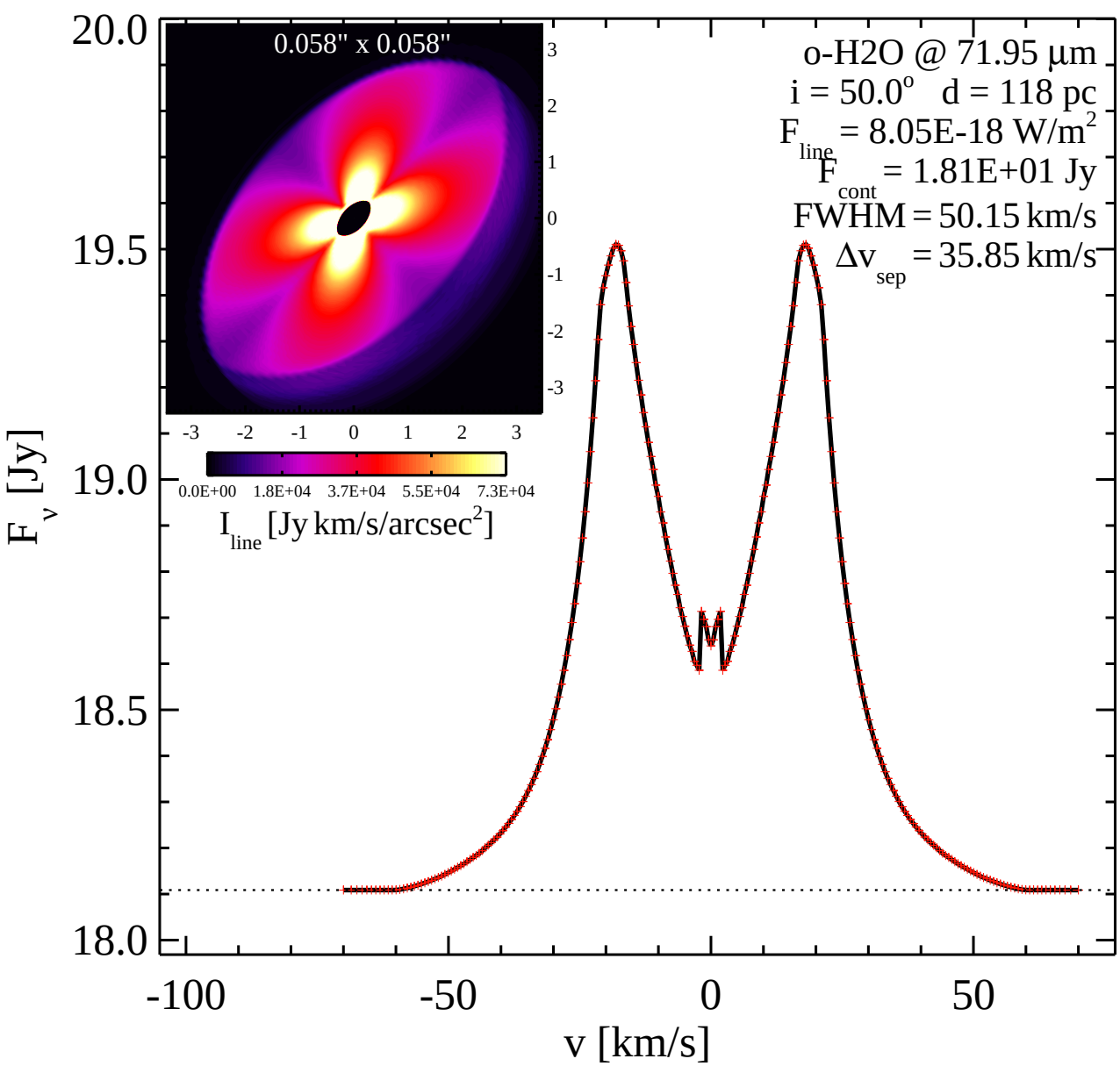

9.5" x 9.5"
400
200
0
-200
-400
-400 -200 0 200 400
0 48 96 144 192
I line [Jy km/s/arcsec2]
OI @ 63.18 µm
i = 50.0o d = 118 pc
F line = 5.30E-16 W/m2
F cont = 1.74E+01 Jy
FWHM = 4.17 km/s
Δv sep = 2.59 km/s
F v [Jy]
1000
800
600
400
200
0
-30 -20 -10 0 10 20
v [km/s]

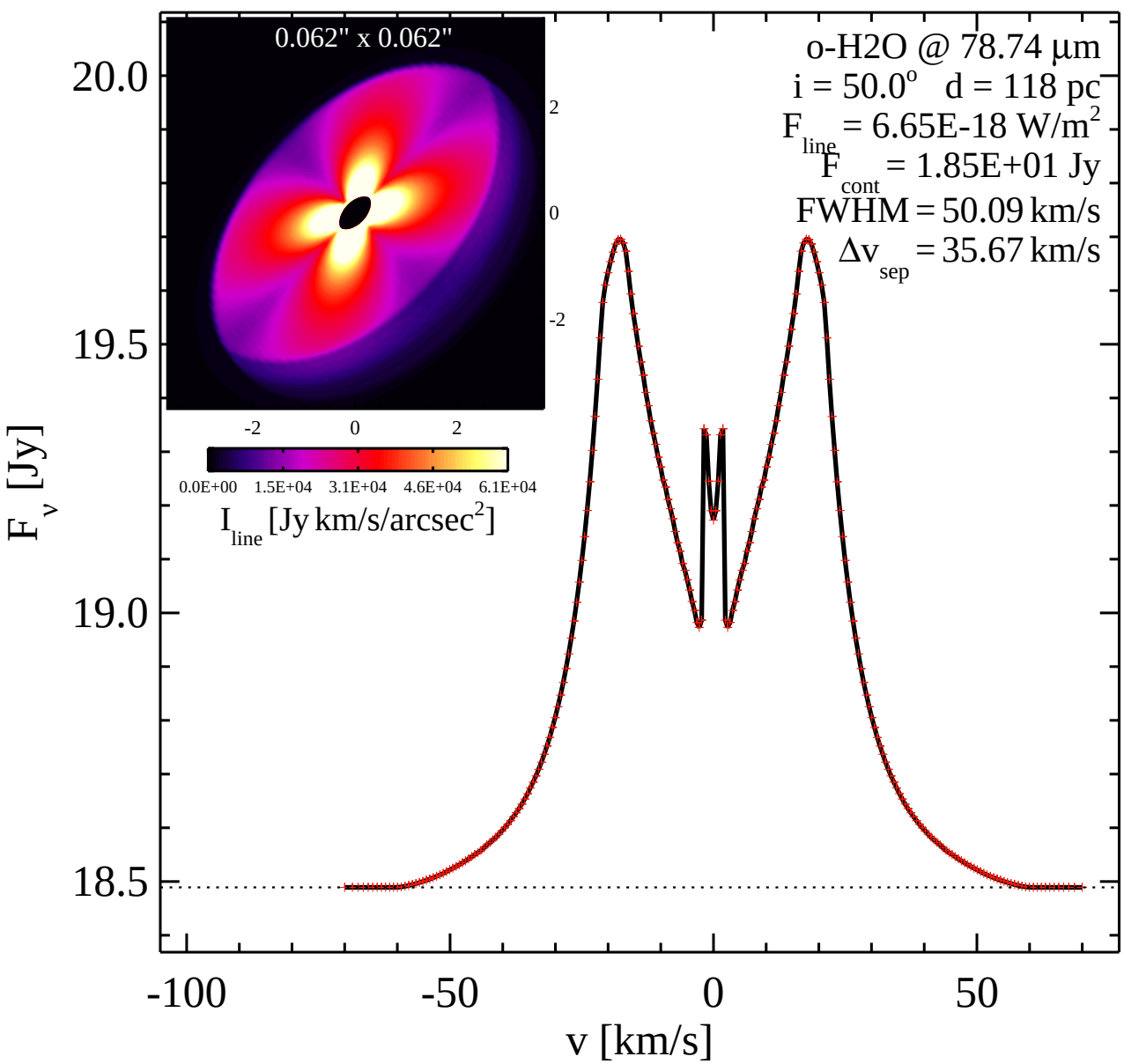

9.5" x 9.5"
400
200
0
-200
-400
-400 -200 0 200 400
0.0 14.3 28.6 42.8 57.1
I line [Jy km/s/arcsec2]
OI @ 145.53 µm
i = 50.0o d = 118 pc
F line = 4.68E-17 W/m2
F cont = 1.87E+01 Jy
FWHM = 4.11 km/s
Δv sep = 3.27 km/s
F v [Jy]
250
200
150
100
50
0
-30 -20 -10 0 10 20
v [km/s]

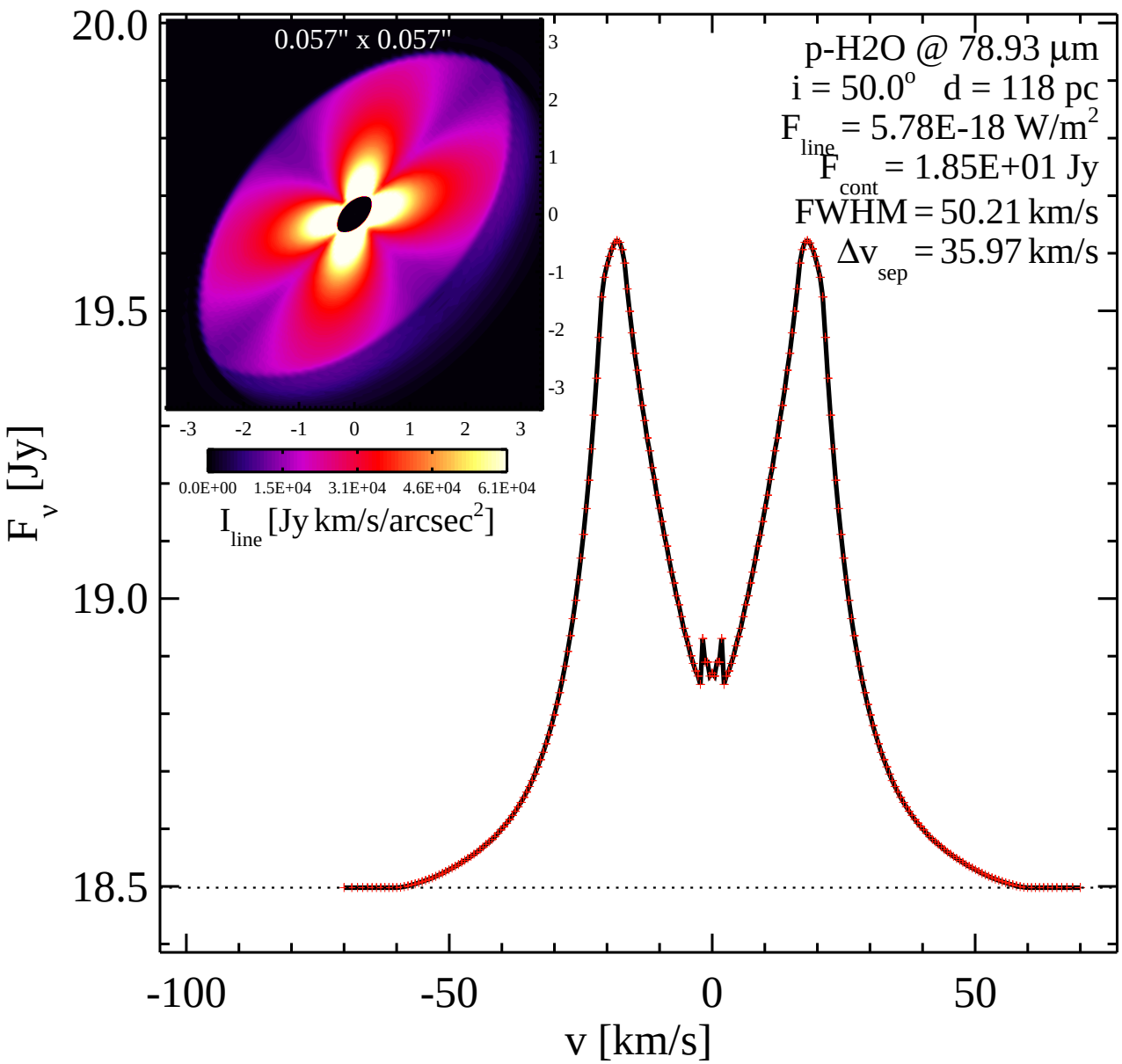

0.058" x 0.058"
o-H2O @ 29.84 µm
i = 50.0° d = 118 pc
F line = 4.81E-17 W/m2
F cont = 1.62E+01 Jy
FWHM = 49.48 km/s
Δv sep = 36.46 km/s
I line [Jy km/s/arcsec2]
0.0E+00 4.2E+04 8.4E+04 1.3E+05 1.7E+05
F v [Jy]
v [km/s]

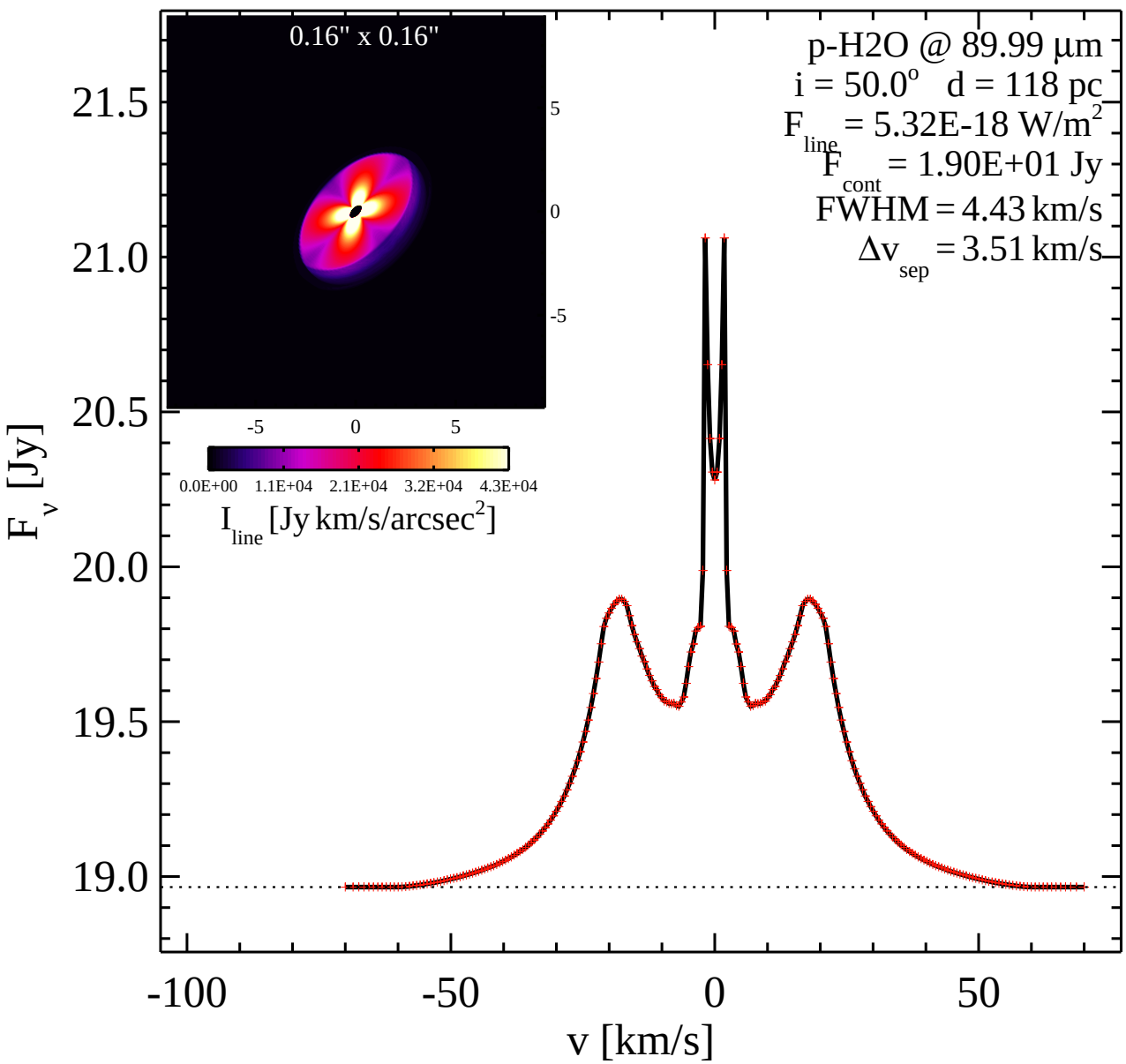

o-H2O @ 63.32 µm
i = 50.0° d = 118 pc
F line = 1.09E-17 W/m2
F cont = 1.74E+01 Jy
FWHM = 50.27 km/s
Δv sep = 35.97 km/s
0.058" x 0.058"
I line [Jy km/s/arcsec2]
0.0E+00 2.2E+04 4.5E+04 6.7E+04 8.9E+04
F v [Jy]
v [km/s]
19.5
19.0
18.5
18.0
17.5
-100
-50
0
50

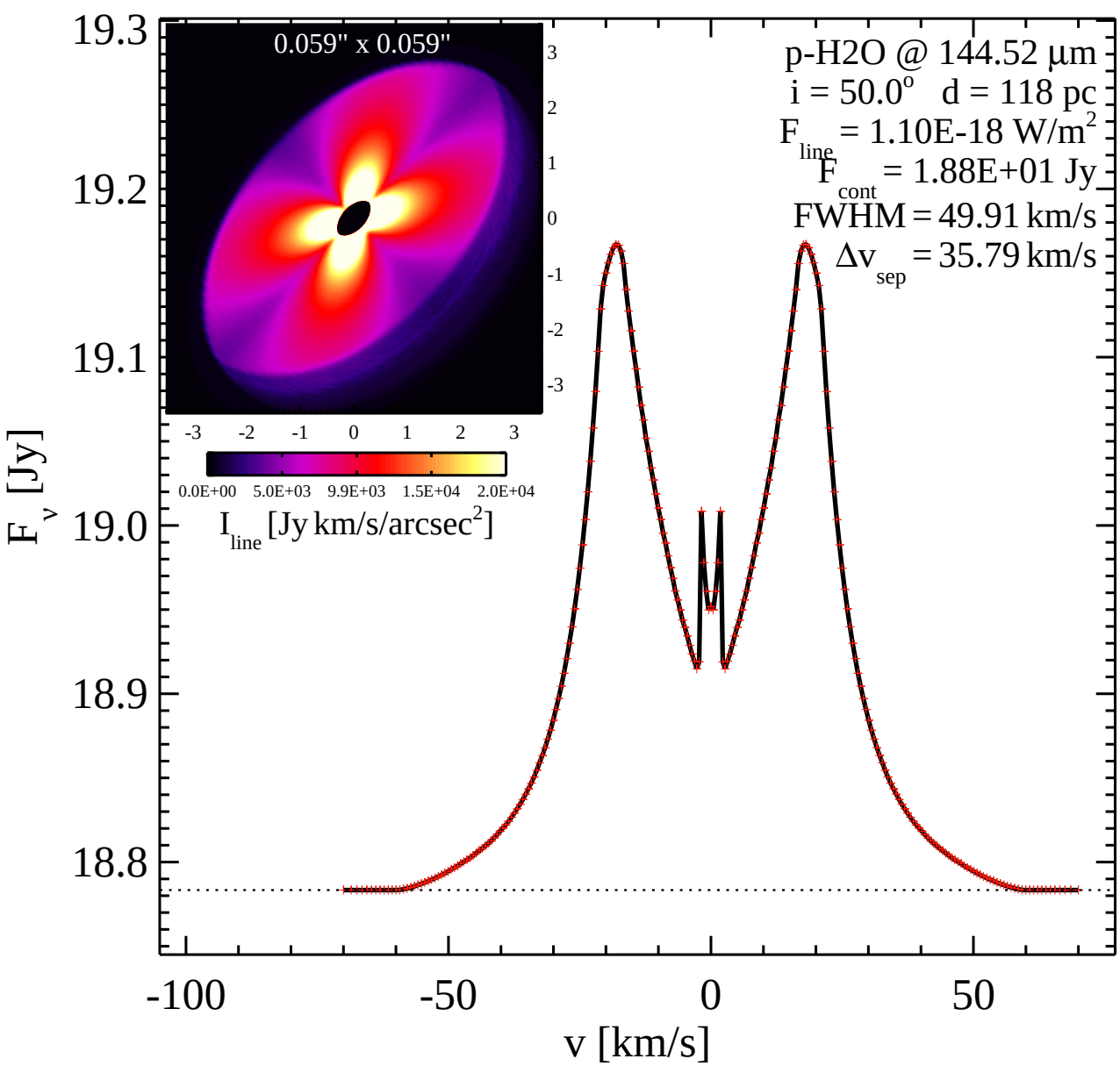

0.057" x 0.057"
p-H2O @ 63.46 µm
i = 50.0° d = 118 pc
F line = 1.03E-17 W/m2
F cont = 1.74E+01 Jy
FWHM = 50.27 km/s
Δv sep = 36.09 km/s
I line [Jy km/s/arcsec2]
0.0E+00 2.2E+04 4.4E+04 6.6E+04 8.8E+04
F v [Jy]
v [km/s]
19.5
19.0
18.5
18.0
17.5
-100
-50
0
50

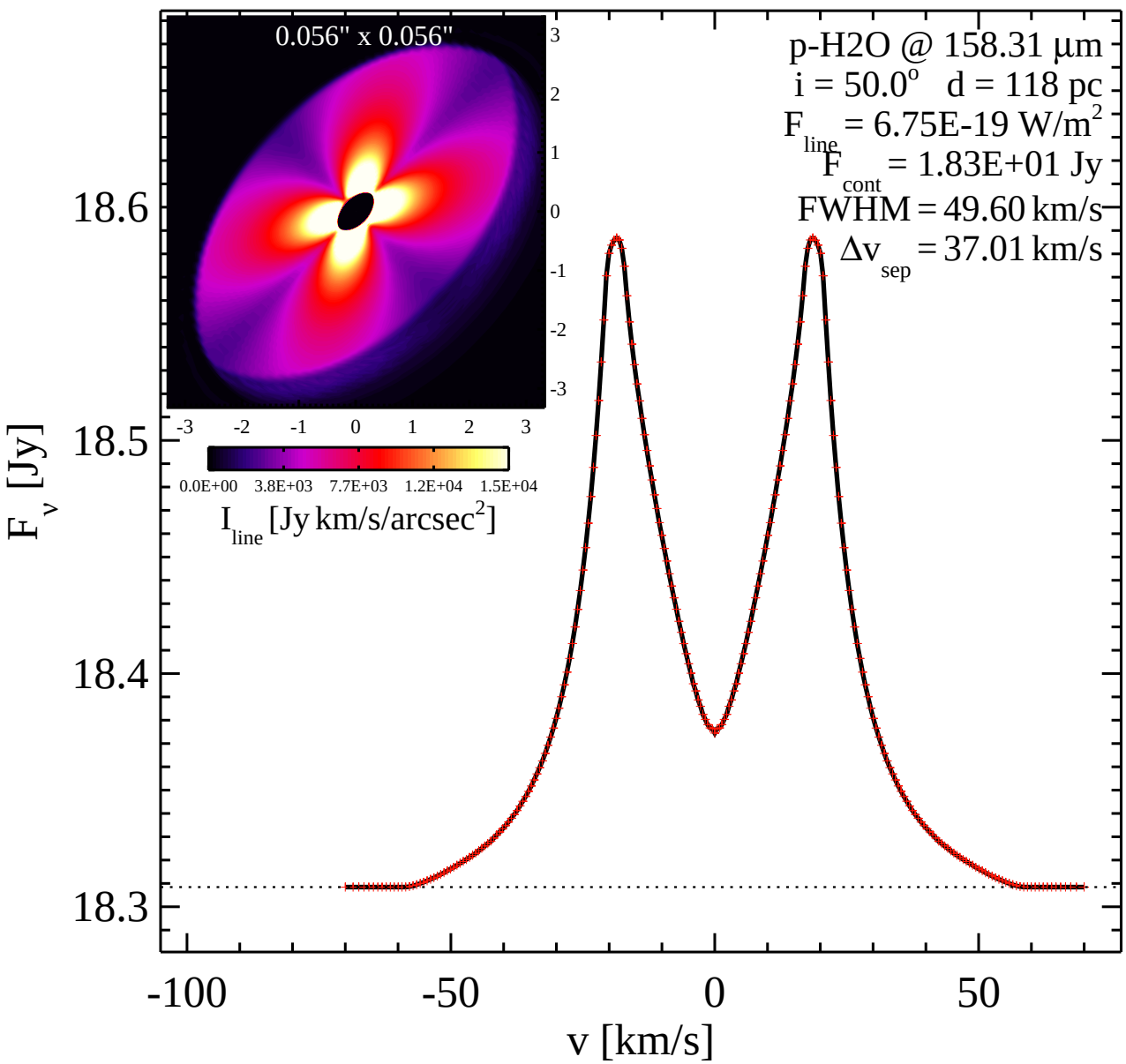

20.0
19.5
19.0
18.5
18.0
F_v [Jy]
-100
-50
0
50
v [km/s]
0.058" x 0.058"
3
2
1
0
-1
-2
-3
-3 -2 -1 0 1 2 3
0.0E+00 1.8E+04 3.7E+04 5.5E+04 7.3E+04
I_line [Jy km/s/arcsec^2]
o-H2O @ 71.95 µm
i = 50.0° d = 118 pc
F_line = 8.05E-18 W/m^2
F_cont = 1.81E+01 Jy
FWHM = 50.15 km/s
Δv_sep = 35.85 km/s

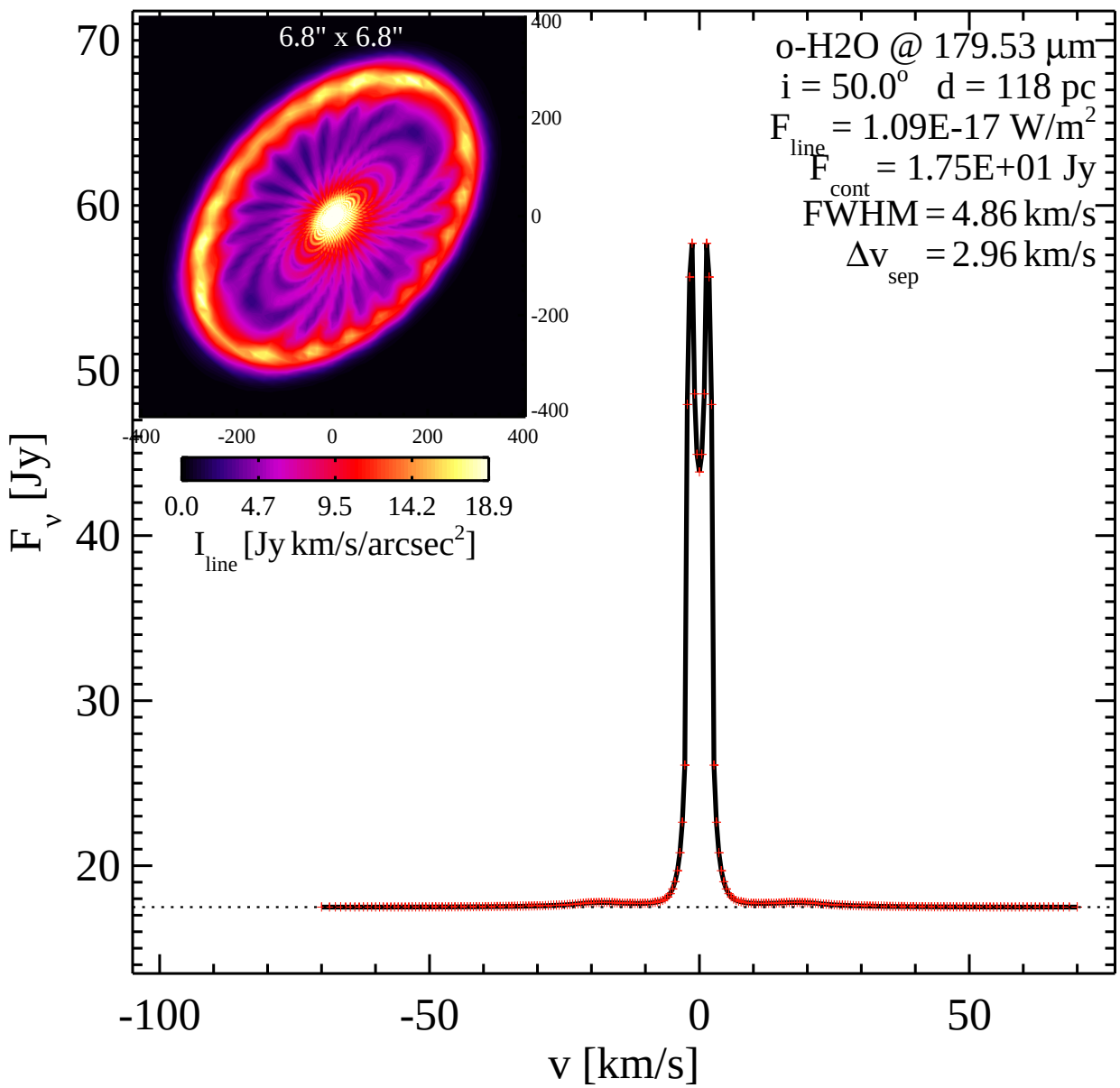

0.062" x 0.062"
o-H2O @ 78.74 µm
i = 50.0° d = 118 pc
F line = 6.65E-18 W/m2
F cont = 1.85E+01 Jy
FWHM = 50.09 km/s
Δv sep = 35.67 km/s
20.0
19.5
19.0
18.5
F v [Jy]
-100
-50
0
50
v [km/s]
2
0
-2
-2
0
2
0.0E+00
1.5E+04
3.1E+04
4.6E+04
6.1E+04
I line [Jy km/s/arcsec2]

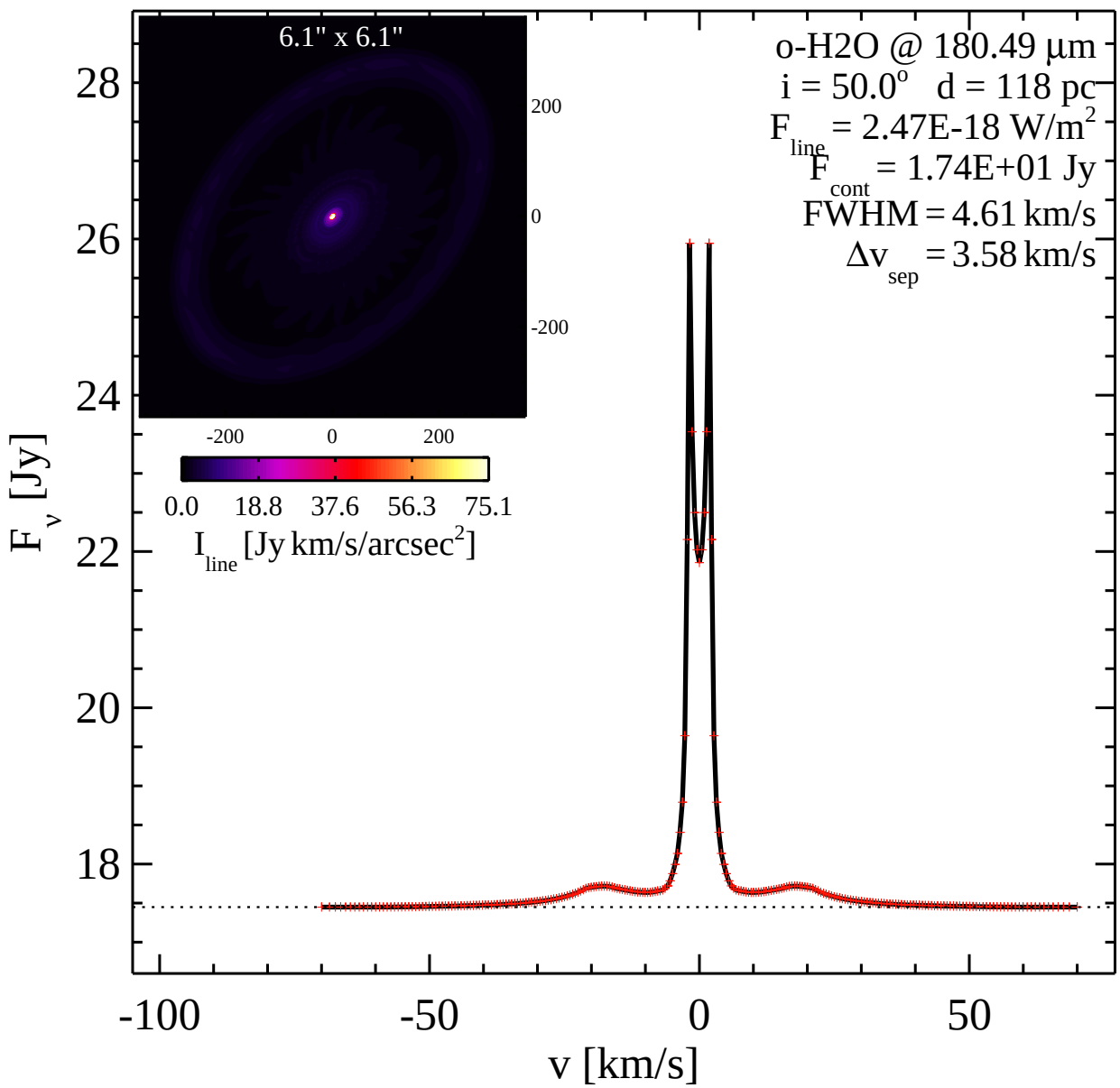

0.057" x 0.057"
p-H2O @ 78.93 µm
i = 50.0° d = 118 pc
F line = 5.78E-18 W/m2
F cont = 1.85E+01 Jy
FWHM = 50.21 km/s
Δv sep = 35.97 km/s
I line [Jy km/s/arcsec2]
0.0E+00 1.5E+04 3.1E+04 4.6E+04 6.1E+04
F v [Jy]
v [km/s]
20.0
19.5
19.0
18.5
-100
-50
0
50

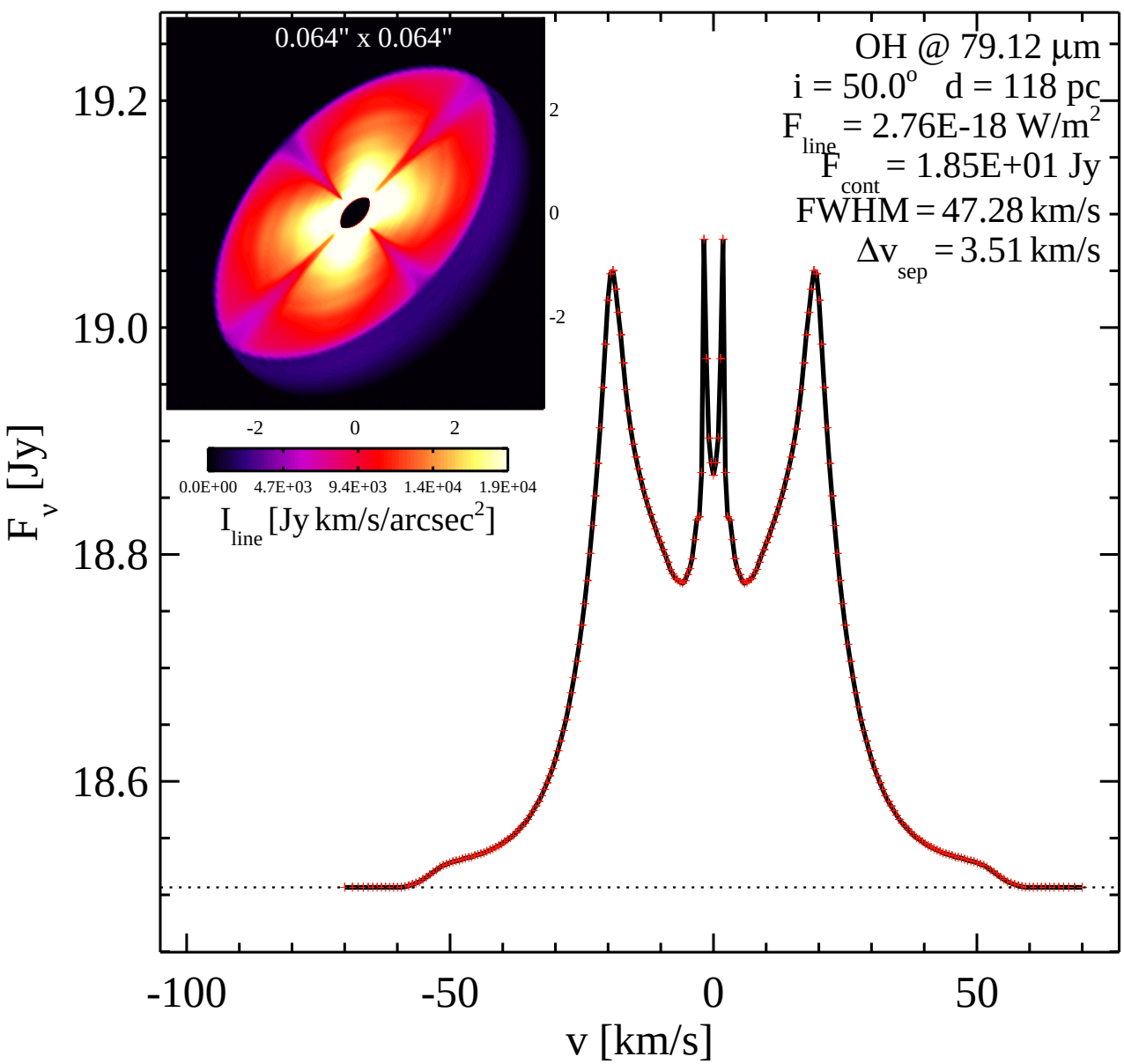

0.16" x 0.16"
5
0
-5
-5
0
5
0.0E+00
1.1E+04
2.1E+04
3.2E+04
4.3E+04
I line [Jy km/s/arcsec2]
p-H2O @ 89.99 µm
i = 50.0o d = 118 pc
F line = 5.32E-18 W/m2
F cont = 1.90E+01 Jy
FWHM = 4.43 km/s
Δv sep = 3.51 km/s
F v [Jy]
21.5
21.0
20.5
20.0
19.5
19.0
-100
-50
0
50
v [km/s]

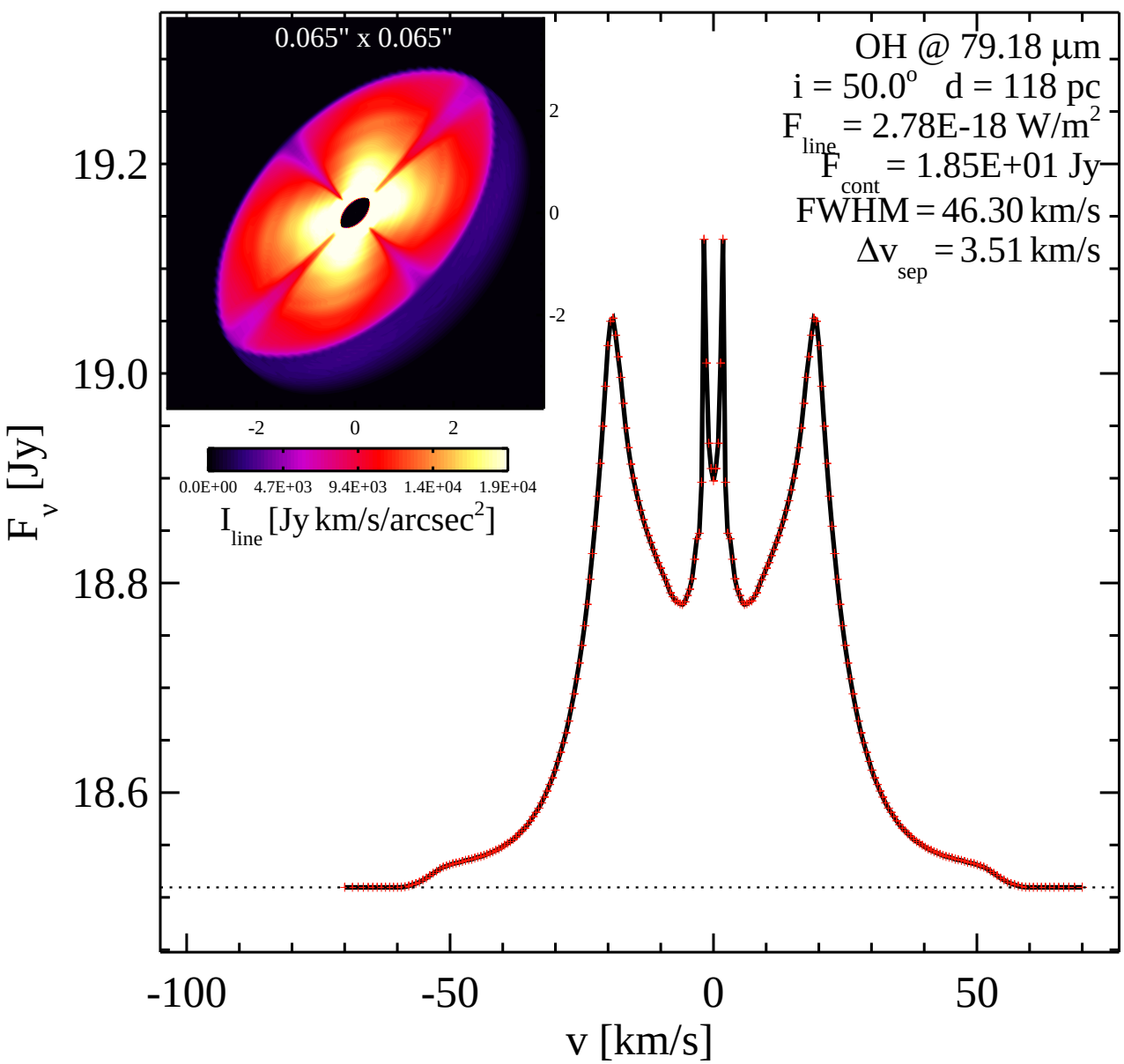

0.059" x 0.059"
p-H2O @ 144.52 µm
i = 50.0° d = 118 pc
F line = 1.10E-18 W/m2
F cont = 1.88E+01 Jy
FWHM = 49.91 km/s
Δv sep = 35.79 km/s
I line [Jy km/s/arcsec2]
0.0E+00 5.0E+03 9.9E+03 1.5E+04 2.0E+04
F v [Jy]
v [km/s]

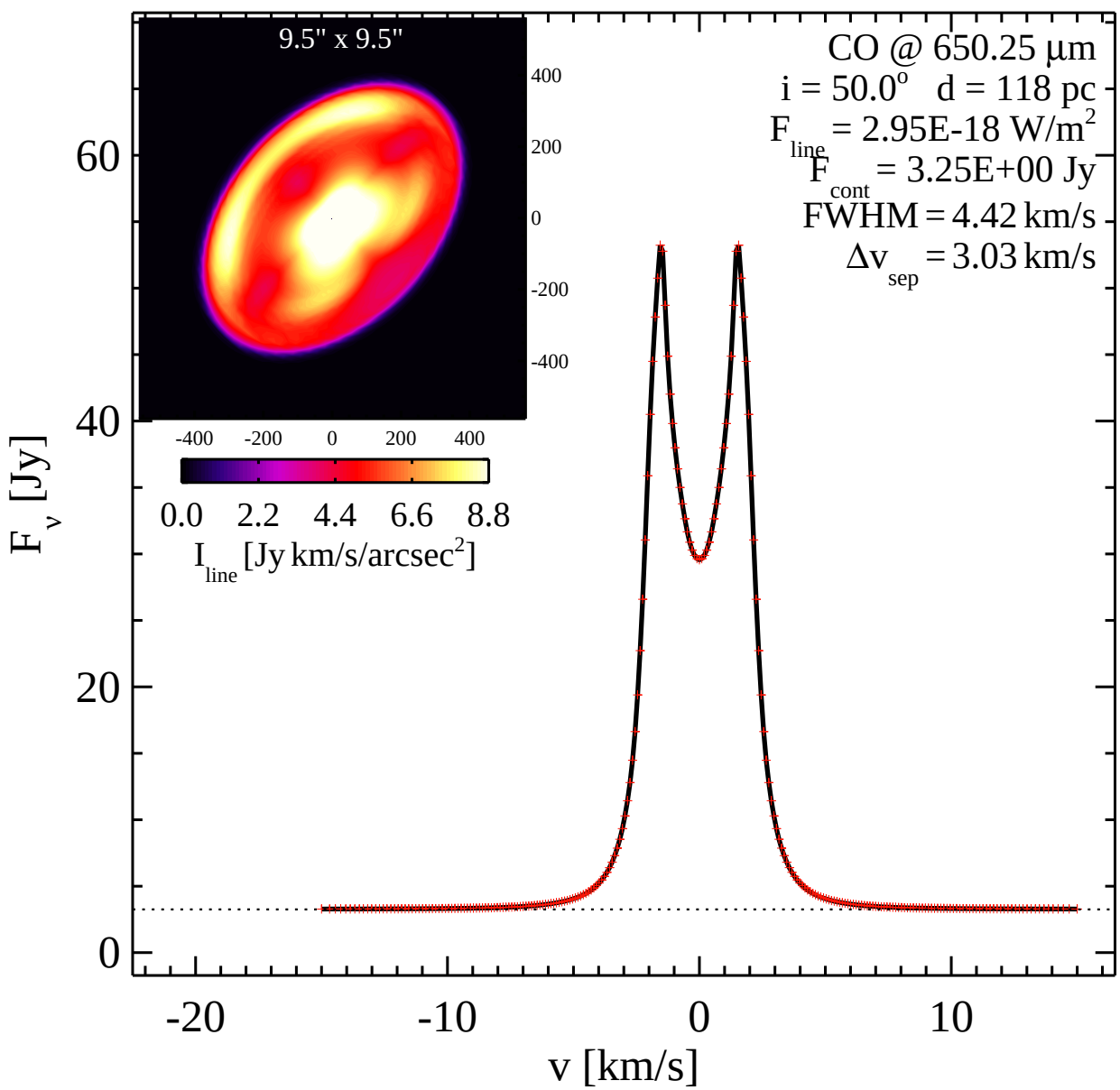

0.056" x 0.056"
p-H2O @ 158.31 μm
i = 50.0° d = 118 pc
F line = 6.75E-19 W/m2
F cont = 1.83E+01 Jy
FWHM = 49.60 km/s
Δv sep = 37.01 km/s
I line [Jy km/s/arcsec2]
0.0E+00 3.8E+03 7.7E+03 1.2E+04 1.5E+04
F v [Jy]
v [km/s]

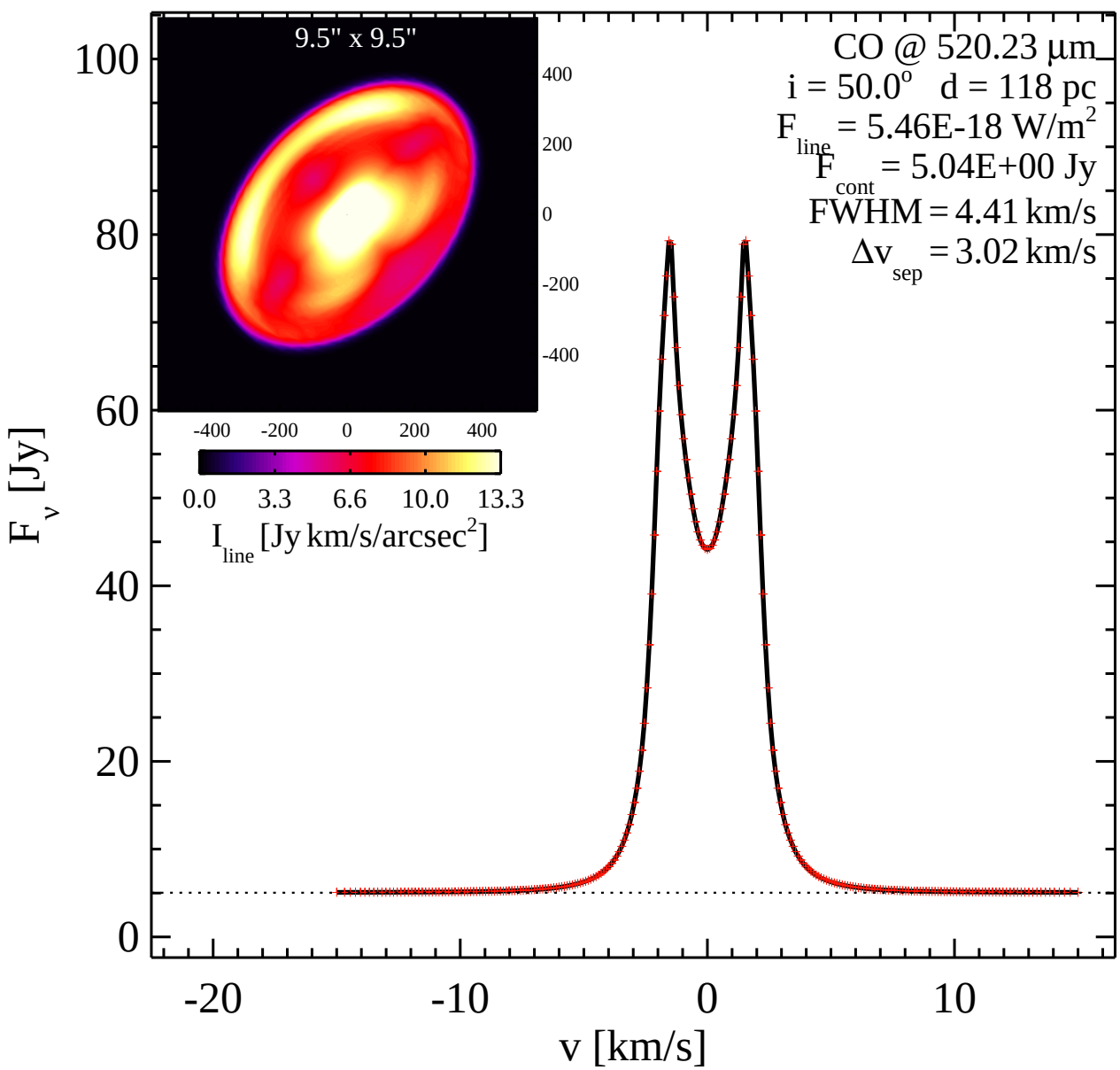

o-H2O @ 179.53 µm
i = 50.0° d = 118 pc
F line = 1.09E-17 W/m2
F cont = 1.75E+01 Jy
FWHM = 4.86 km/s
Δv sep = 2.96 km/s
6.8" x 6.8"
400
200
0
-200
-400
-400 -200 0 200 400
0.0 4.7 9.5 14.2 18.9
I line [Jy km/s/arcsec2]
F v [Jy]
70
60
50
40
30
20
-100 -50 0 50
v [km/s]

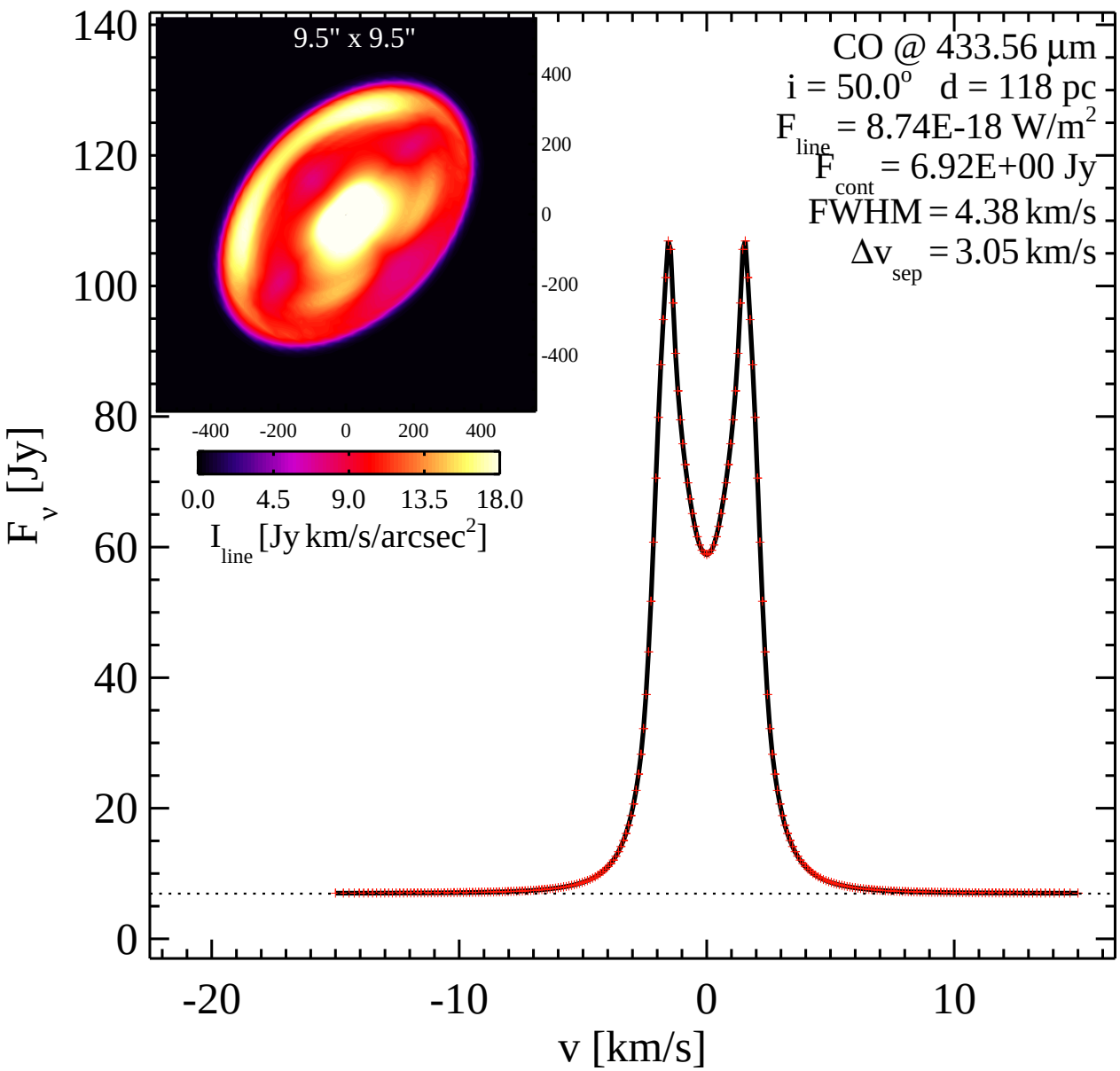

6.1" x 6.1"
200
0
-200
-200
0
200
0.0
18.8
37.6
56.3
75.1
I line [Jy km/s/arcsec2]
o-H2O @ 180.49 µm
i = 50.0o d = 118 pc
F line = 2.47E-18 W/m2
F cont = 1.74E+01 Jy
FWHM = 4.61 km/s
Δv sep = 3.58 km/s
F v [Jy]
28
26
24
22
20
18
-100
-50
0
50
v [km/s]

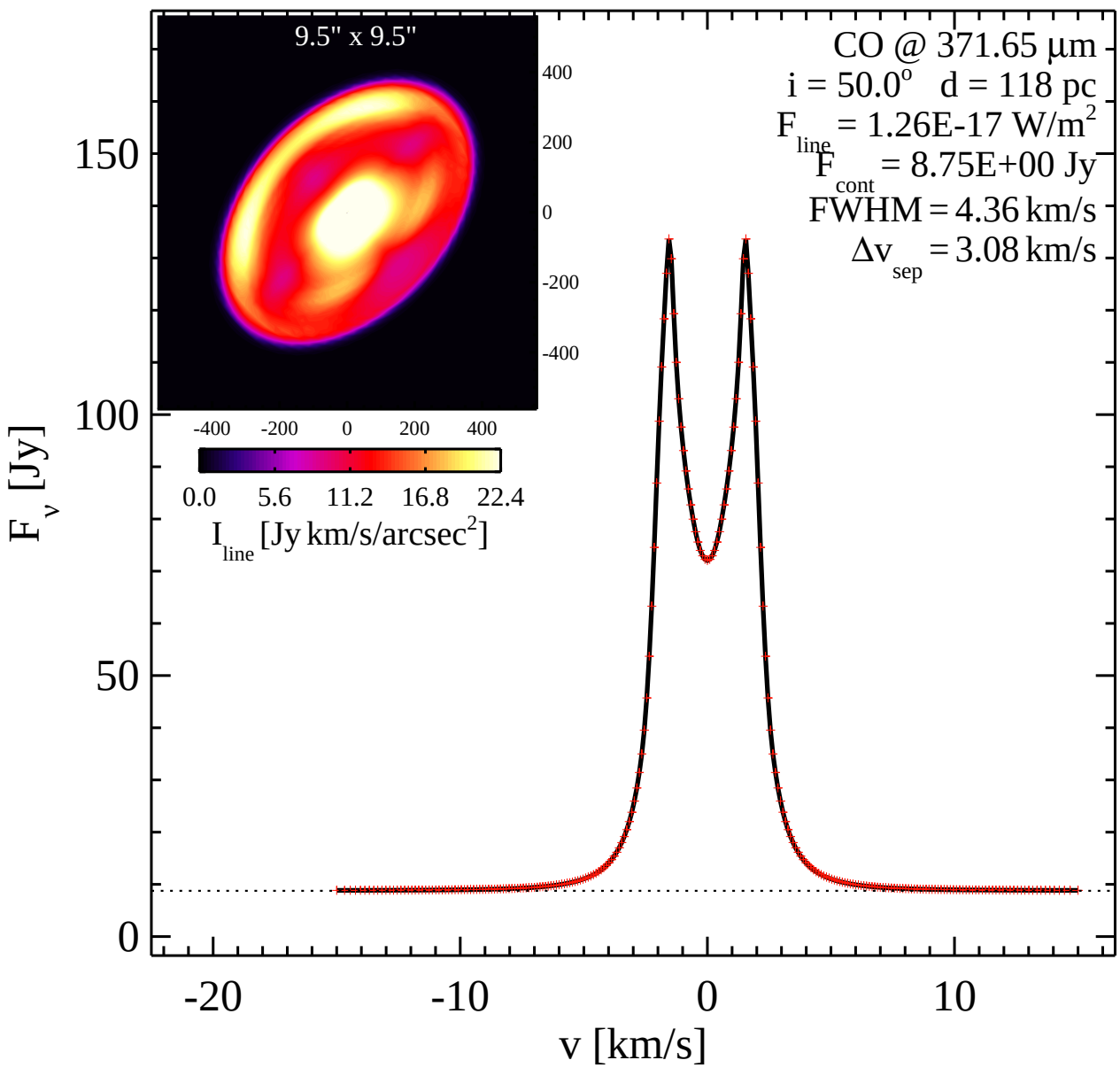

0.064" x 0.064"
2
0
-2
-2
0
2
0.0E+00
4.7E+03
9.4E+03
1.4E+04
1.9E+04
I line [Jy km/s/arcsec2]
OH @ 79.12 µm
i = 50.0o d = 118 pc
F line = 2.76E-18 W/m2
F cont = 1.85E+01 Jy
FWHM = 47.28 km/s
Δv sep = 3.51 km/s
19.2
19.0
18.8
18.6
F v [Jy]
-100
-50
0
50
v [km/s]

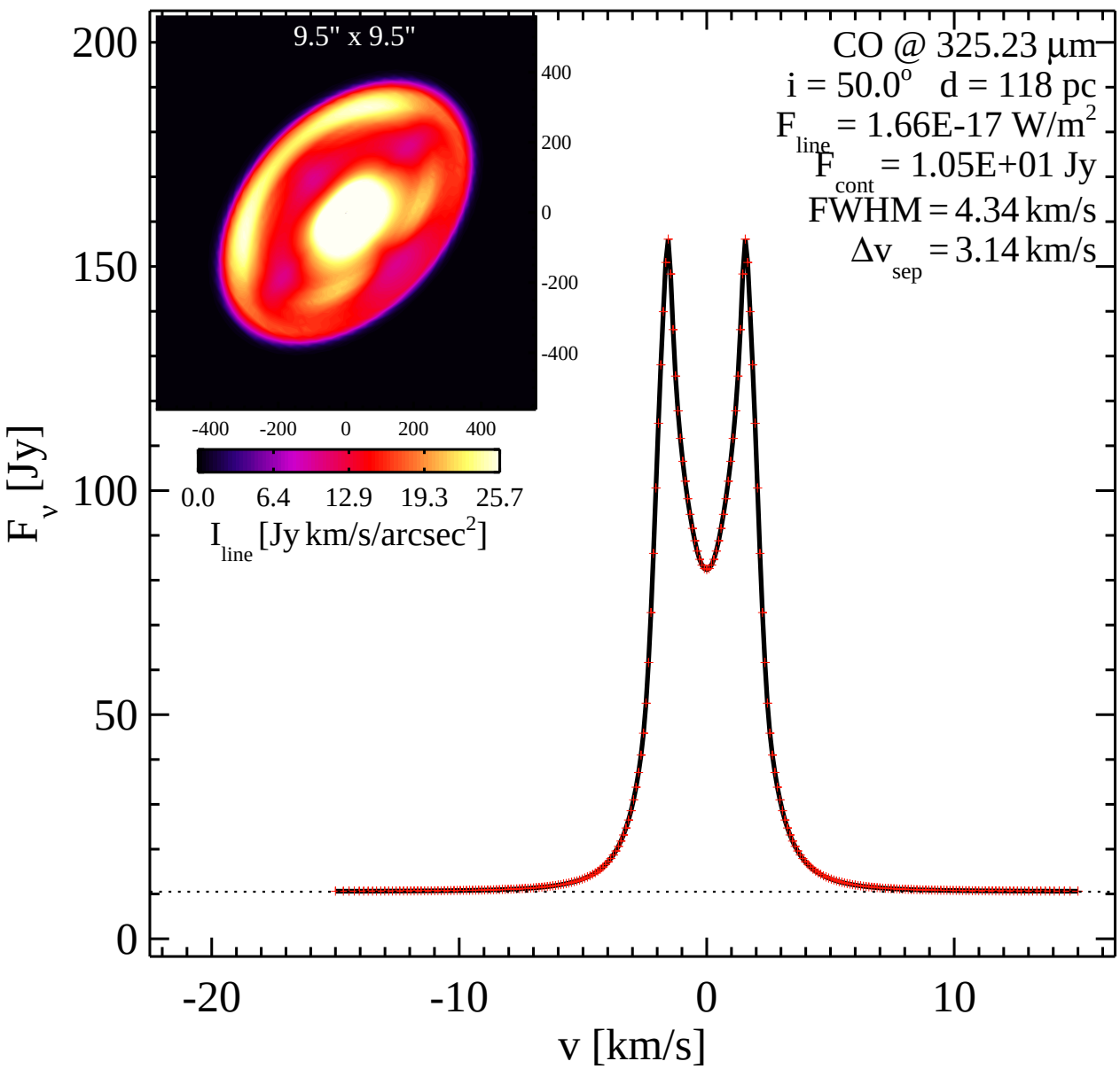

0.065" x 0.065"
2
0
-2
-2
0
2
0.0E+00
4.7E+03
9.4E+03
1.4E+04
1.9E+04
I line [Jy km/s/arcsec2]
OH @ 79.18 µm
i = 50.0o d = 118 pc
F line = 2.78E-18 W/m2
F cont = 1.85E+01 Jy
FWHM = 46.30 km/s
Δv sep = 3.51 km/s
F v [Jy]
19.2
19.0
18.8
18.6
-100
-50
0
50
v [km/s]

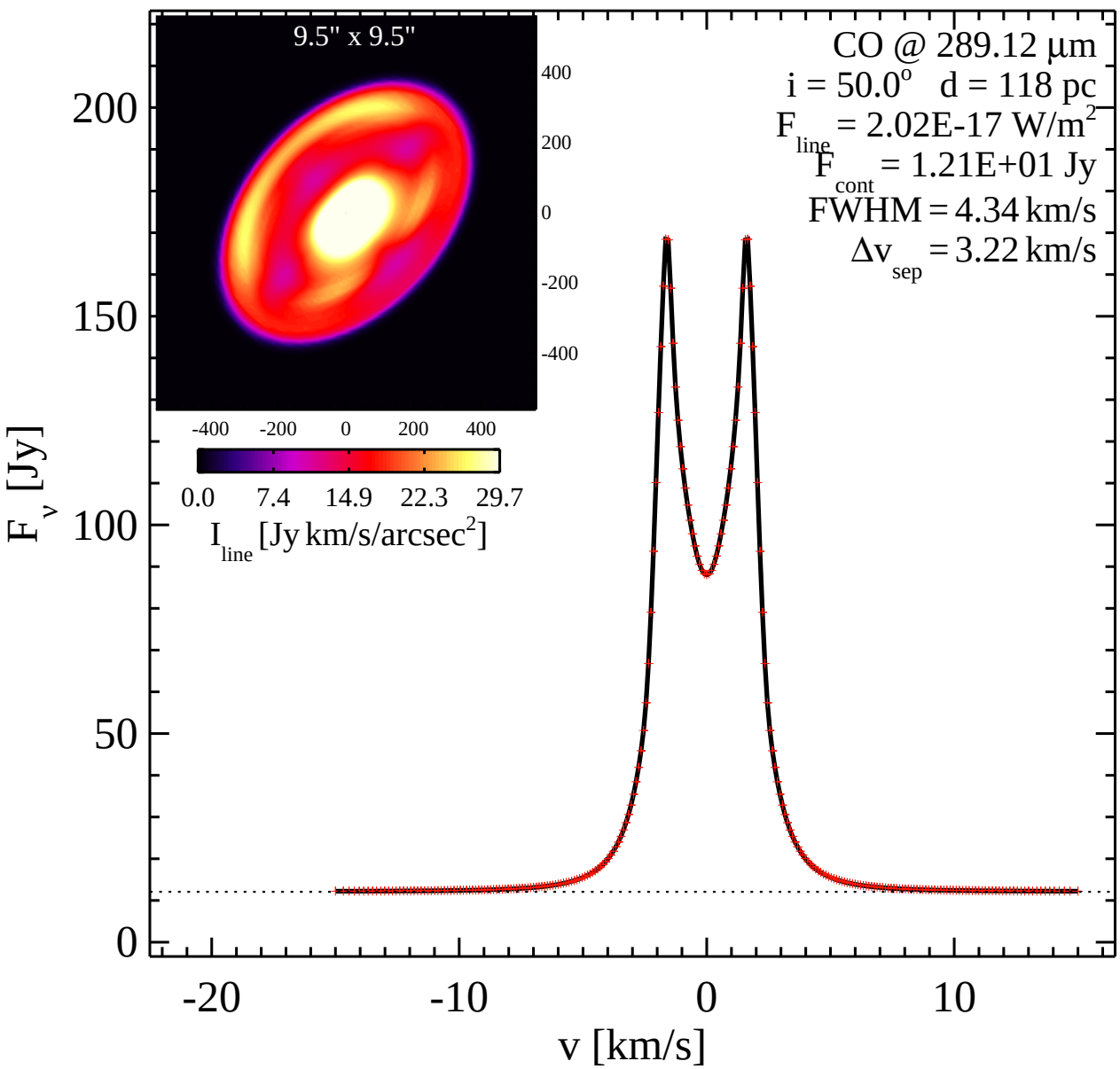

9.5" x 9.5"
400
200
0
-200
-400
-400 -200 0 200 400
0.0 2.2 4.4 6.6 8.8
I line [Jy km/s/arcsec2]
CO @ 650.25 µm
i = 50.0o d = 118 pc
F line = 2.95E-18 W/m2
F cont = 3.25E+00 Jy
FWHM = 4.42 km/s
Δv sep = 3.03 km/s
F v [Jy]
60
40
20
0
-20
-10
0
10
v [km/s]

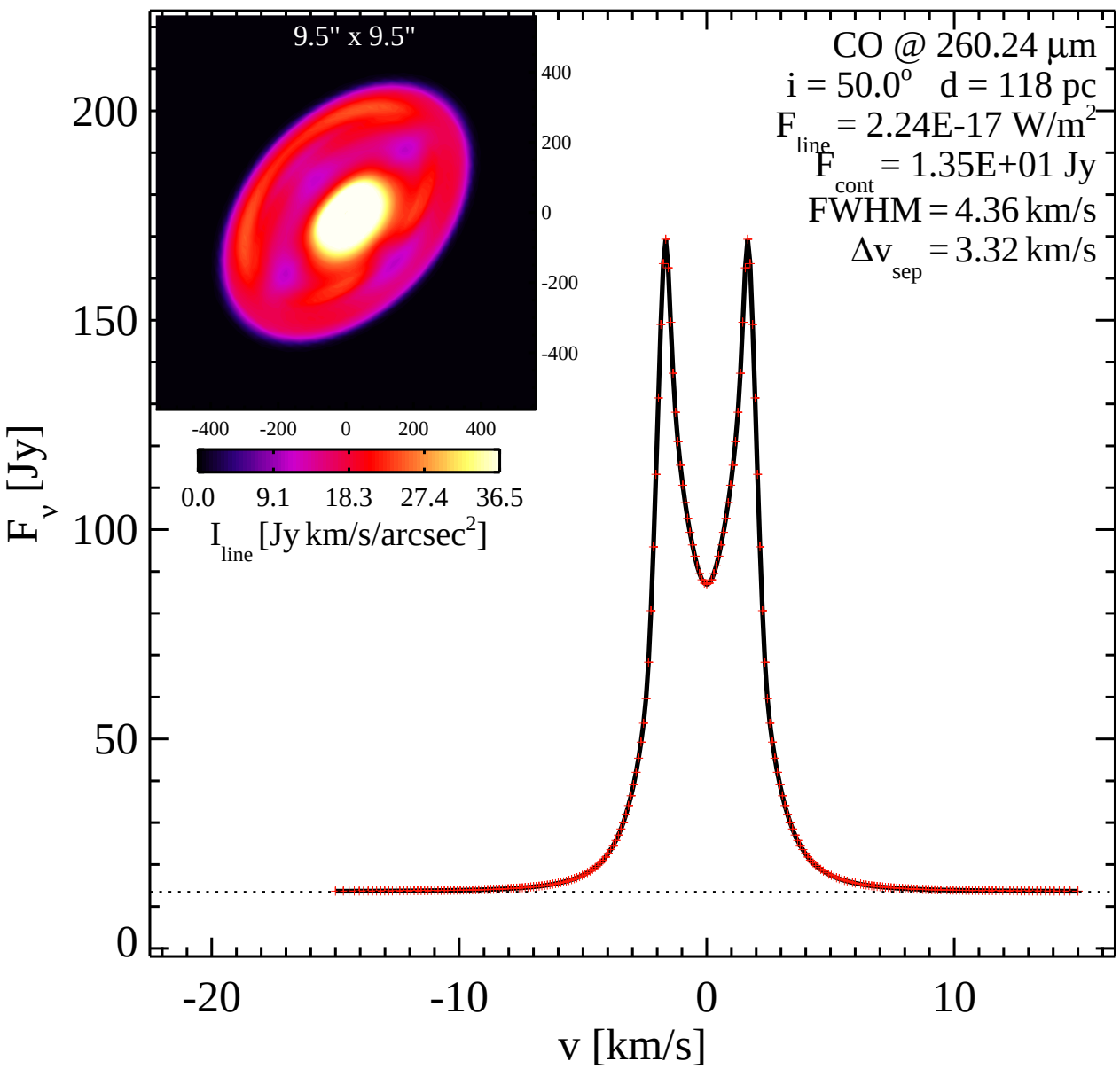

9.5" x 9.5"
400
200
0
-200
-400
-400 -200 0 200 400
0.0 3.3 6.6 10.0 13.3
I line [Jy km/s/arcsec2]
CO @ 520.23 µm
i = 50.0o d = 118 pc
F line = 5.46E-18 W/m2
F cont = 5.04E+00 Jy
FWHM = 4.41 km/s
Δv sep = 3.02 km/s
F v [Jy]
100
80
60
40
20
0
-20
-10
0
10
v [km/s]

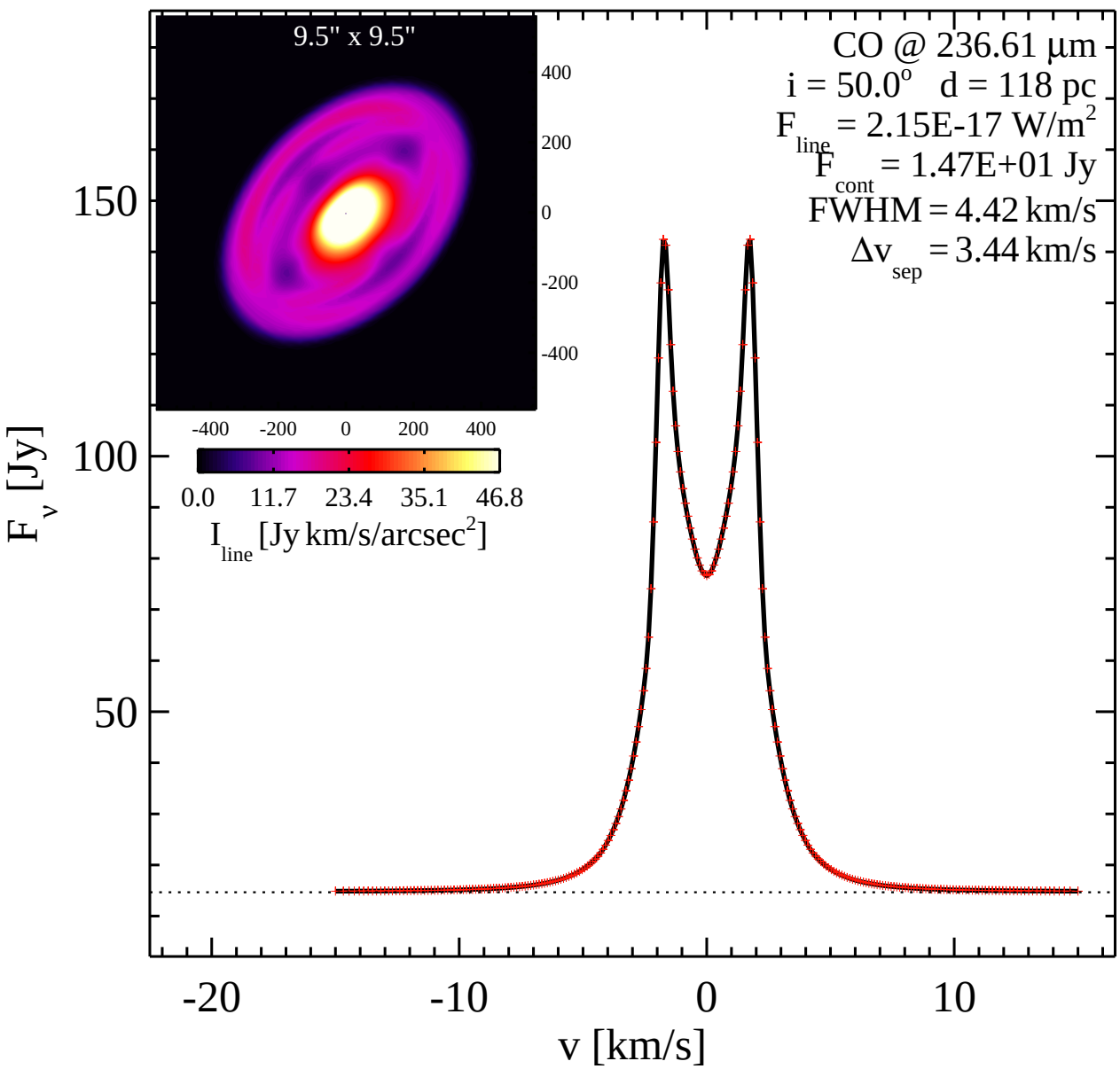

9.5" x 9.5"
400
200
0
-200
-400
-400 -200 0 200 400
0.0 4.5 9.0 13.5 18.0
I line [Jy km/s/arcsec2]
CO @ 433.56 µm
i = 50.0o d = 118 pc
F line = 8.74E-18 W/m2
F cont = 6.92E+00 Jy
FWHM = 4.38 km/s
Δv sep = 3.05 km/s
F v [Jy]
v [km/s]
140
120
100
80
60
40
20
0
-20
-10
0
10

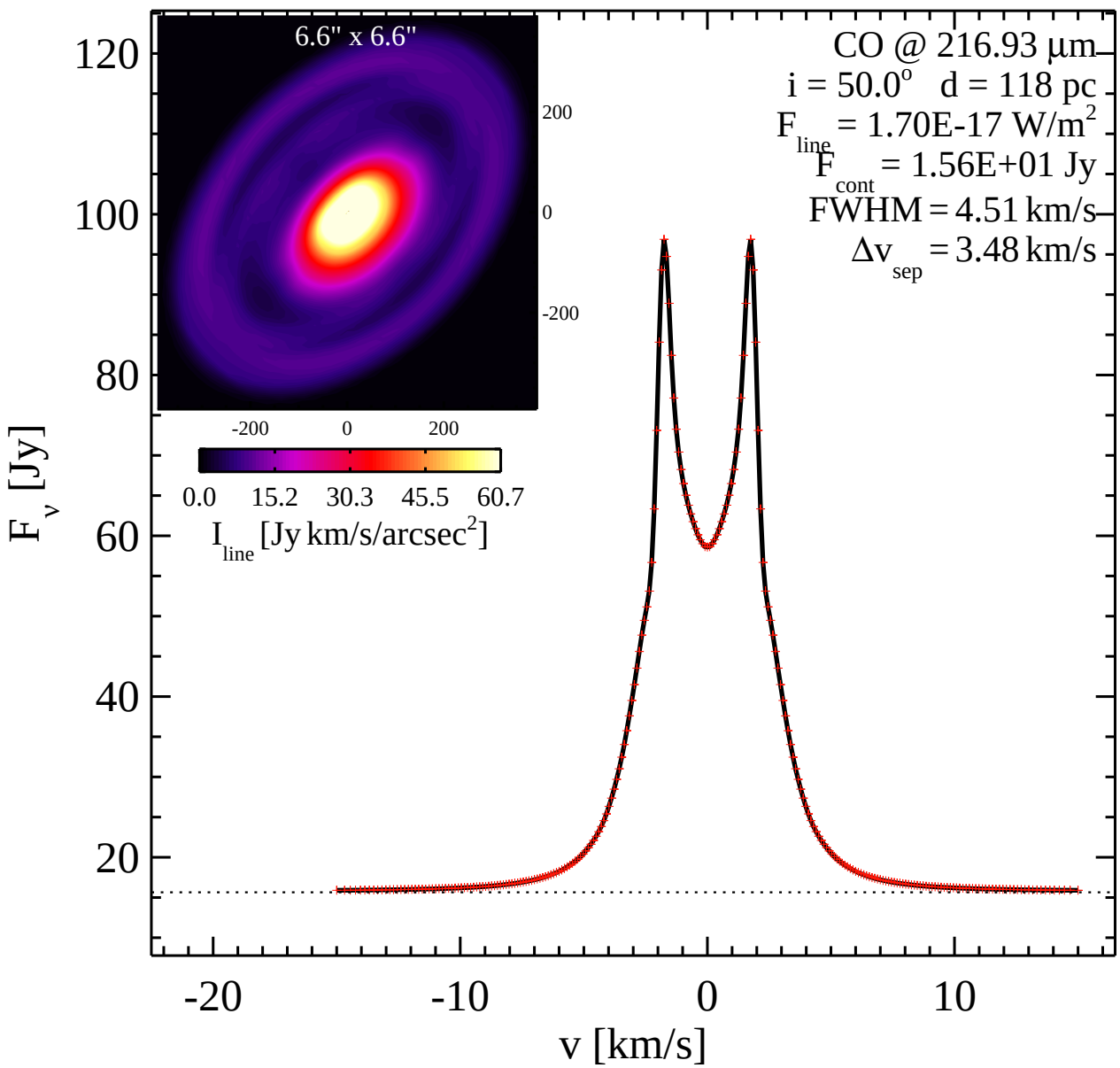

9.5" x 9.5"
400
200
0
-200
-400
-400 -200 0 200 400
0.0 5.6 11.2 16.8 22.4
I line [Jy km/s/arcsec2]
CO @ 371.65 µm
i = 50.0o d = 118 pc
F line = 1.26E-17 W/m2
F cont = 8.75E+00 Jy
FWHM = 4.36 km/s
Δv sep = 3.08 km/s
F v [Jy]
150
100
50
0
-20
-10
0
10
v [km/s]

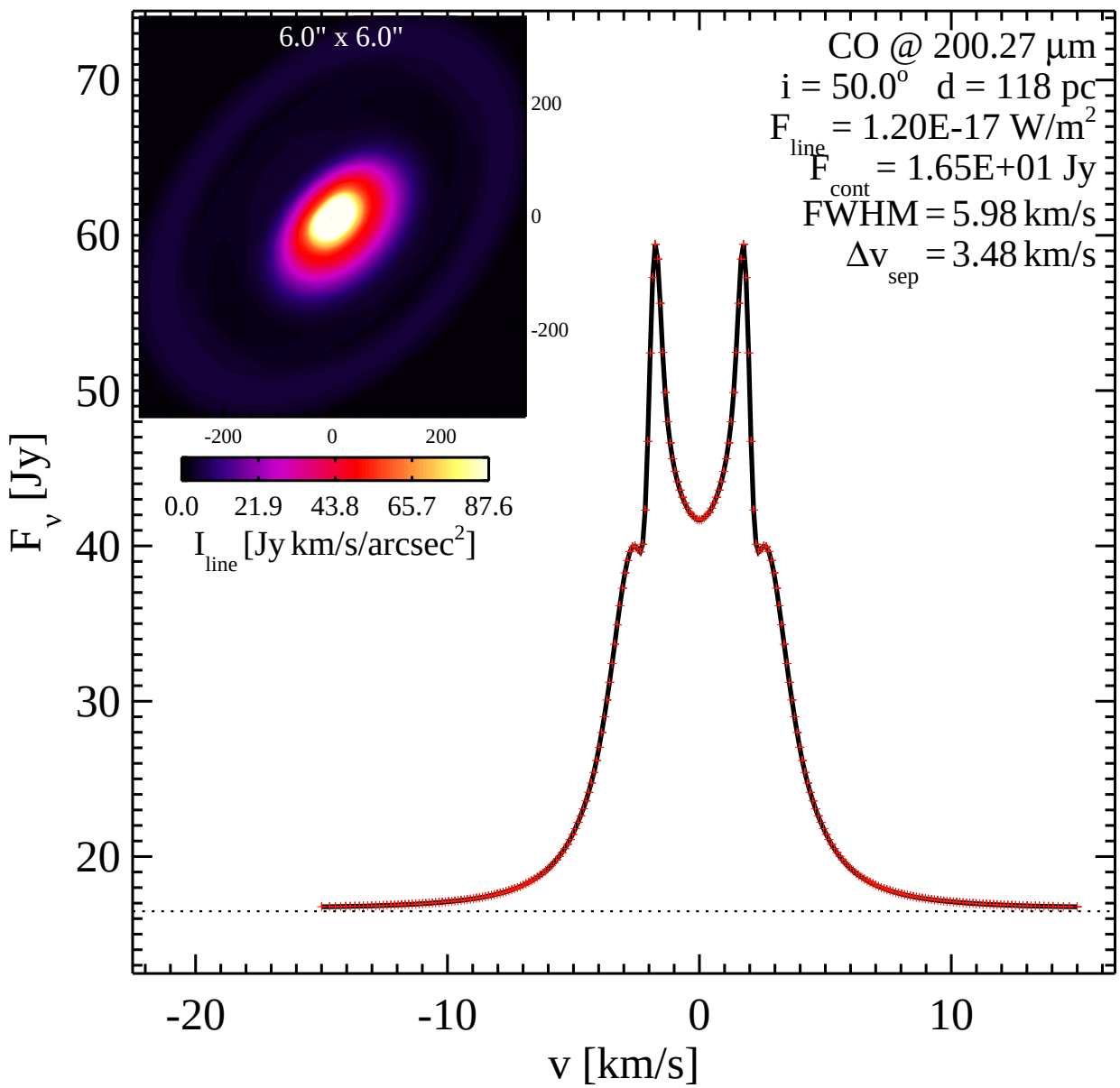

9.5" x 9.5"
400
200
0
-200
-400
-400 -200 0 200 400
0.0 6.4 12.9 19.3 25.7
I line [Jy km/s/arcsec2]
CO @ 325.23 µm
i = 50.0o d = 118 pc
F line = 1.66E-17 W/m2
F cont = 1.05E+01 Jy
FWHM = 4.34 km/s
Δv sep = 3.14 km/s
F v [Jy]
200
150
100
50
0
-20
-10
0
10
v [km/s]

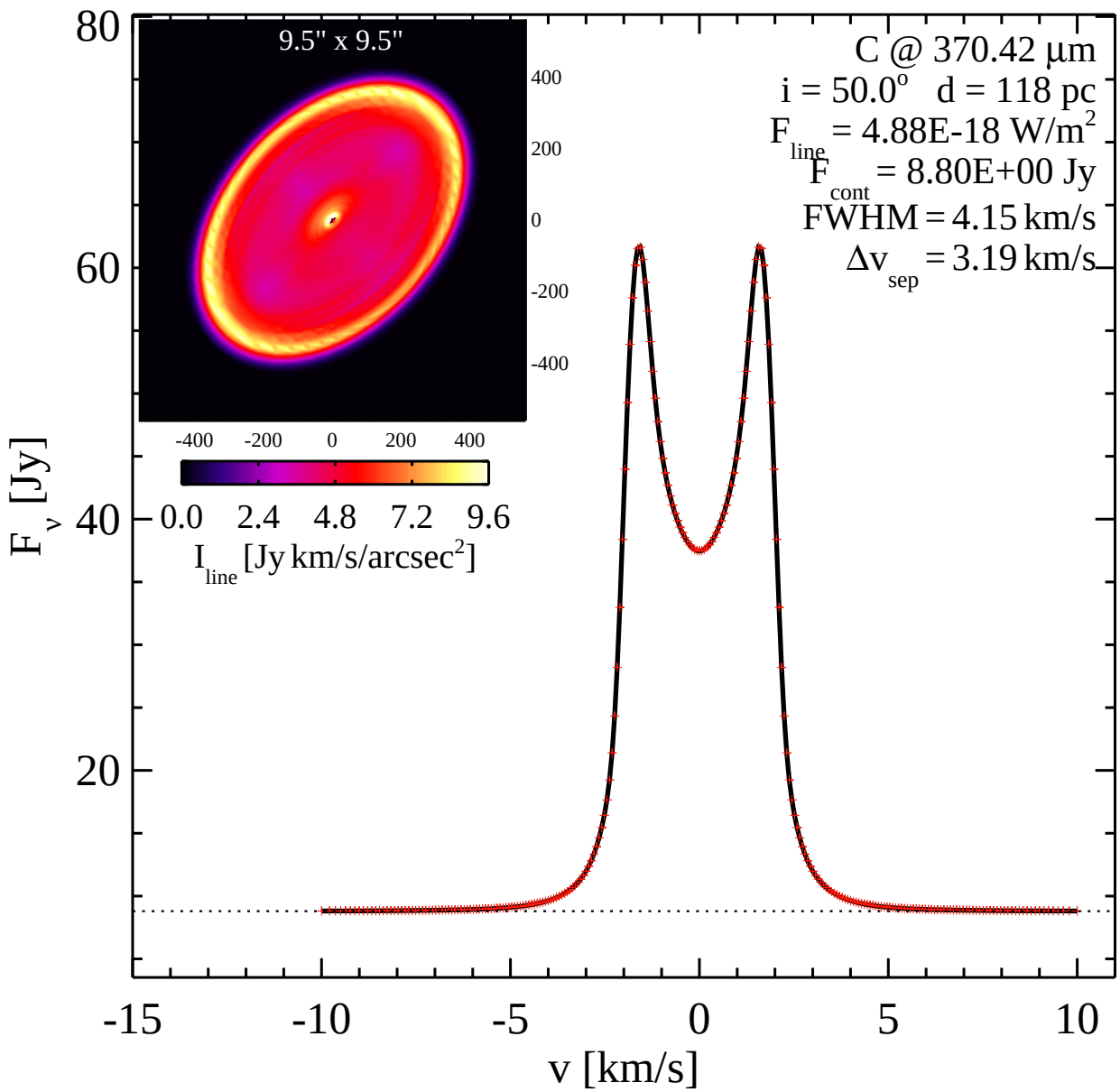

9.5" x 9.5"
400
200
0
-200
-400
-400 -200 0 200 400
0.0 7.4 14.9 22.3 29.7
I line [Jy km/s/arcsec2]
CO @ 289.12 µm
i = 50.0o d = 118 pc
F line = 2.02E-17 W/m2
F cont = 1.21E+01 Jy
FWHM = 4.34 km/s
Δv sep = 3.22 km/s
F v [Jy]
200
150
100
50
0
-20
-10
0
10
v [km/s]

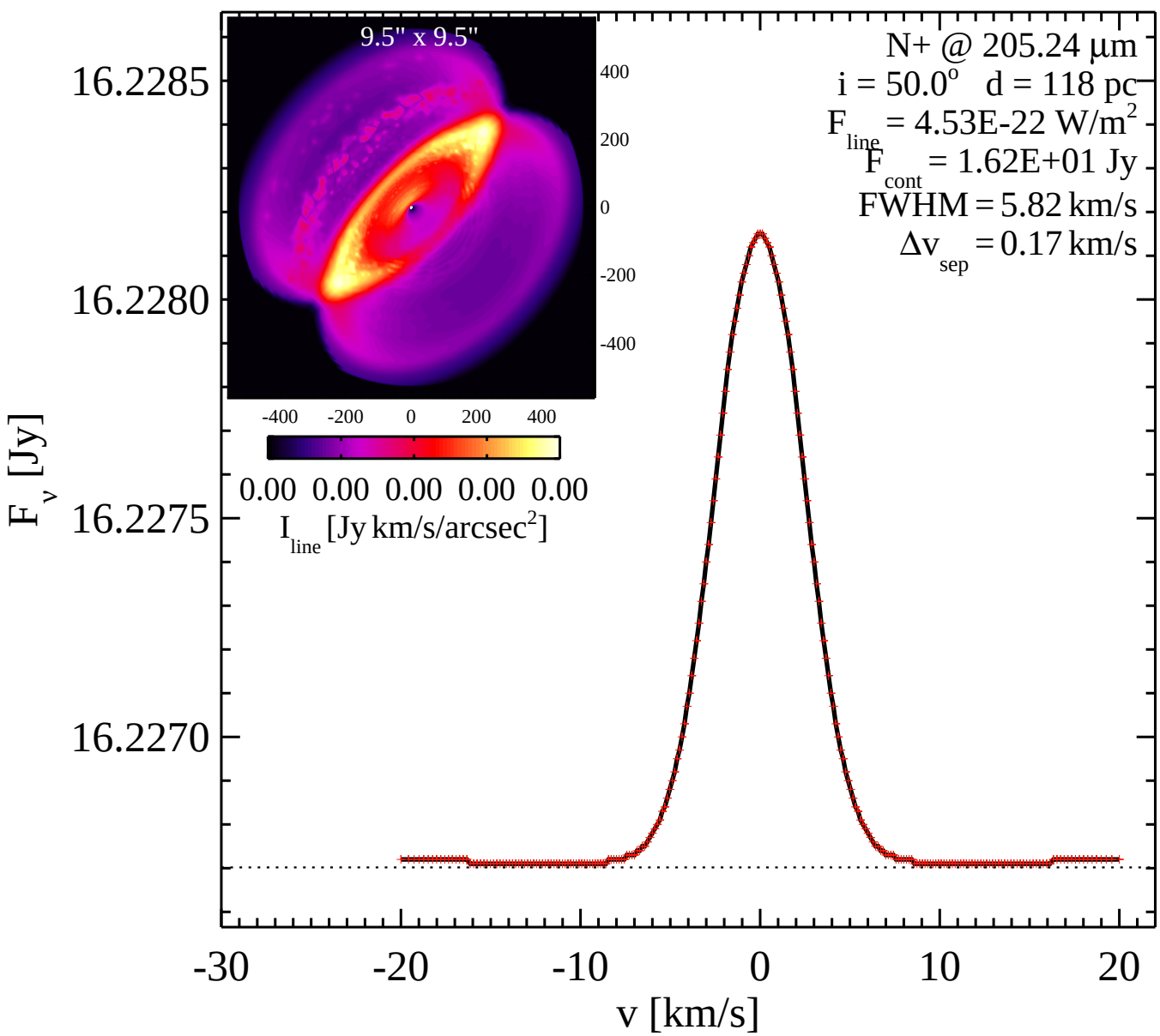

9.5" x 9.5"
400
200
0
-200
-400
-400 -200 0 200 400
0.0 9.1 18.3 27.4 36.5
I line [Jy km/s/arcsec2]
CO @ 260.24 µm
i = 50.0o d = 118 pc
F line = 2.24E-17 W/m2
F cont = 1.35E+01 Jy
FWHM = 4.36 km/s
Δv sep = 3.32 km/s
F v [Jy]
200
150
100
50
0
-20
-10
0
10
v [km/s]


9.5" x 9.5"
400
200
0
-200
-400
-400 -200 0 200 400
0.0 11.7 23.4 35.1 46.8
I line [Jy km/s/arcsec2]
CO @ 236.61 µm
i = 50.0o d = 118 pc
F line = 2.15E-17 W/m2
F cont = 1.47E+01 Jy
FWHM = 4.42 km/s
Δv sep = 3.44 km/s
F v [Jy]
150
100
50
-20
-10
0
10
v [km/s]


6.6" x 6.6"
200
0
-200
-200
0
200
0.0
15.2
30.3
45.5
60.7
I line [Jy km/s/arcsec2]
CO @ 216.93 µm
i = 50.0o d = 118 pc
F line = 1.70E-17 W/m2
F cont = 1.56E+01 Jy
FWHM = 4.51 km/s
Δv sep = 3.48 km/s
F v [Jy]
120
100
80
60
40
20
-20
-10
0
10
v [km/s]


6.0" x 6.0"
200
0
-200
-200
0
200
0.0
21.9
43.8
65.7
87.6
I line [Jy km/s/arcsec2]
CO @ 200.27 µm
i = 50.0o d = 118 pc
F line = 1.20E-17 W/m2
F cont = 1.65E+01 Jy
FWHM = 5.98 km/s
Δv sep = 3.48 km/s
F v [Jy]
70
60
50
40
30
20
-20
-10
0
10
v [km/s]


9.5" x 9.5"
400
200
0
-200
-400
-400 -200 0 200 400
0.0 2.4 4.8 7.2 9.6
I line [Jy km/s/arcsec2]
C @ 370.42 µm
i = 50.0o d = 118 pc
F line = 4.88E-18 W/m2
F cont = 8.80E+00 Jy
FWHM = 4.15 km/s
Δv sep = 3.19 km/s
F v [Jy]
80
60
40
20
-15 -10 -5 0 5 10
v [km/s]


9.5" x 9.5"
400
200
0
-200
-400
-400 -200 0 200 400
0.00 0.00 0.00 0.00 0.00
I line [Jy km/s/arcsec2]
N+ @ 205.24 µm
i = 50.0o d = 118 pc
F line = 4.53E-22 W/m2
F cont = 1.62E+01 Jy
FWHM = 5.82 km/s
Δv sep = 0.17 km/s
16.2285
16.2280
16.2275
16.2270
F v [Jy]
-30
-20
-10
0
10
20
v [km/s]