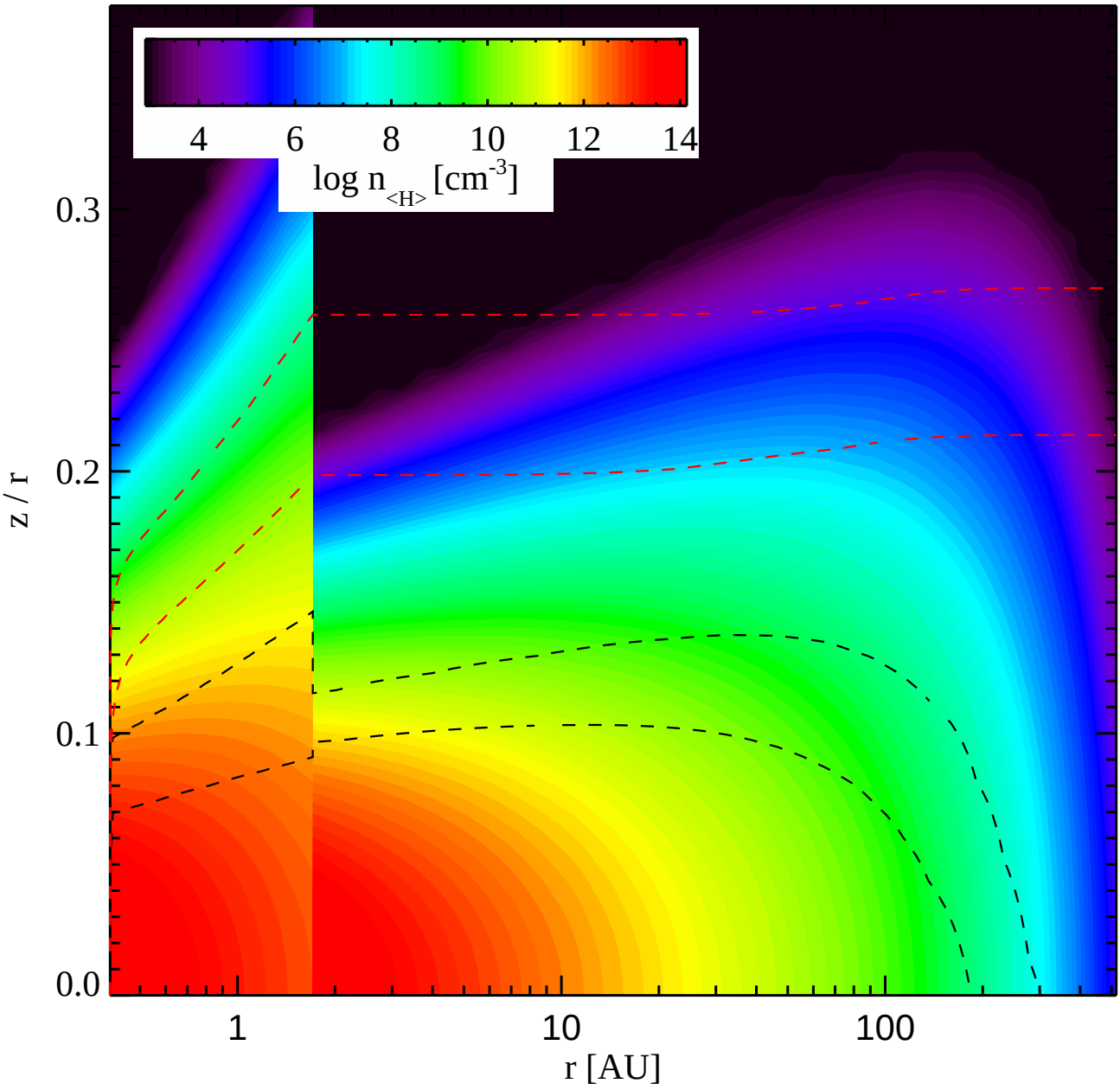
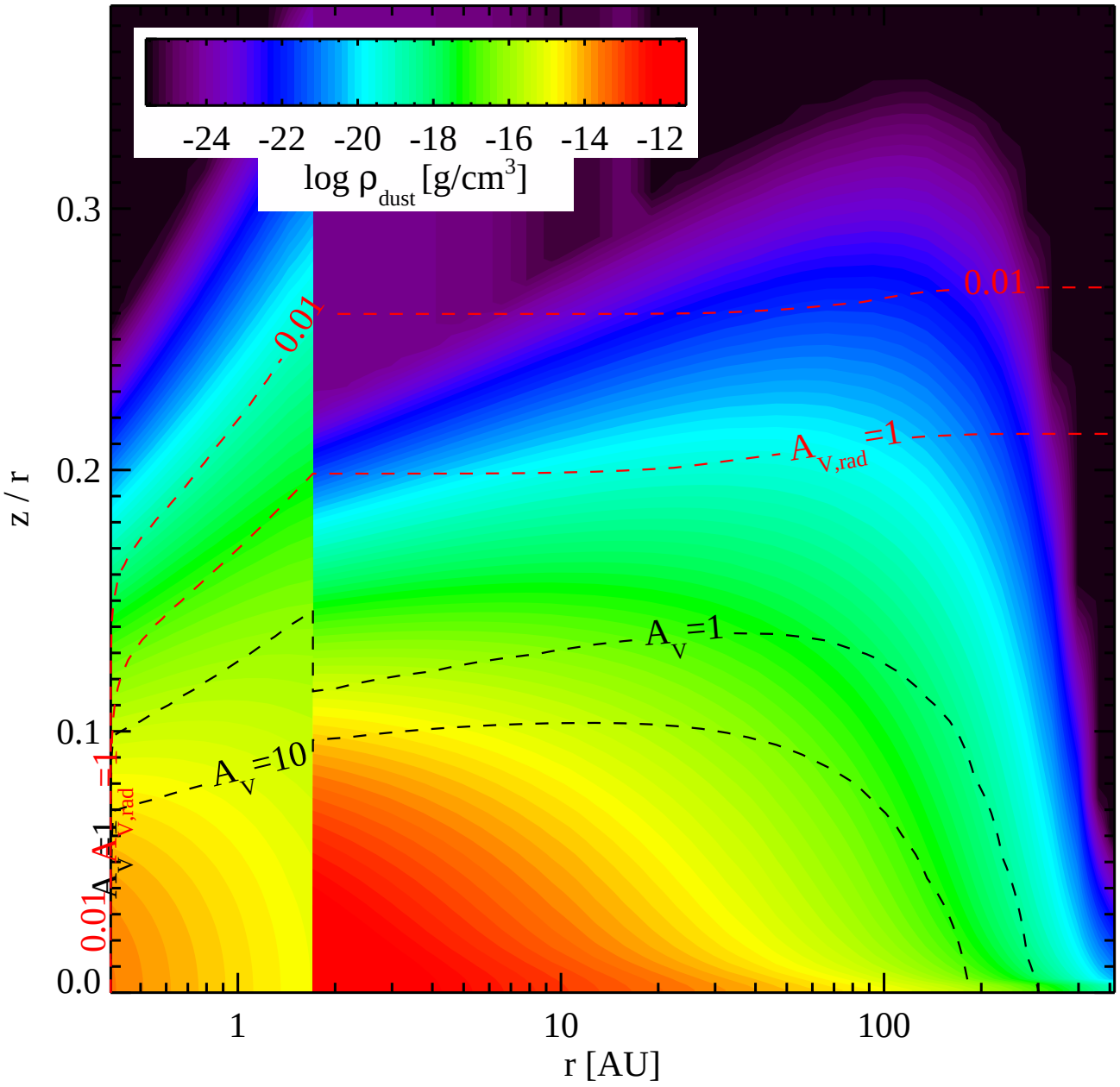
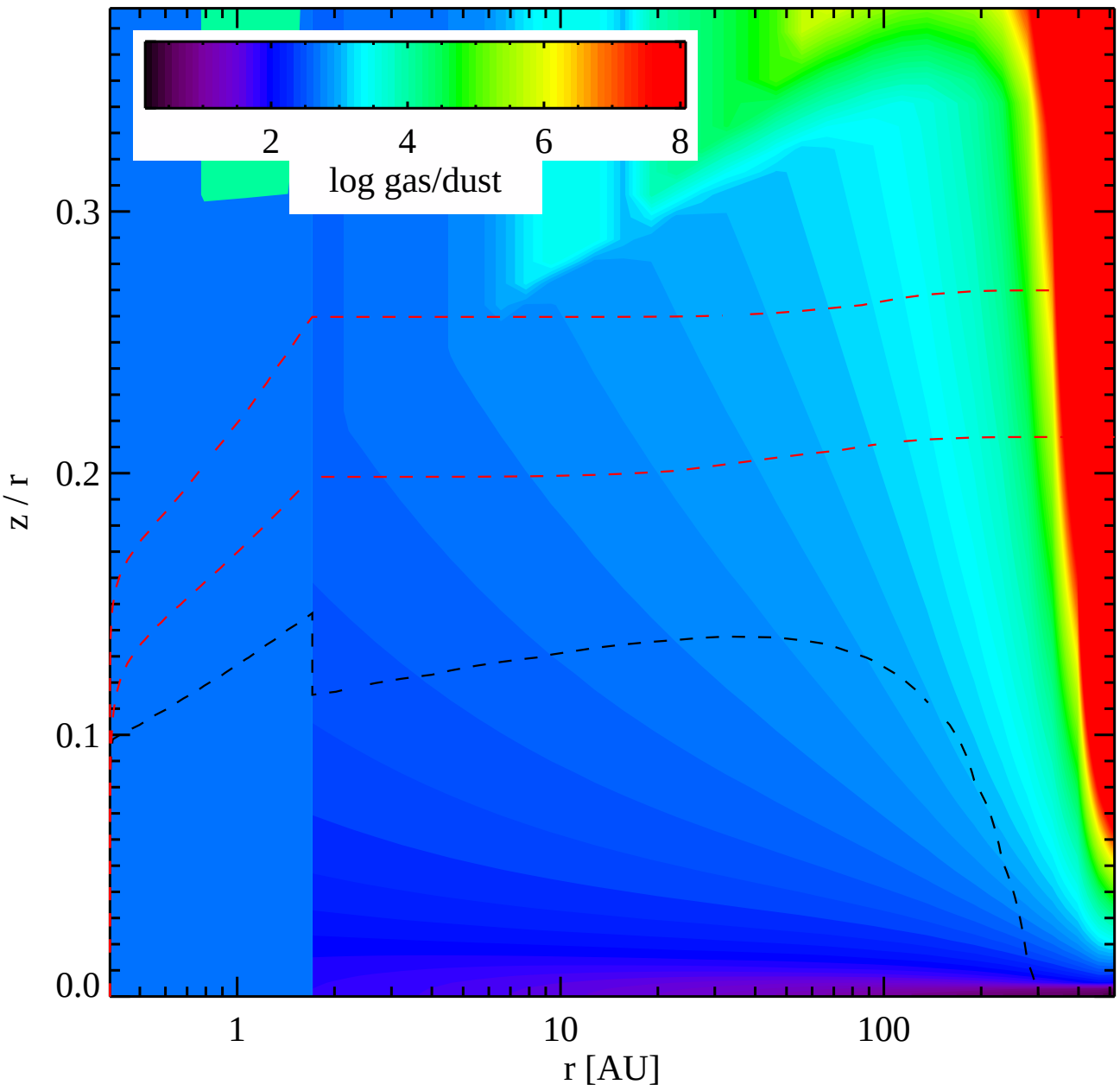
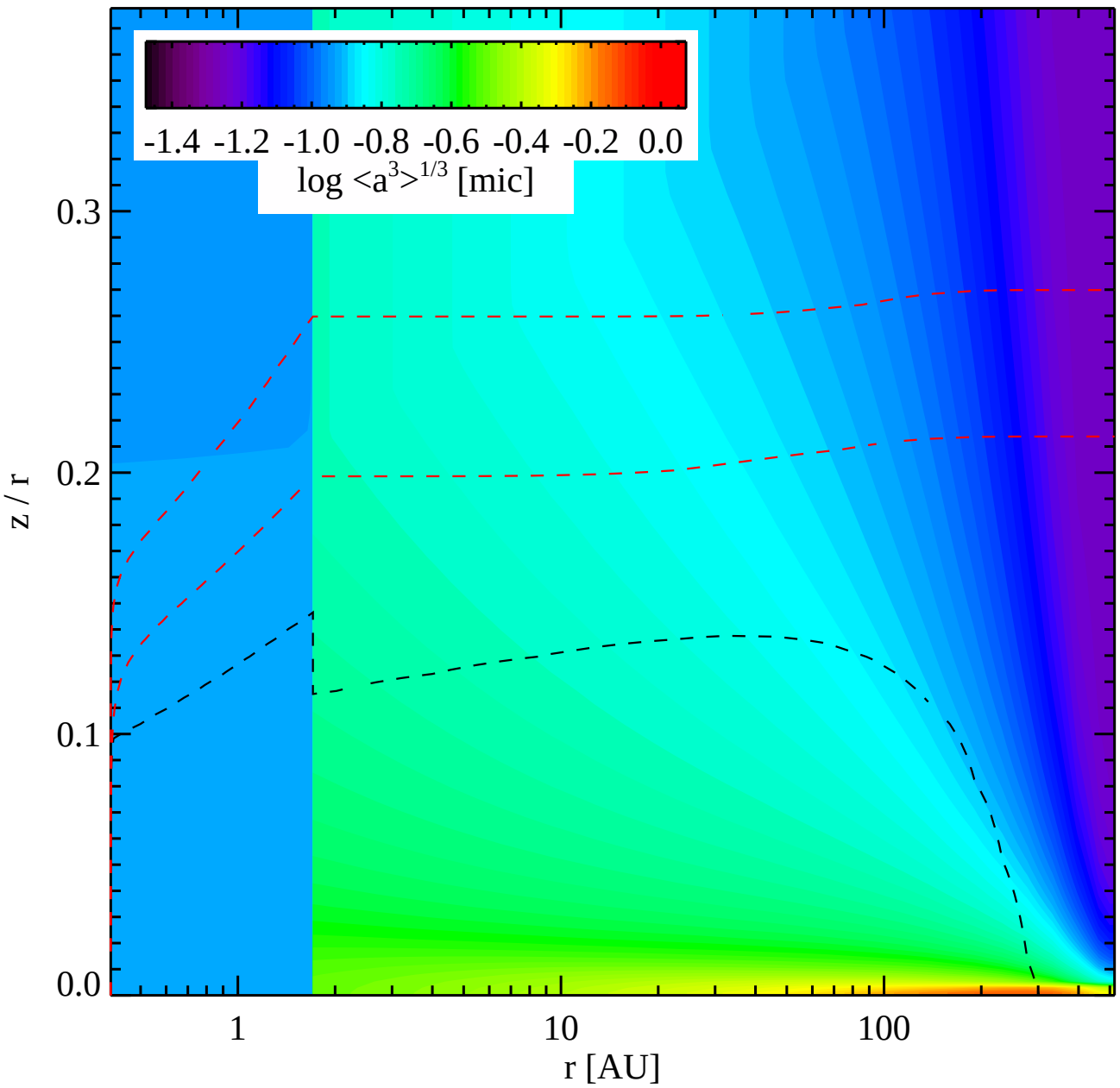
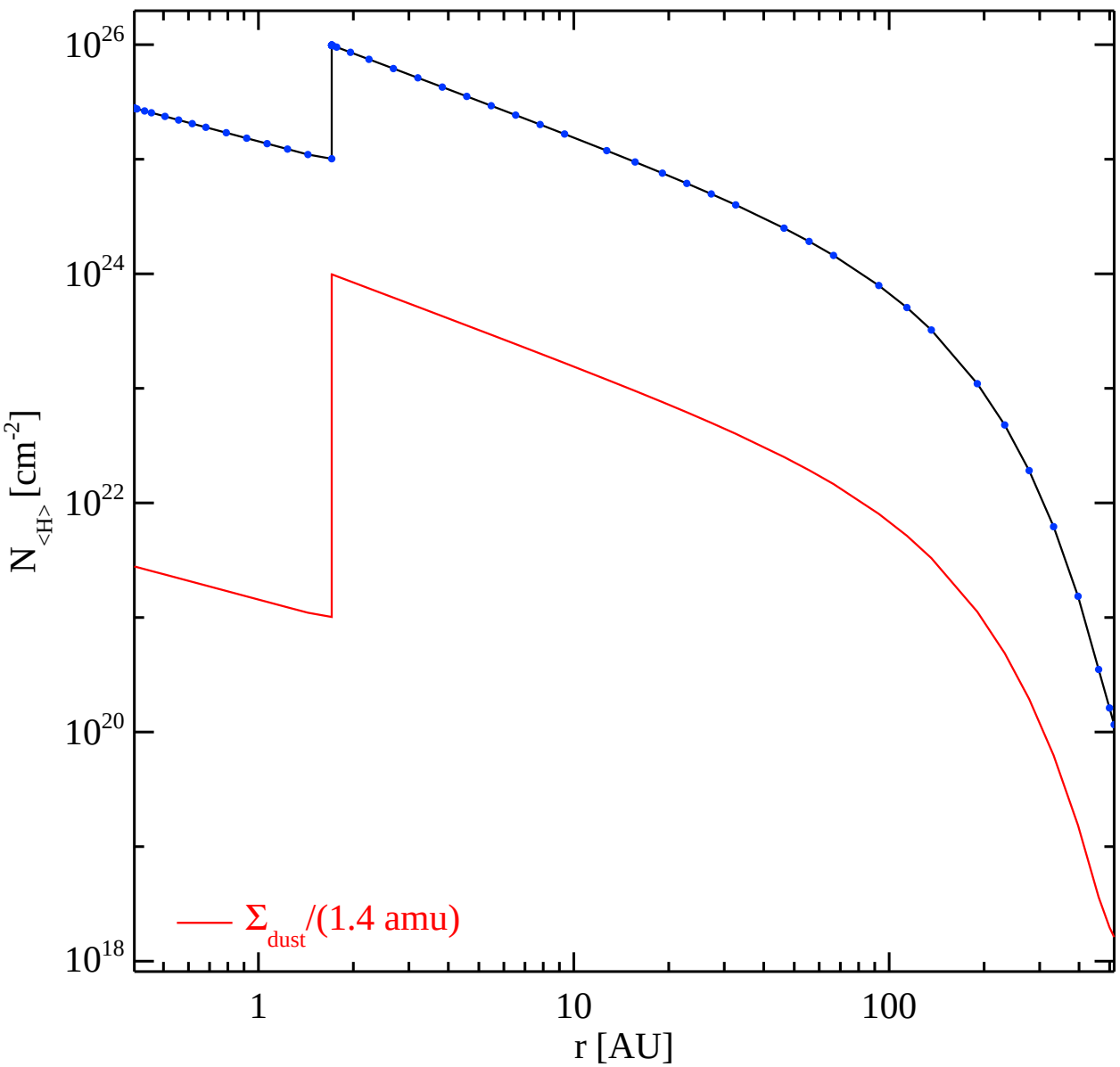
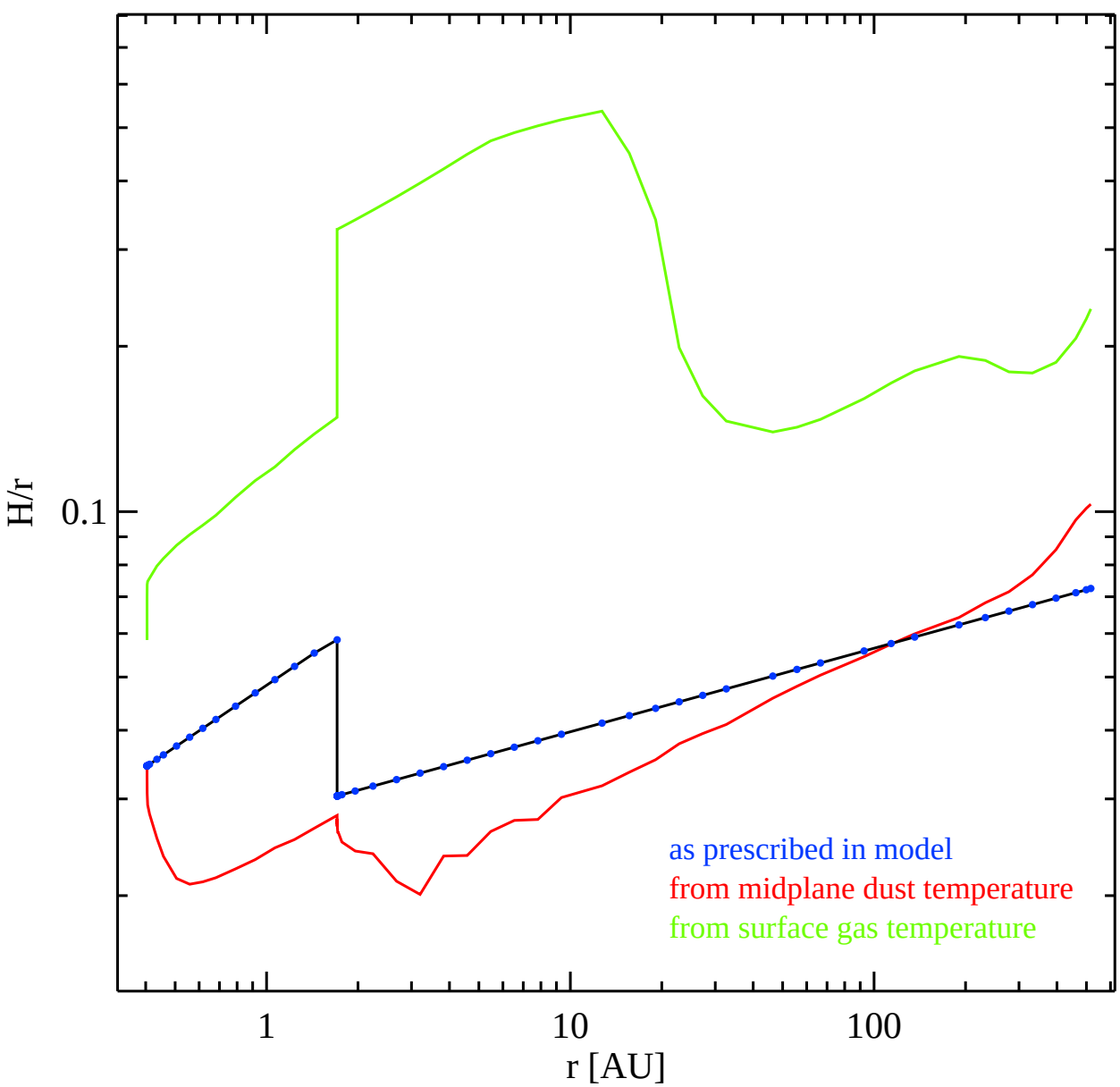

4
6
8
10
12
14
log n<H> [cm-3]
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

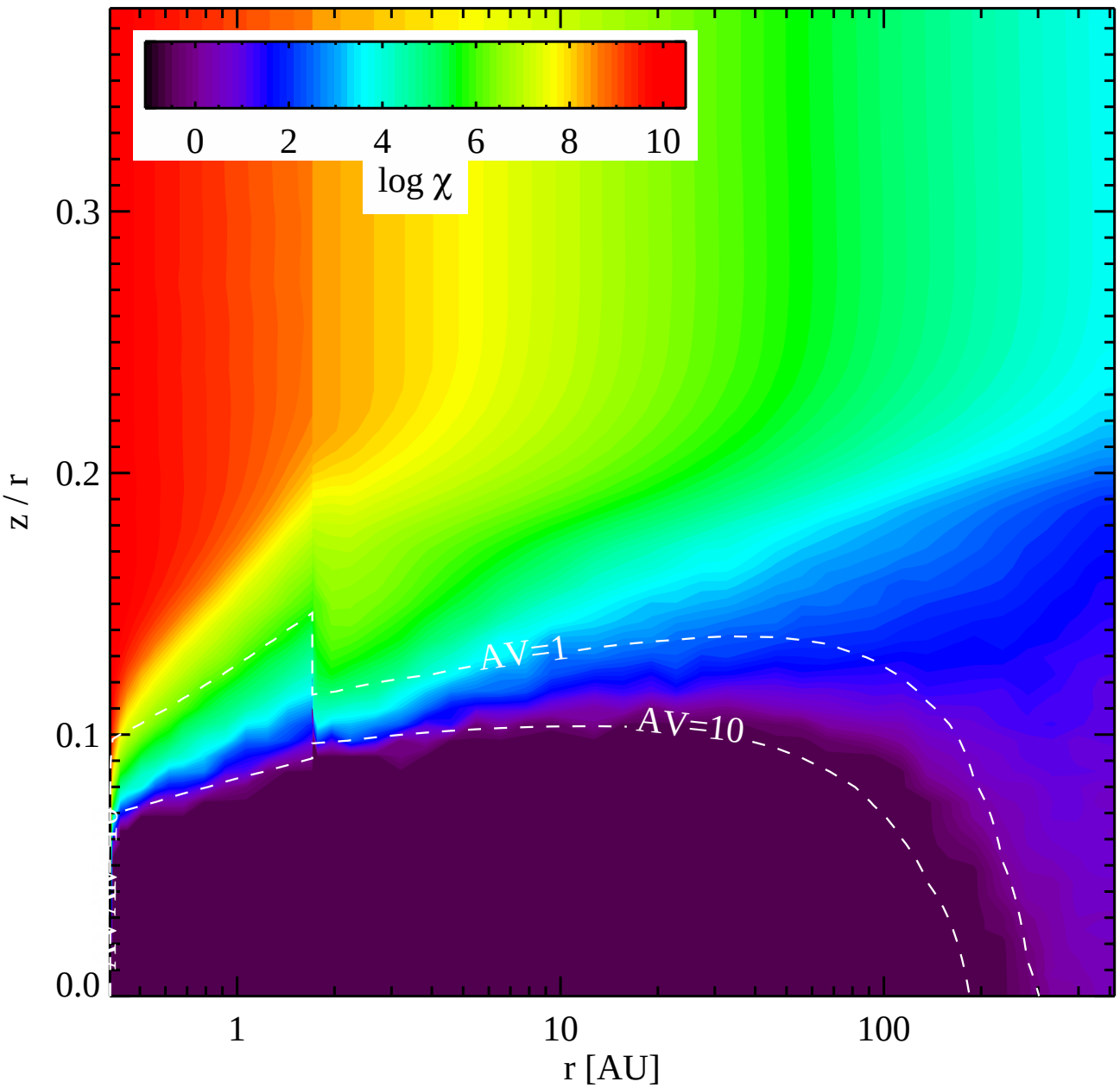

-24 -22 -20 -18 -16 -14 -12
log ρ dust [g/cm3]
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]
0.01
0.01
A V,rad =1
A V =1
A V =10
A V =1
0.01
A V,rad =1

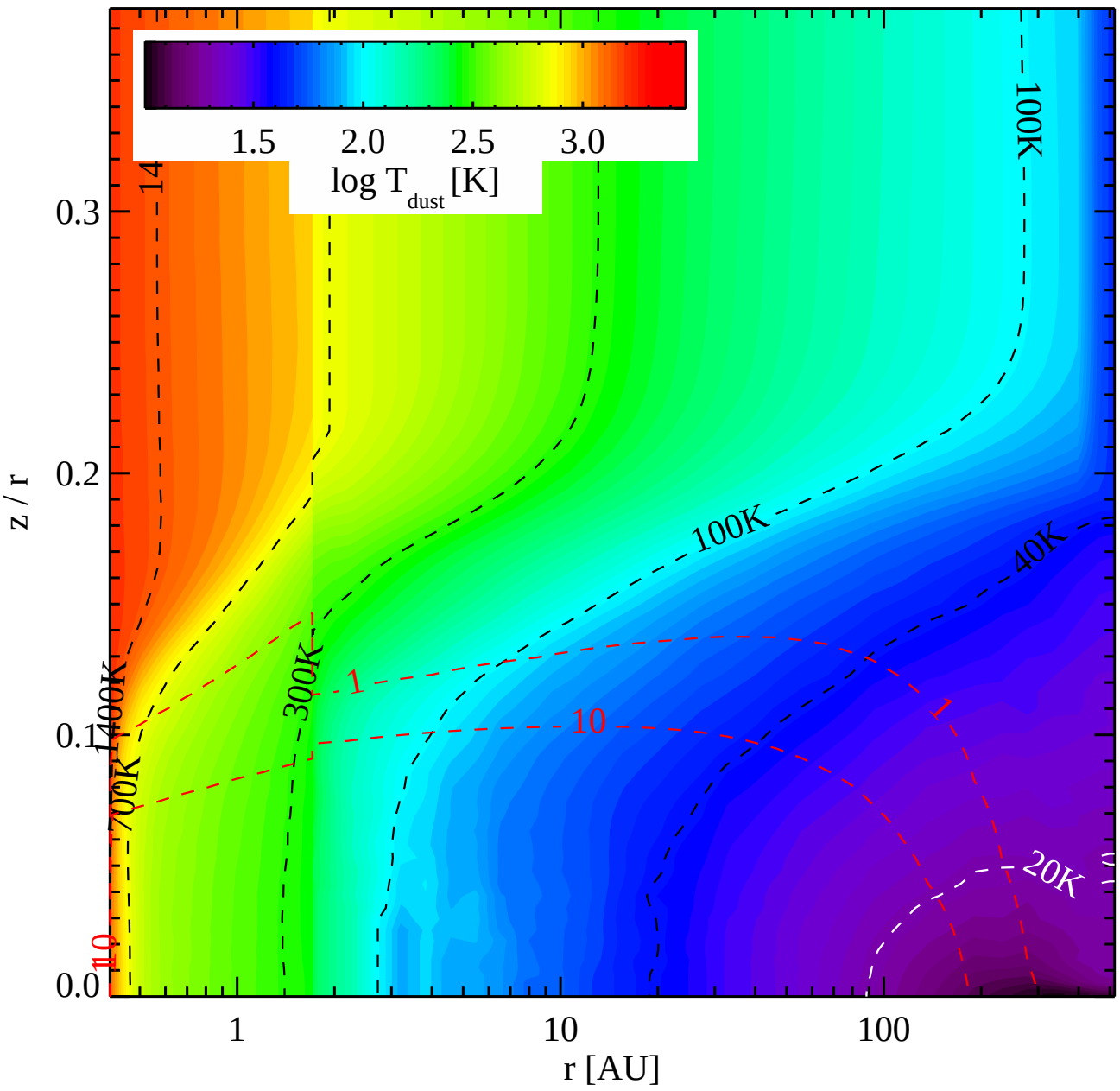

2
4
6
8
log gas/dust
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

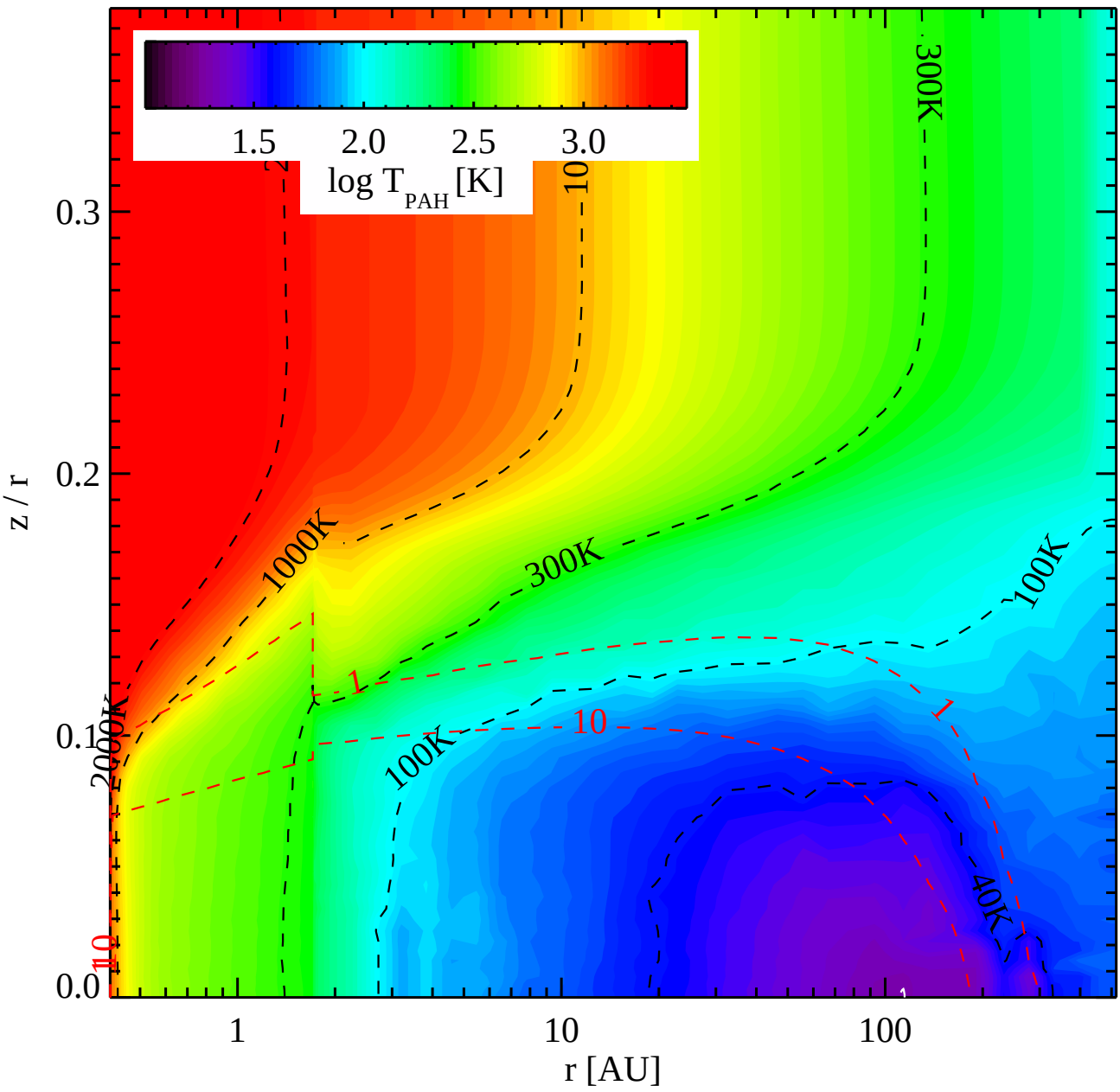

-1.4 -1.2 -1.0 -0.8 -0.6 -0.4 -0.2 0.0
log <a^3>^1/3 [mic]
0.3
0.2
0.1
0.0
z / r
1
10
100
r [AU]

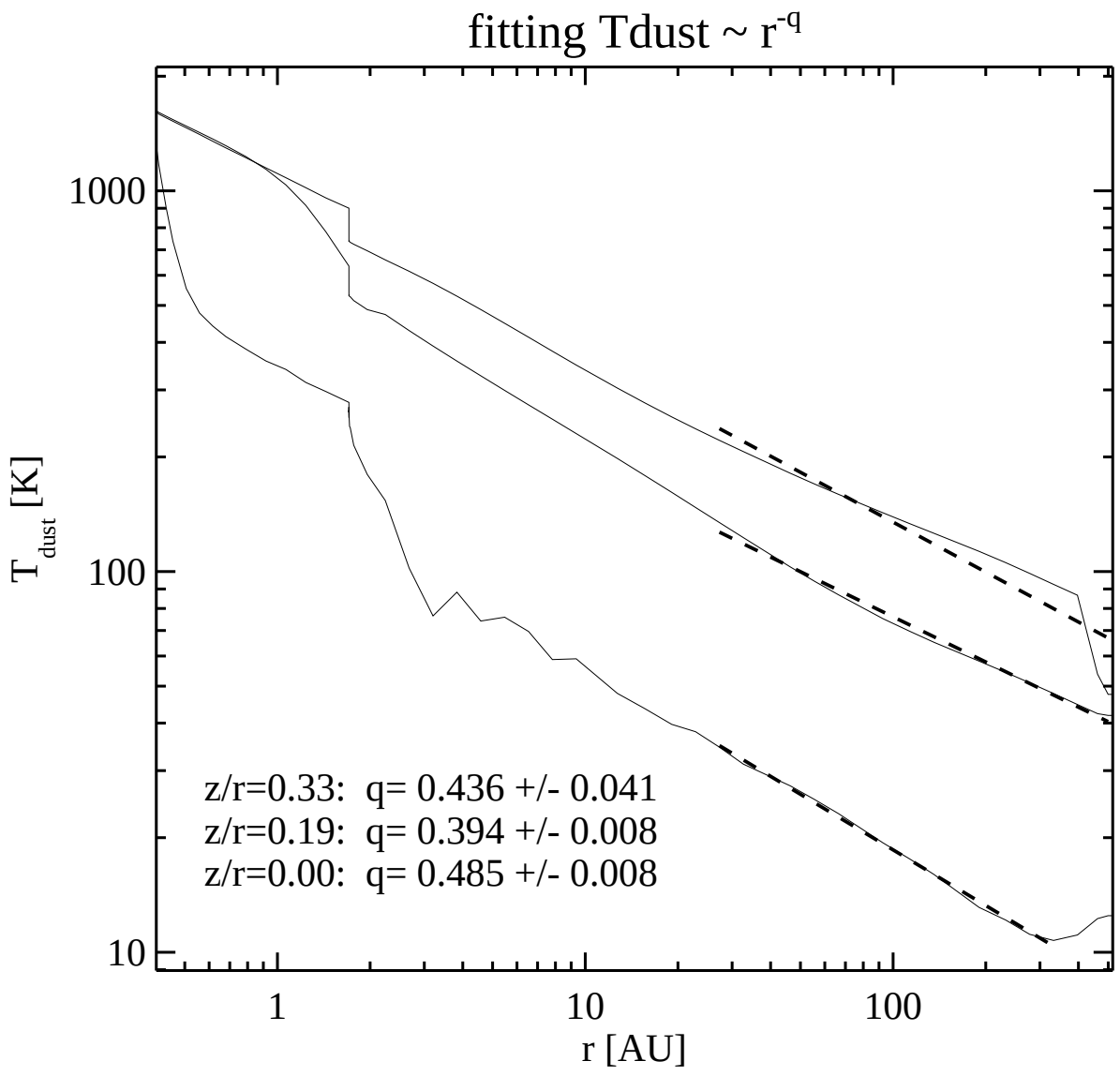

10^{26}
10^{24}
10^{22}
10^{20}
10^{18}
$N_{<H>}$ [cm^{-2}]
1
10
100
r [AU]
Σ_{dust}/(1.4 amu)

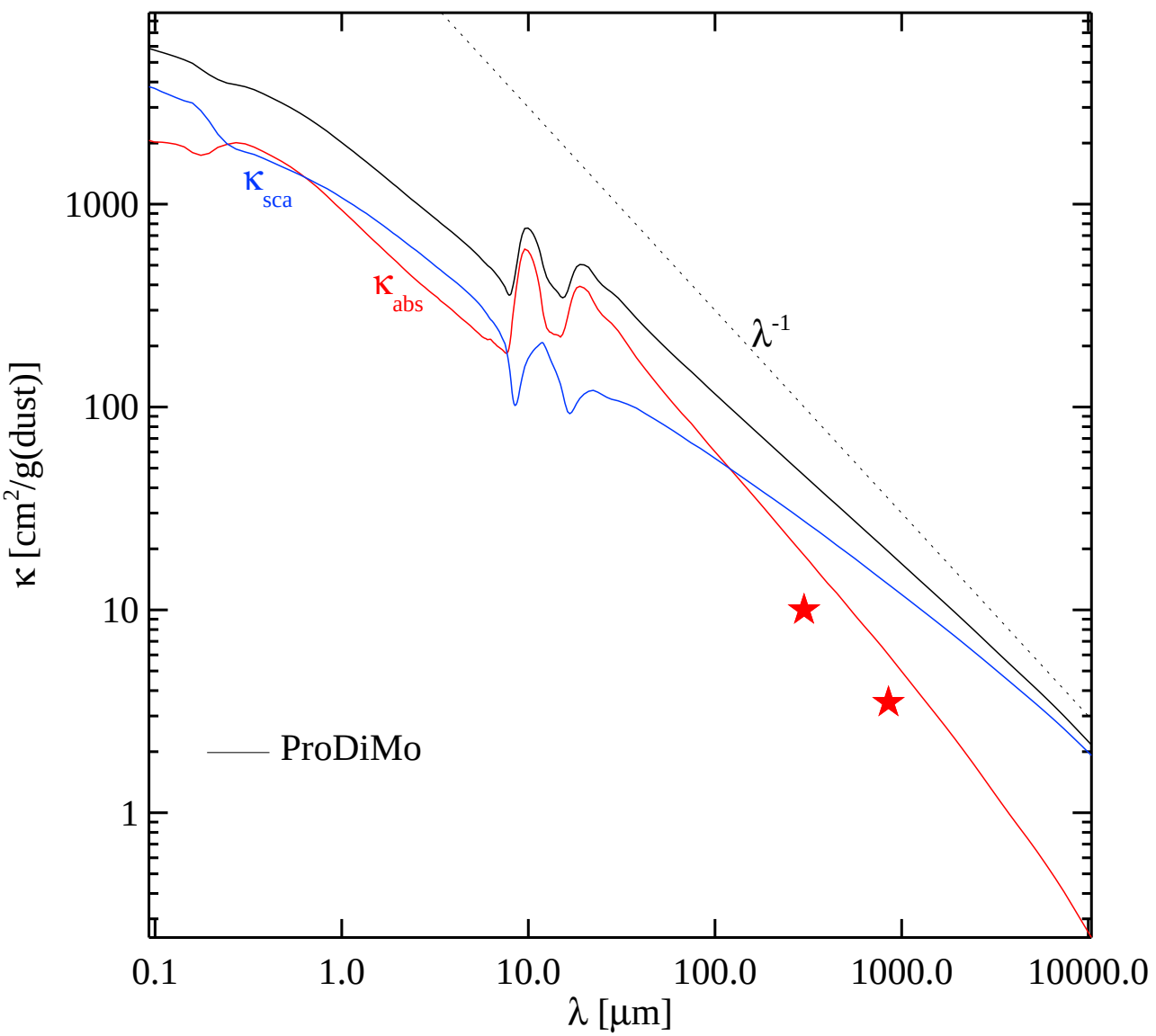

H/r
0.1
1
10
100
r [AU]
as prescribed in model
from midplane dust temperature
from surface gas temperature

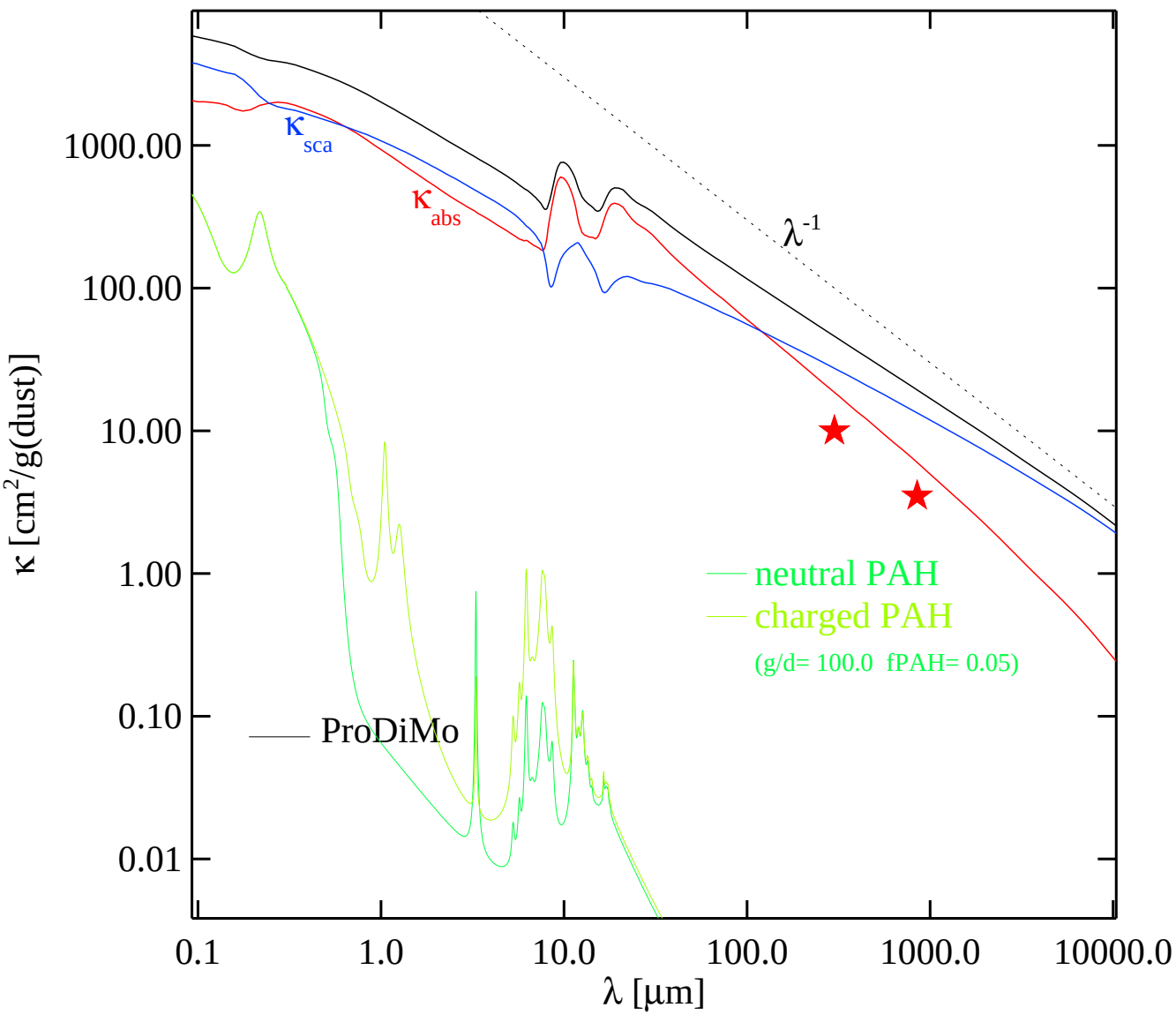

0
2
4
6
8
10
log χ
0.3
0.2
0.1
0.0
z / r
AV=1
AV=10
1
10
100
r [AU]

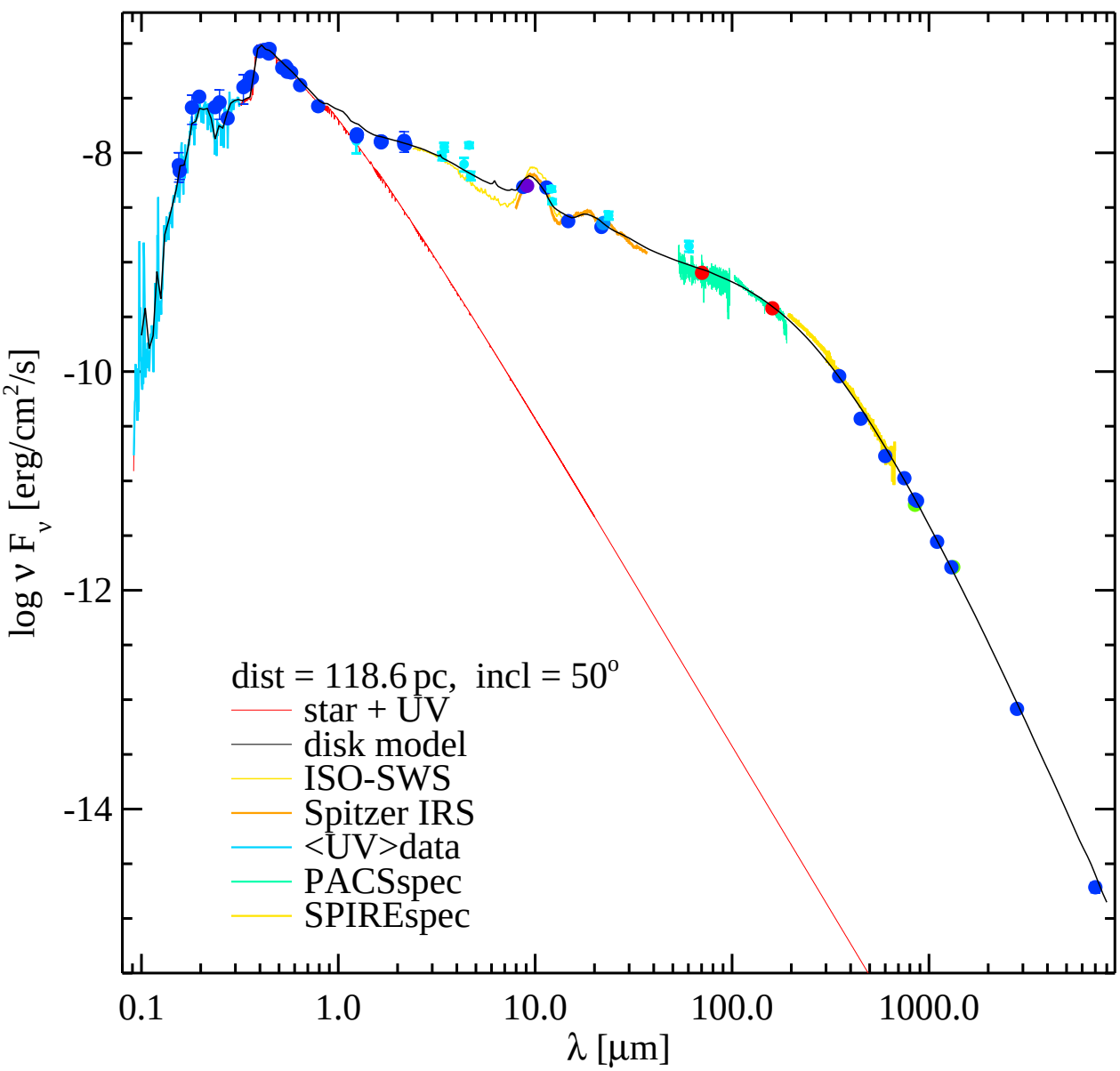

1.5
2.0
2.5
3.0
log T dust [K]
14
100K
100K
40K
300K
1400K
700K
1
10
1
10
20K
0.0
0.1
0.2
0.3
z / r
1
10
100
r [AU]

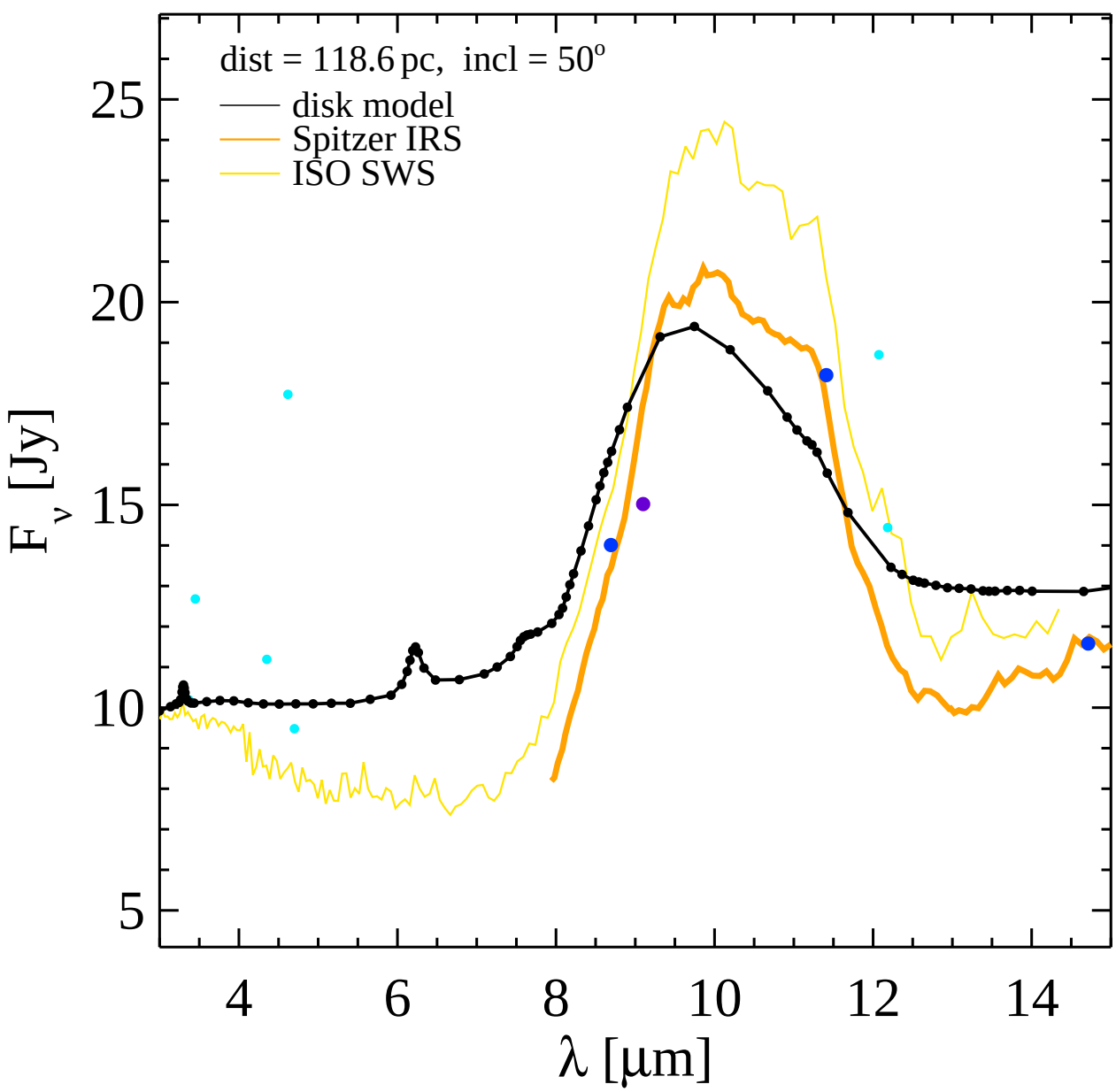

1.5
2.0
2.5
3.0
log T_PAH [K]
300K
1000K
300K
100K
2000K
100K
40K
2
10
1
10
1
10
0.0
0.1
0.2
0.3
z / r
1
10
100
r [AU]

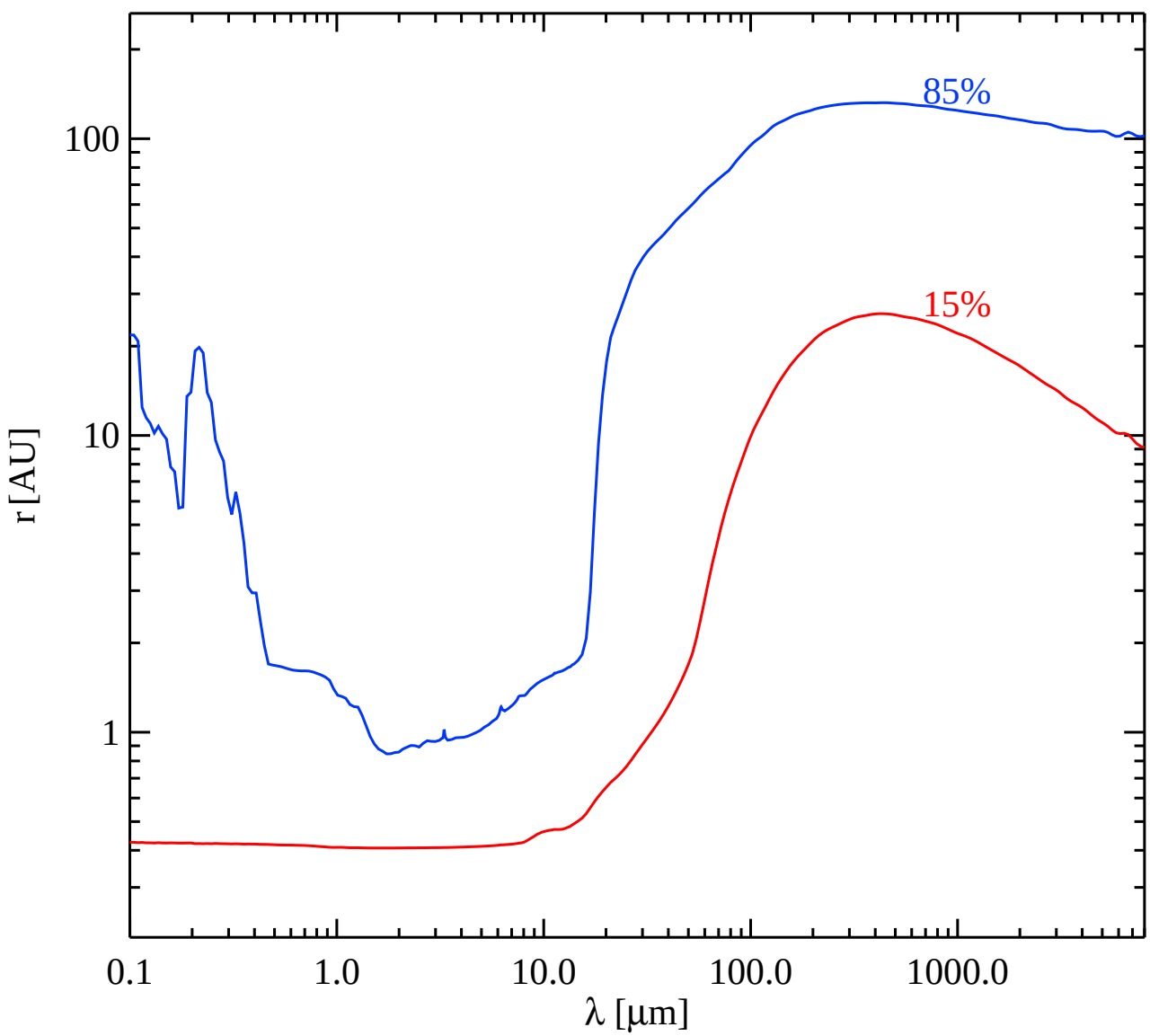

fitting Tdust ~ r^-q
1000
100
10
T dust [K]
1
10
100
r [AU]
z/r=0.33: q= 0.436 +/- 0.041
z/r=0.19: q= 0.394 +/- 0.008
z/r=0.00: q= 0.485 +/- 0.008

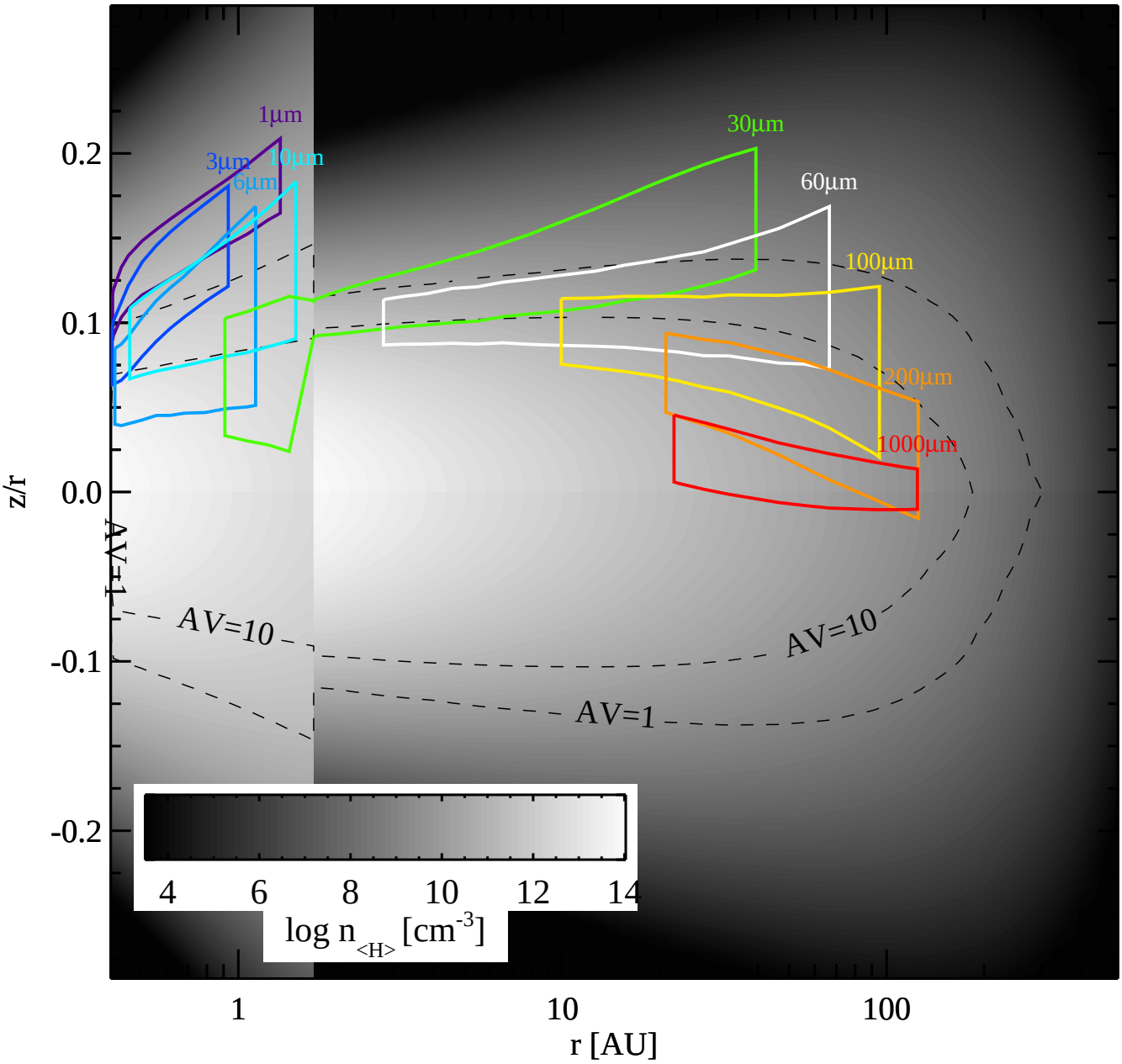

κ sca
κ abs
λ-1
ProDiMo
1000
100
10
1
0.1
1.0
10.0
100.0
1000.0
10000.0
λ [μm]
κ [cm2/g(dust)]

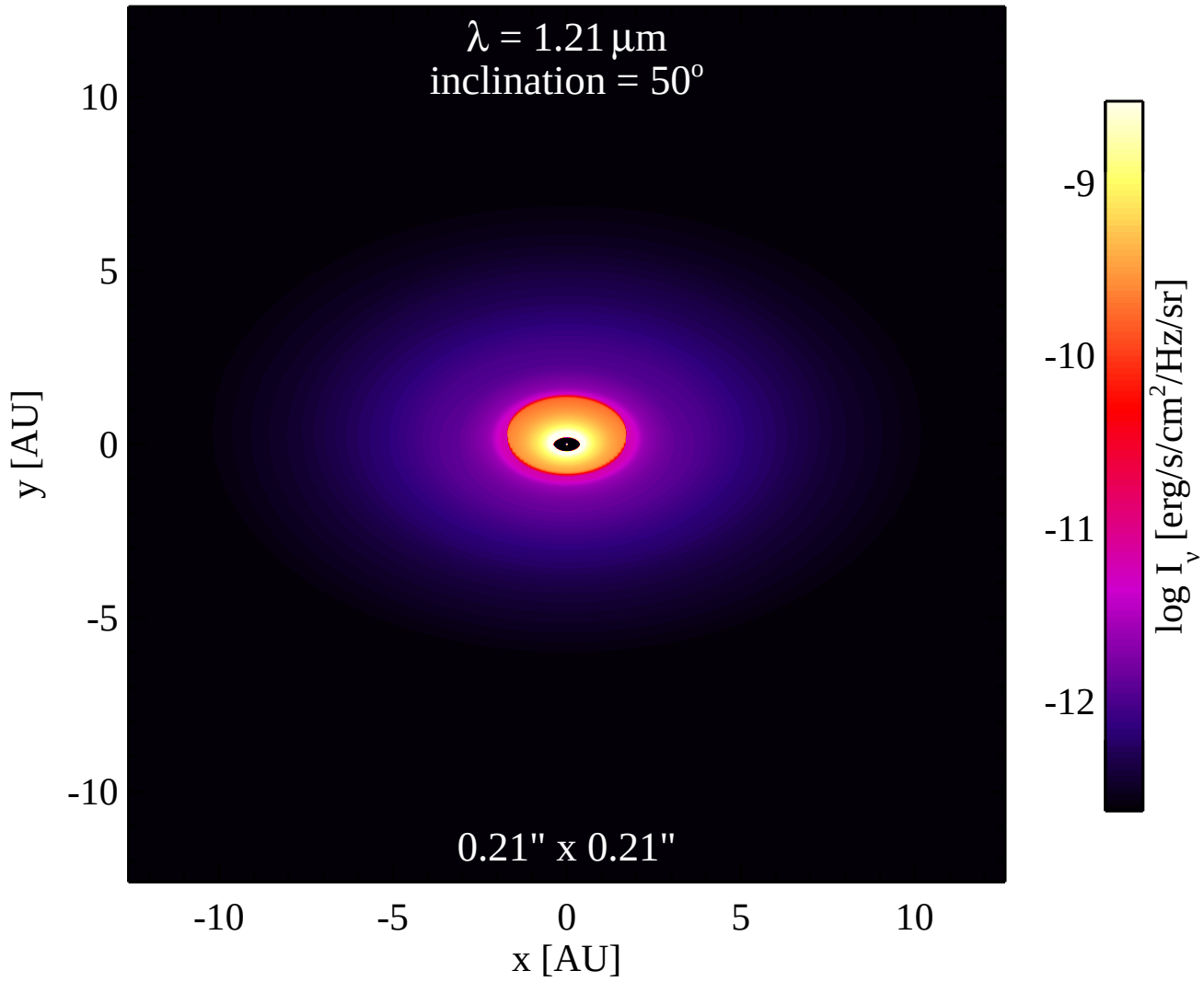

κ sca
κ abs
λ-1
neutral PAH
charged PAH
(g/d= 100.0 fPAH= 0.05)
ProDiMo
1000.00
100.00
10.00
1.00
0.10
0.01
κ [cm2/g(dust)]
0.1
1.0
10.0
100.0
1000.0
10000.0
λ [μm]

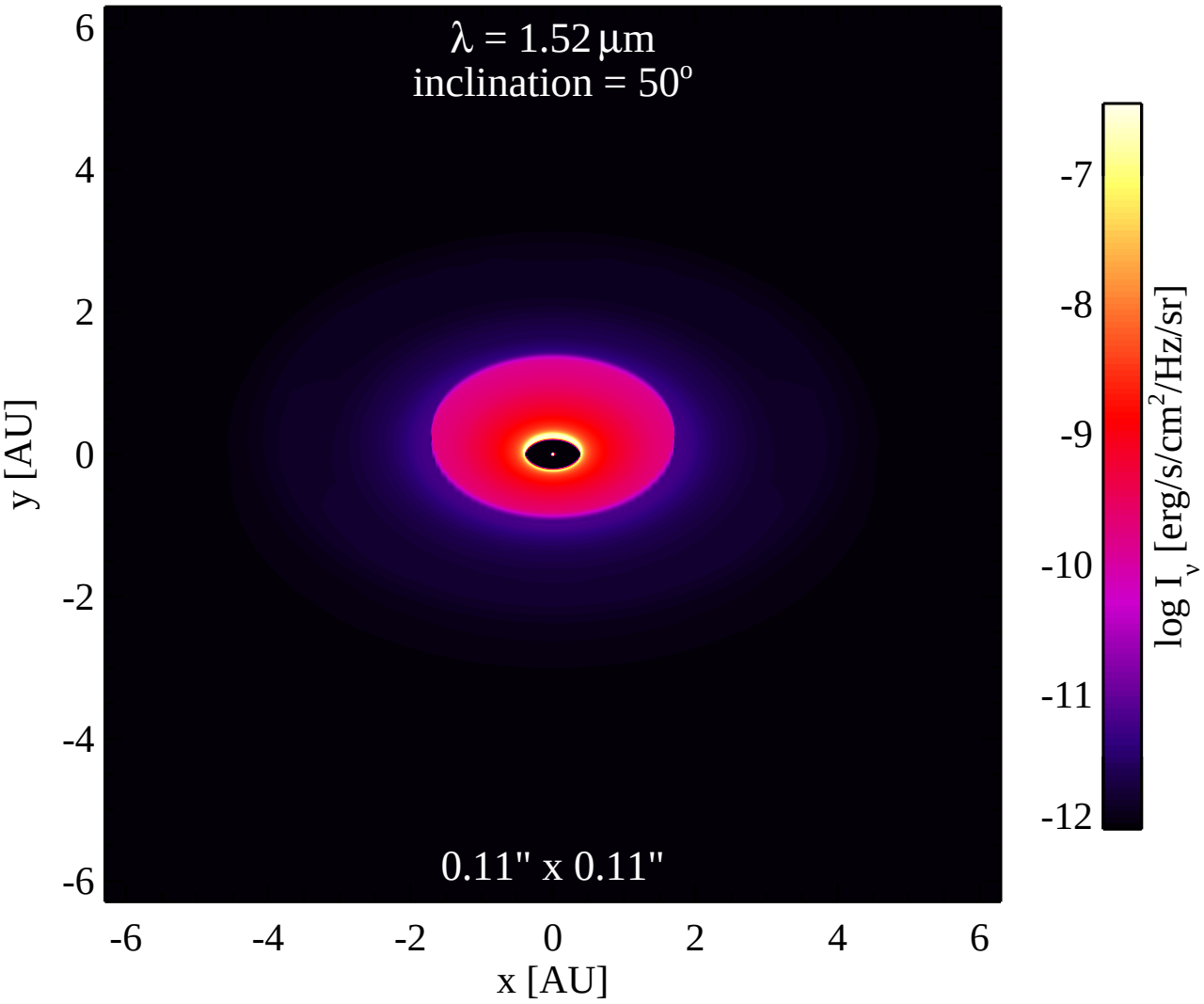

-8
-10
-12
-14
log ν F_ν [erg/cm²/s]
0.1
1.0
10.0
100.0
1000.0
λ [μm]
dist = 118.6 pc, incl = 50°
star + UV
disk model
ISO-SWS
Spitzer IRS
<UV>data
PACSspec
SPIREspec

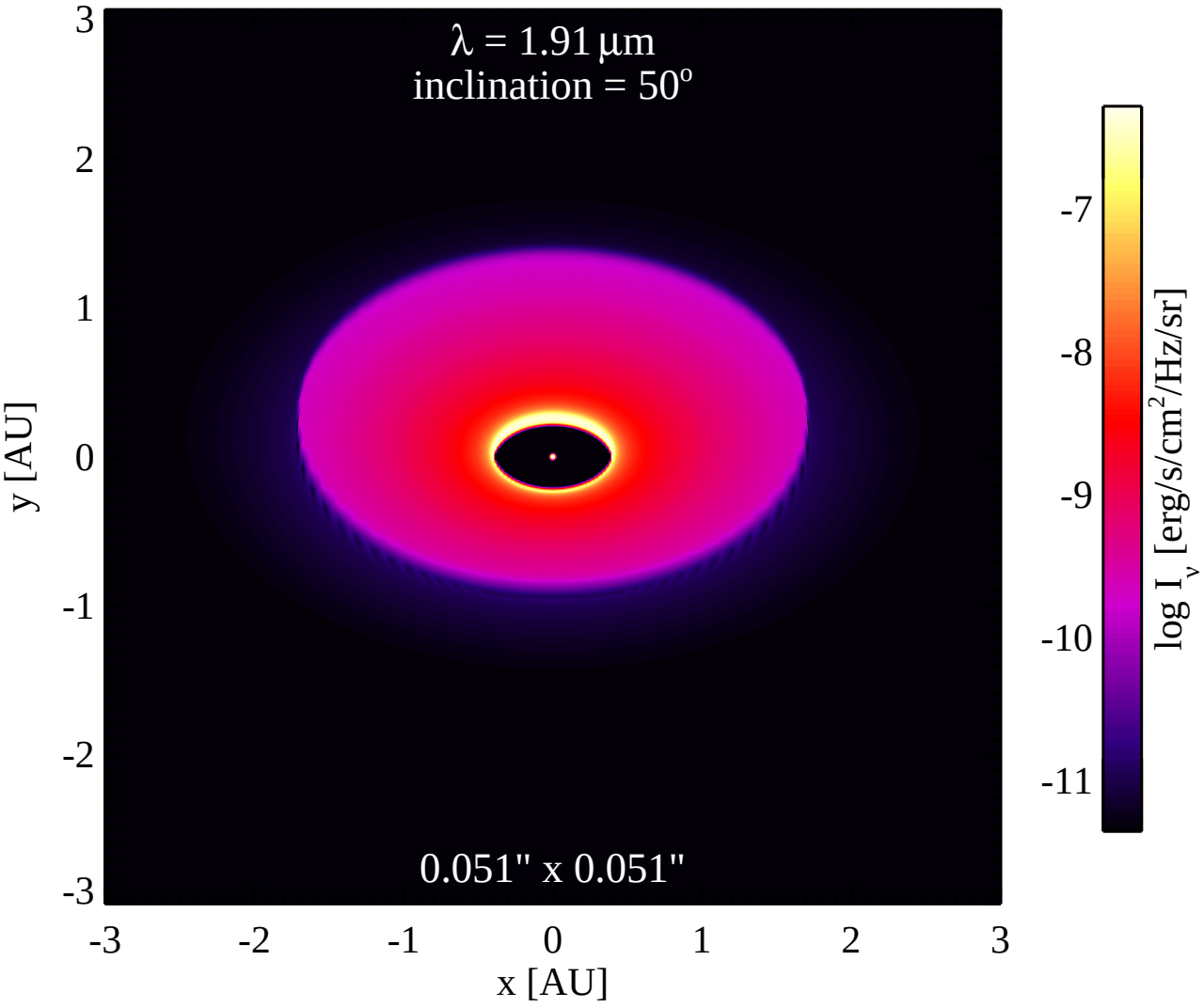

dist = 118.6 pc, incl = 50°
disk model
Spitzer IRS
ISO SWS
25
20
15
10
5
F_ν [Jy]
4
6
8
10
12
14
λ [μm]

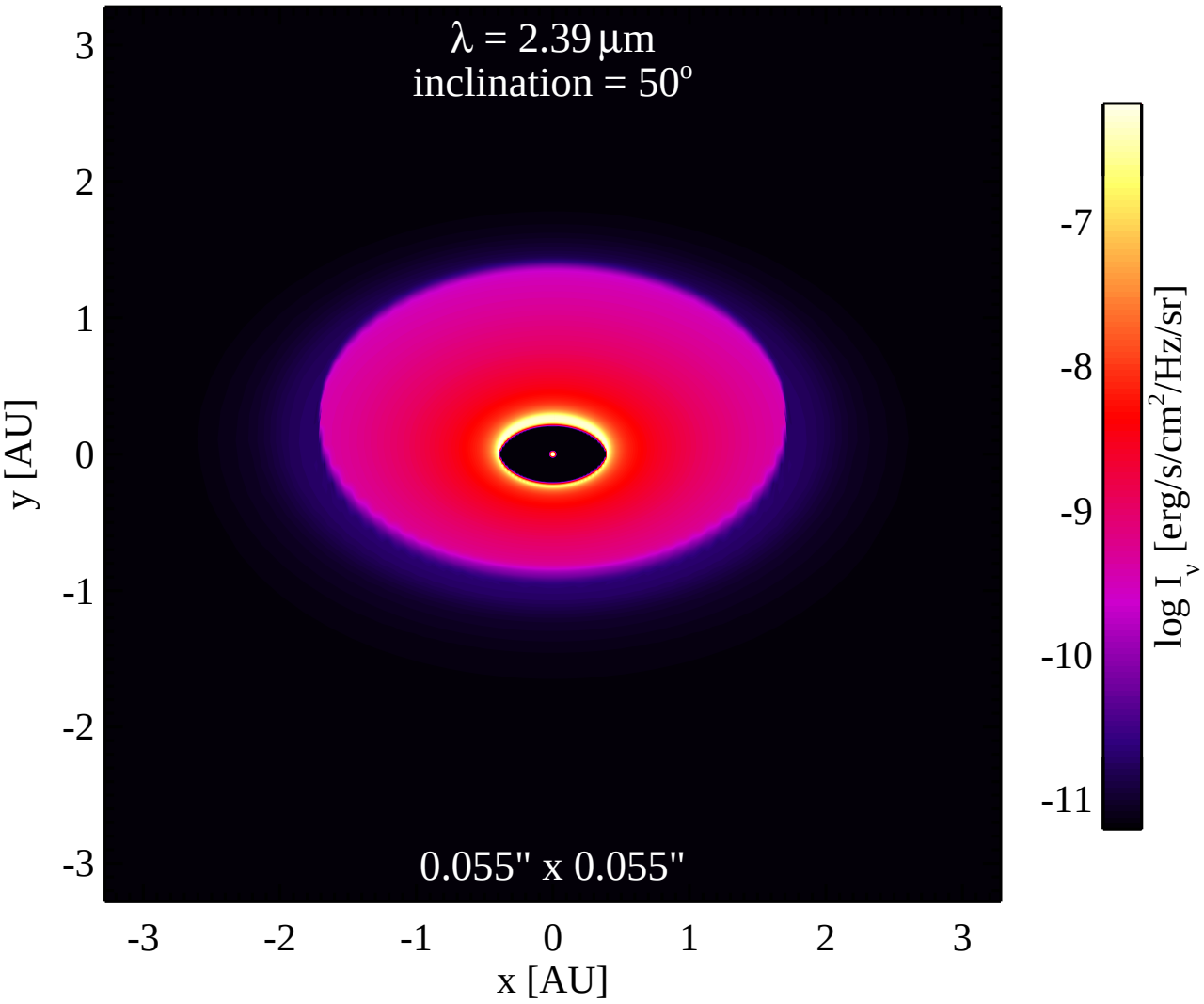

85%
15%
100
10
1
r [AU]
0.1
1.0
10.0
100.0
1000.0
λ [μm]

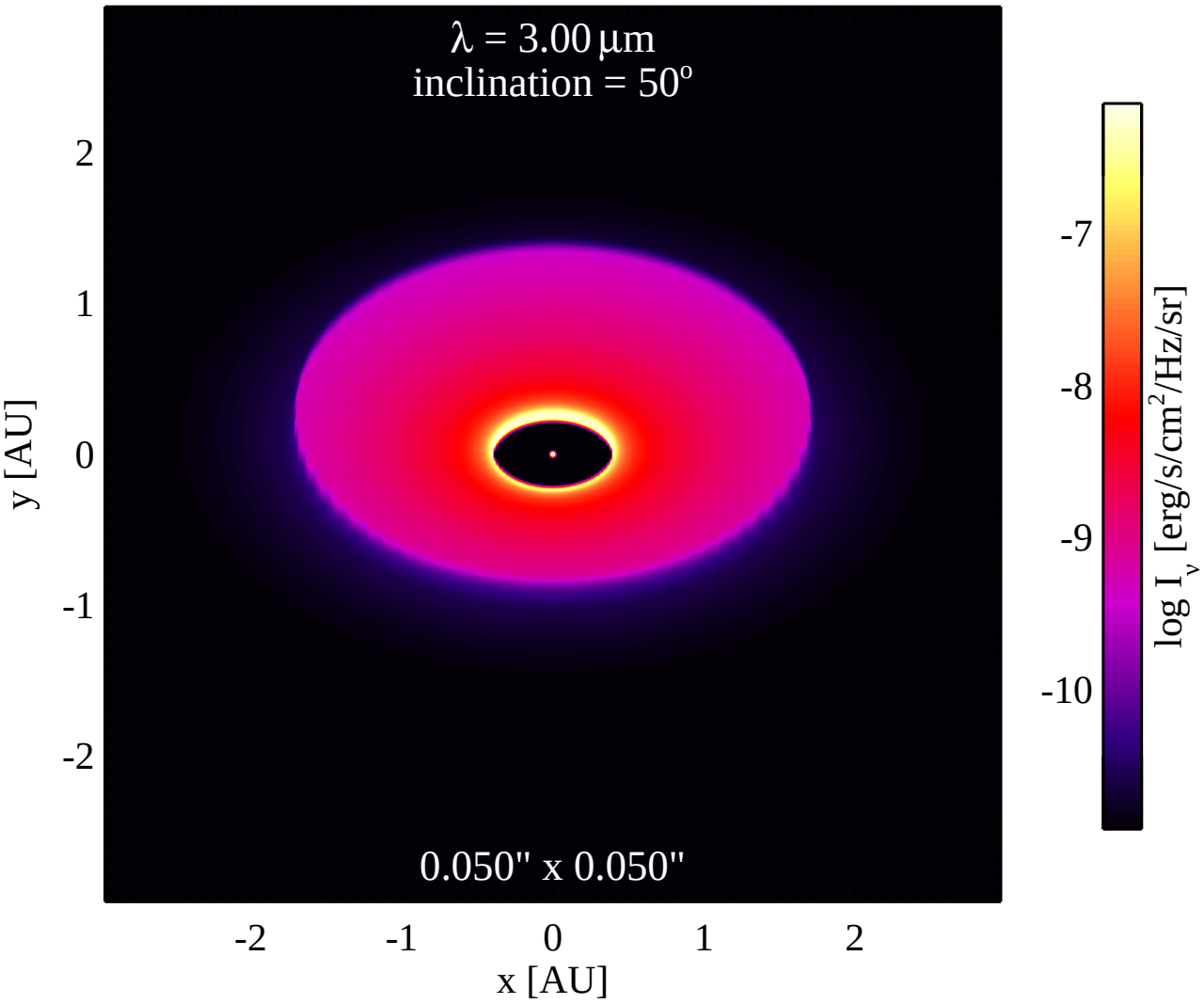

1µm
3µm
10µm
6µm
30µm
60µm
100µm
200µm
1000µm
AV=1
AV=10
AV=10
AV=1
0.2
0.1
0.0
-0.1
-0.2
z/r
4
6
8
10
12
14
log n<H> [cm-3]
1
10
100
r [AU]

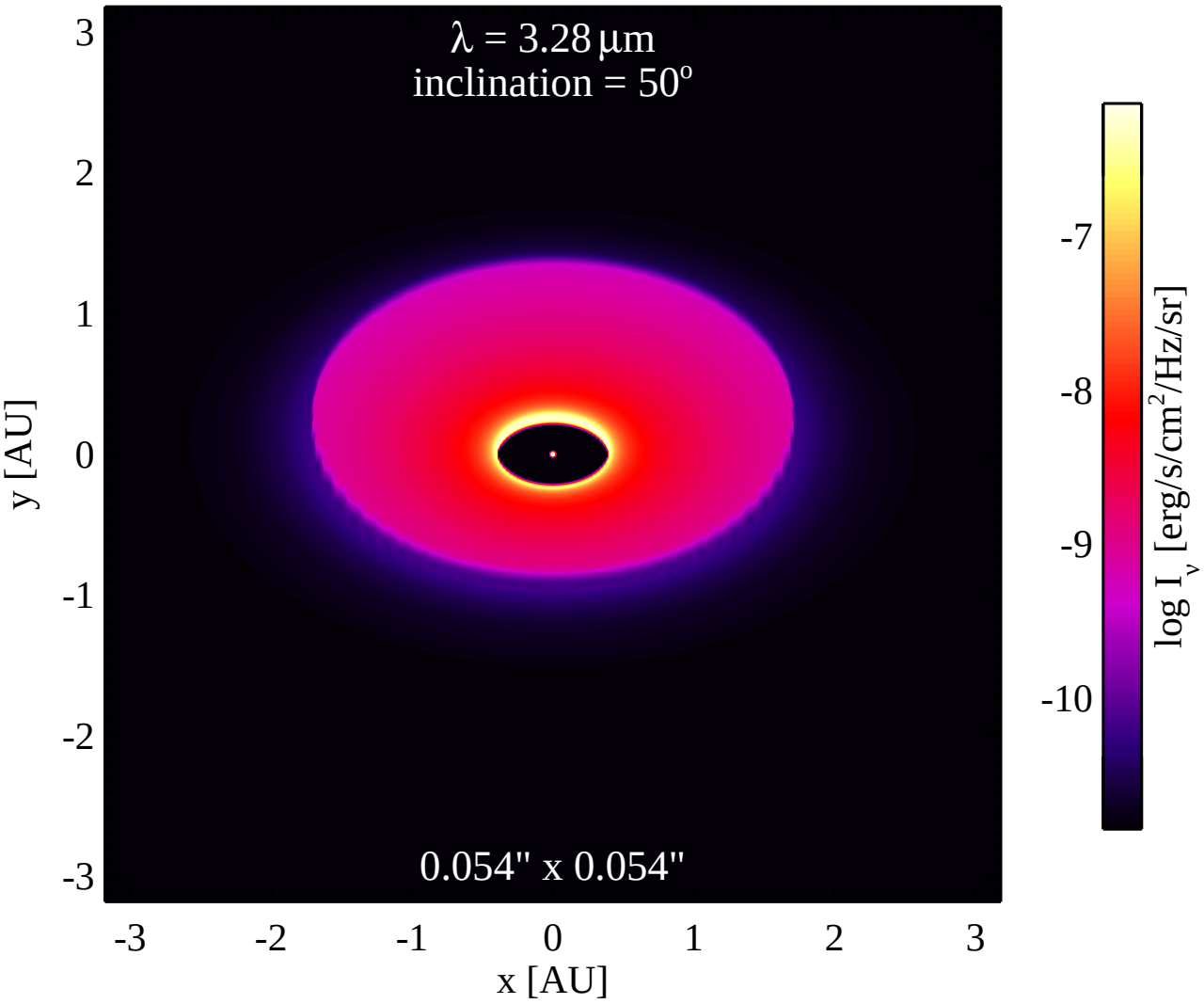

λ = 1.21 μm
inclination = 50°
0.21" x 0.21"
10
5
0
-5
-10
y [AU]
-10
-5
0
5
10
x [AU]
-9
-10
-11
-12
log I_ν [erg/s/cm²/Hz/sr]

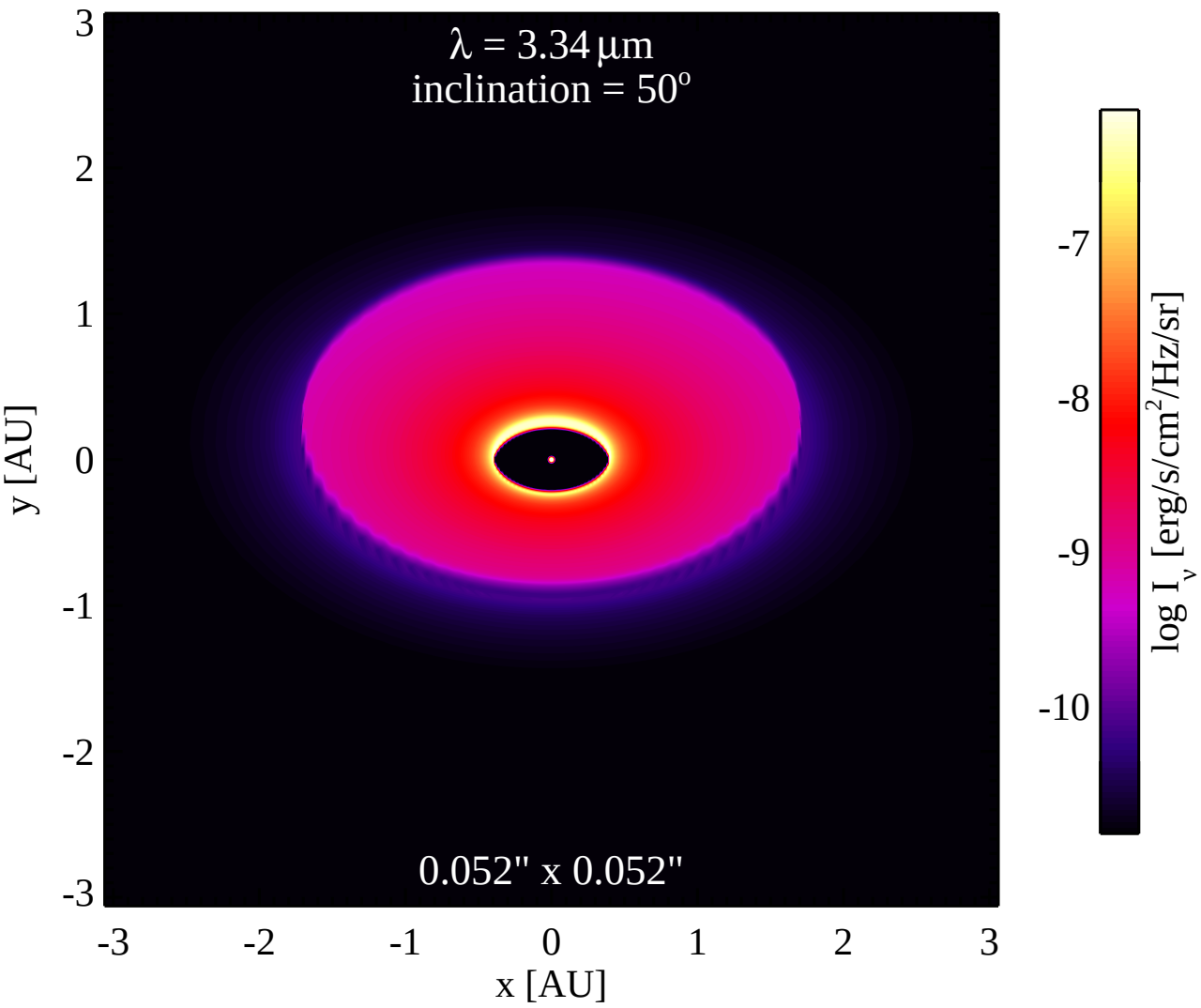

λ = 1.52 μm
inclination = 50°
0.11" x 0.11"
y [AU]
x [AU]
6
4
2
0
-2
-4
-6
-6
-4
-2
0
2
4
6
-7
-8
-9
-10
-11
-12
log I_ν [erg/s/cm²/Hz/sr]

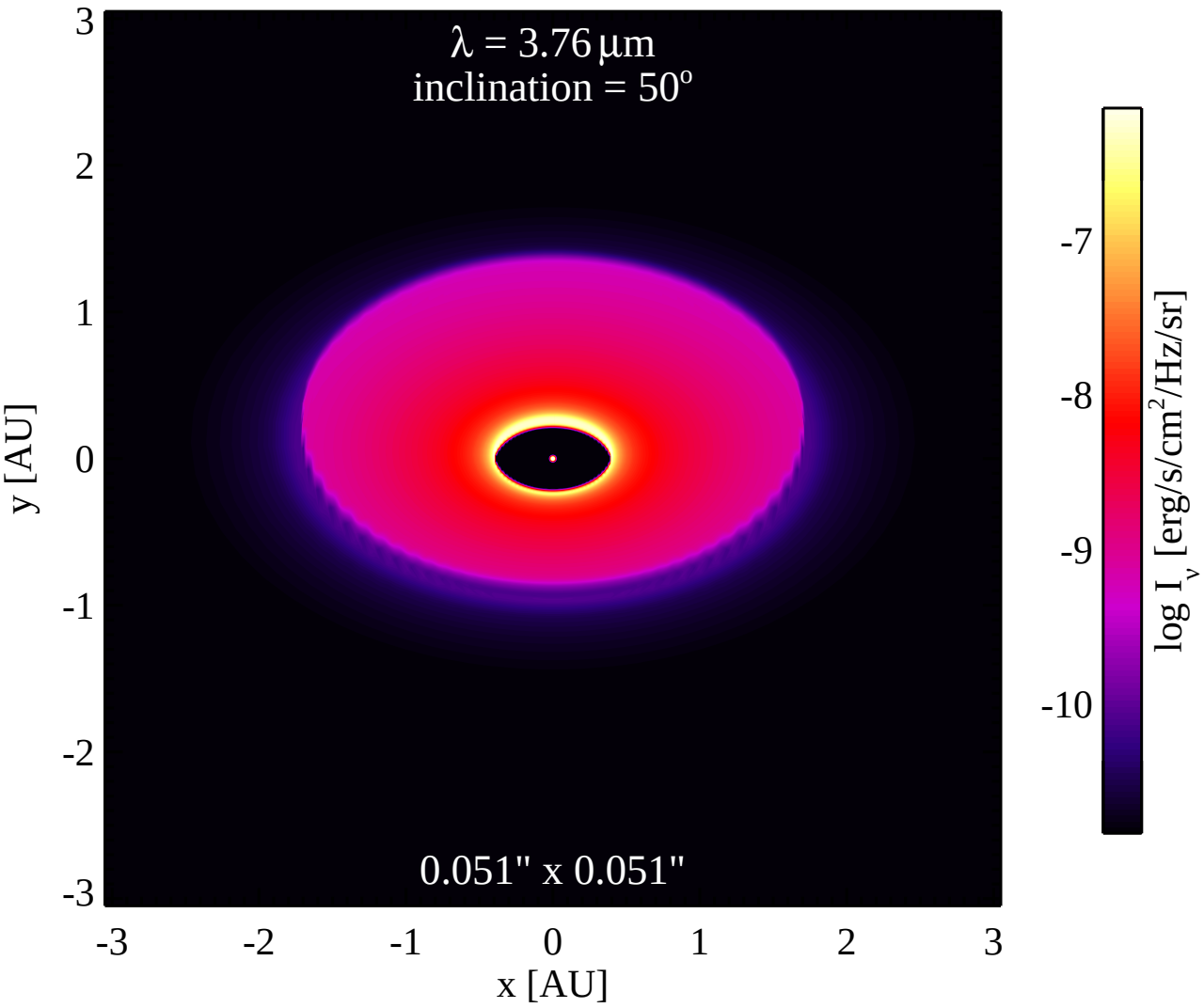

λ = 1.91 μm
inclination = 50°
0.051" x 0.051"
y [AU]
x [AU]
3
2
1
0
-1
-2
-3
-3
-2
-1
0
1
2
3
log I_ν [erg/s/cm²/Hz/sr]
-7
-8
-9
-10
-11

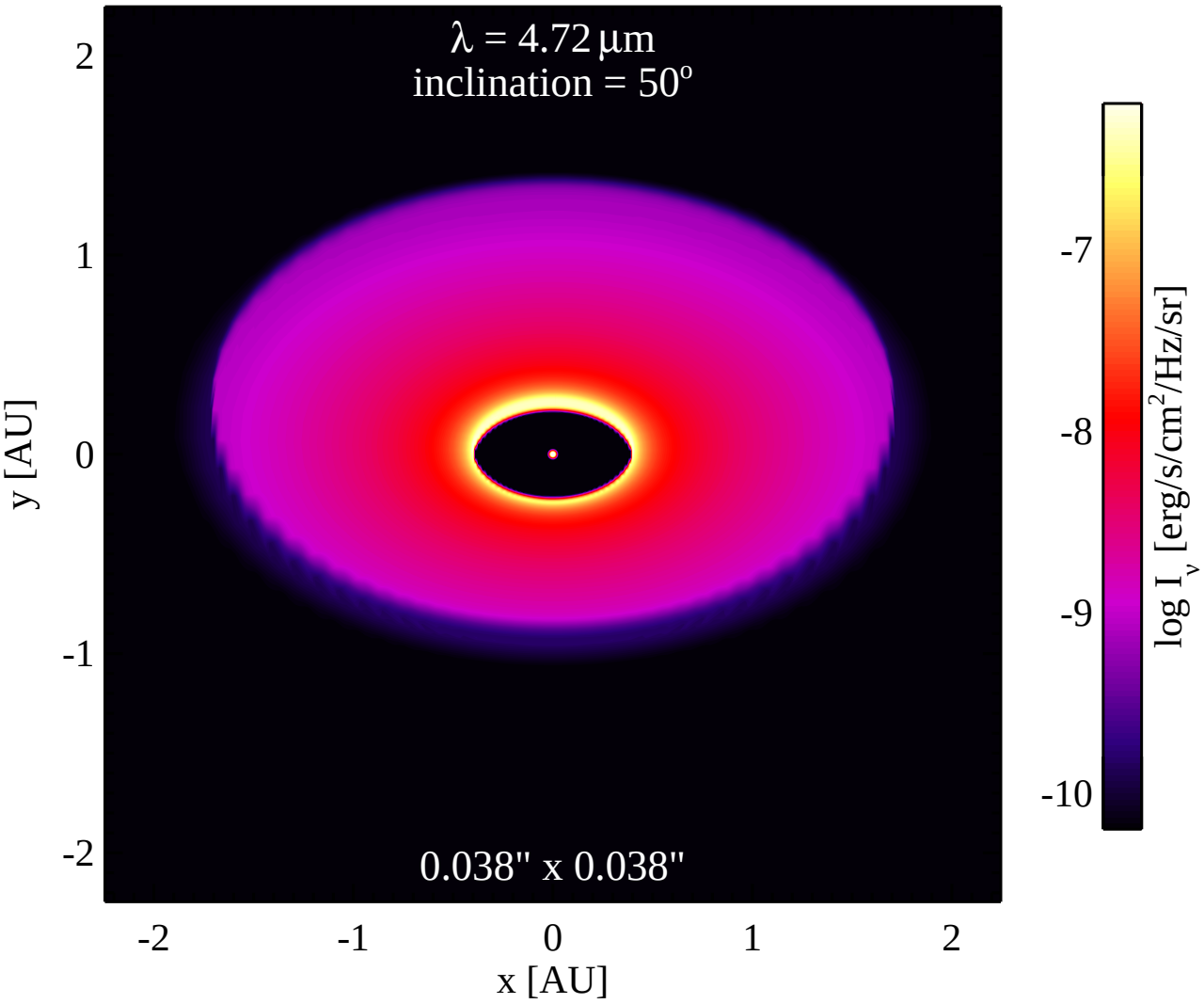

λ = 2.39 μm
inclination = 50°
0.055" x 0.055"
y [AU]
x [AU]
3
2
1
0
-1
-2
-3
-3
-2
-1
0
1
2
3
log I_ν [erg/s/cm²/Hz/sr]
-7
-8
-9
-10
-11

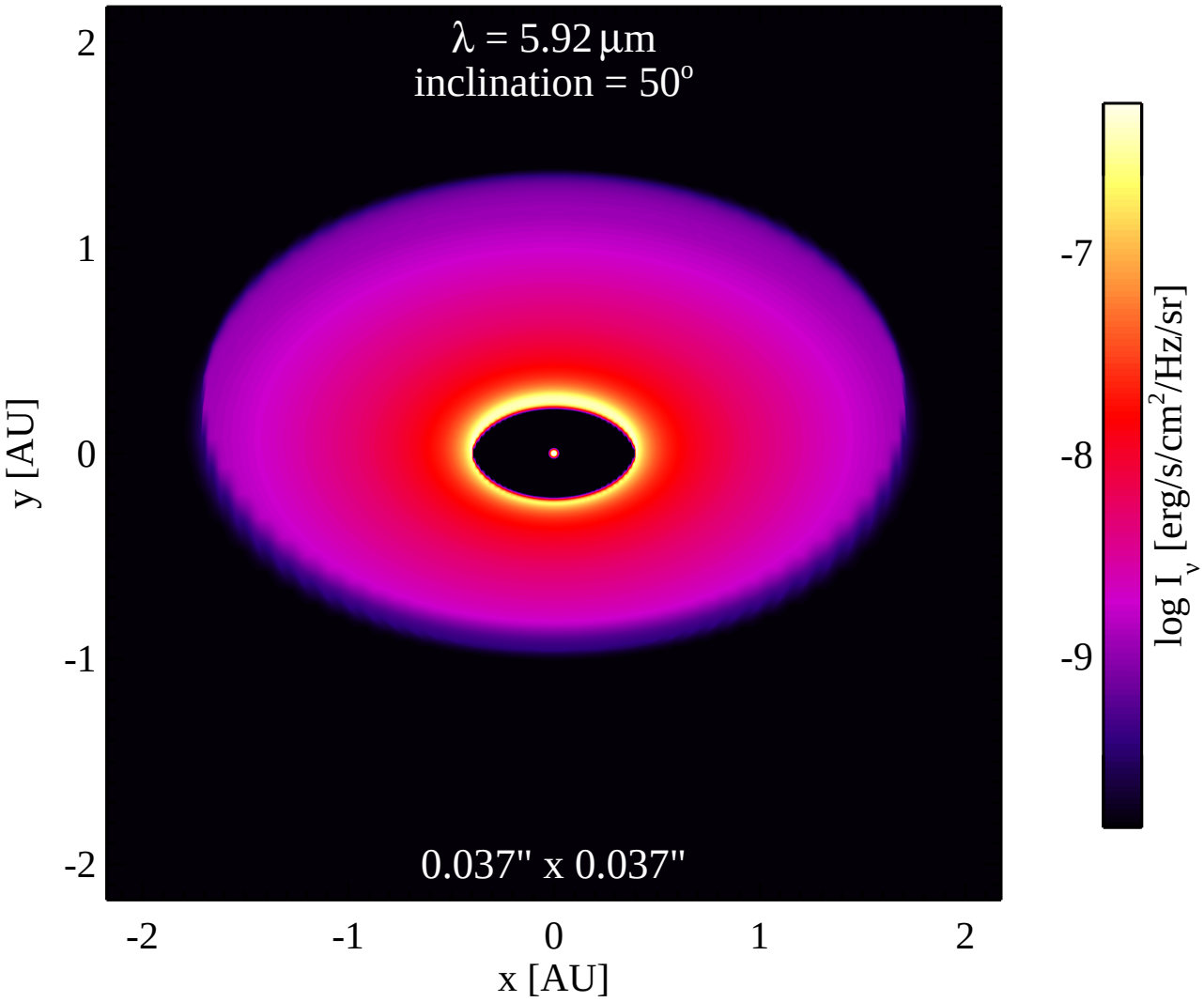

λ = 3.00 μm
inclination = 50°
0.050" x 0.050"
y [AU]
x [AU]
2
1
0
-1
-2
-2
-1
0
1
2
-7
-8
-9
-10
log I_ν [erg/s/cm²/Hz/sr]

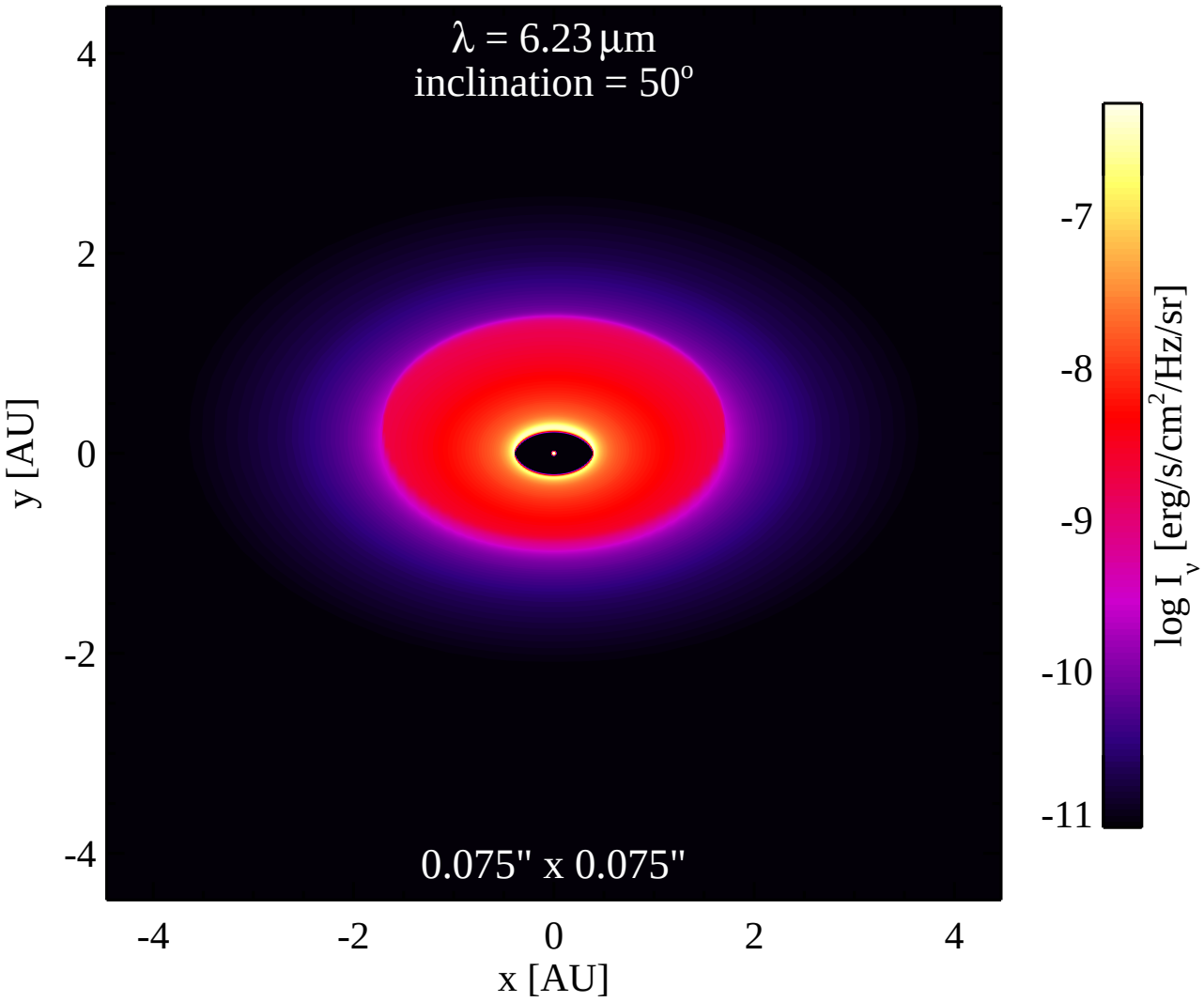

λ = 3.28 μm
inclination = 50°
0.054" x 0.054"
3
2
1
0
-1
-2
-3
y [AU]
-3
-2
-1
0
1
2
3
x [AU]
-7
-8
-9
-10
log I_ν [erg/s/cm²/Hz/sr]

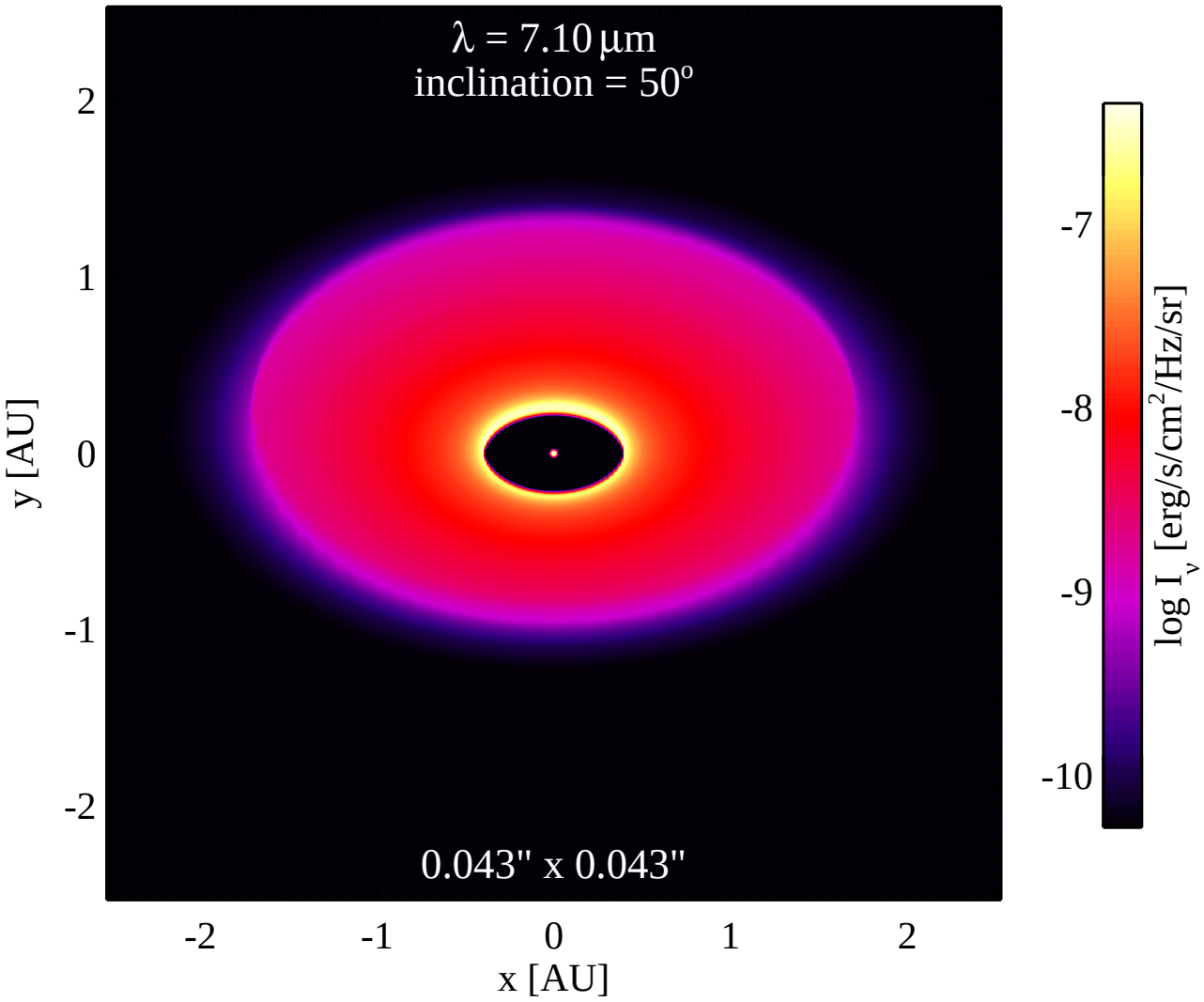

λ = 3.34 μm
inclination = 50°
0.052" x 0.052"
y [AU]
x [AU]
3
2
1
0
-1
-2
-3
-3
-2
-1
0
1
2
3
-7
-8
-9
-10
log I_ν [erg/s/cm²/Hz/sr]

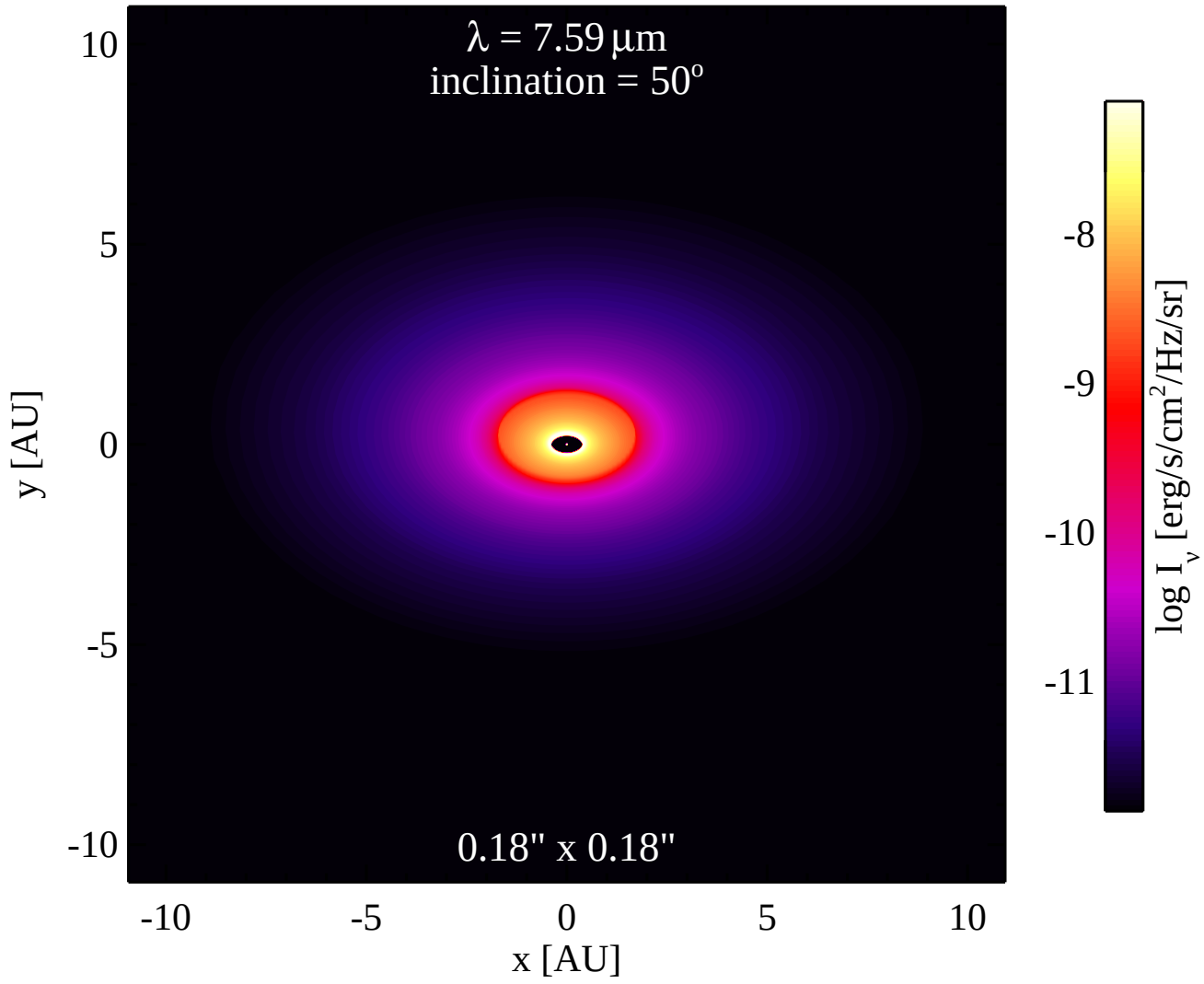

λ = 3.76 μm
inclination = 50°
0.051" x 0.051"
y [AU]
x [AU]
3
2
1
0
-1
-2
-3
-3
-2
-1
0
1
2
3
-7
-8
-9
-10
log I_ν [erg/s/cm²/Hz/sr]

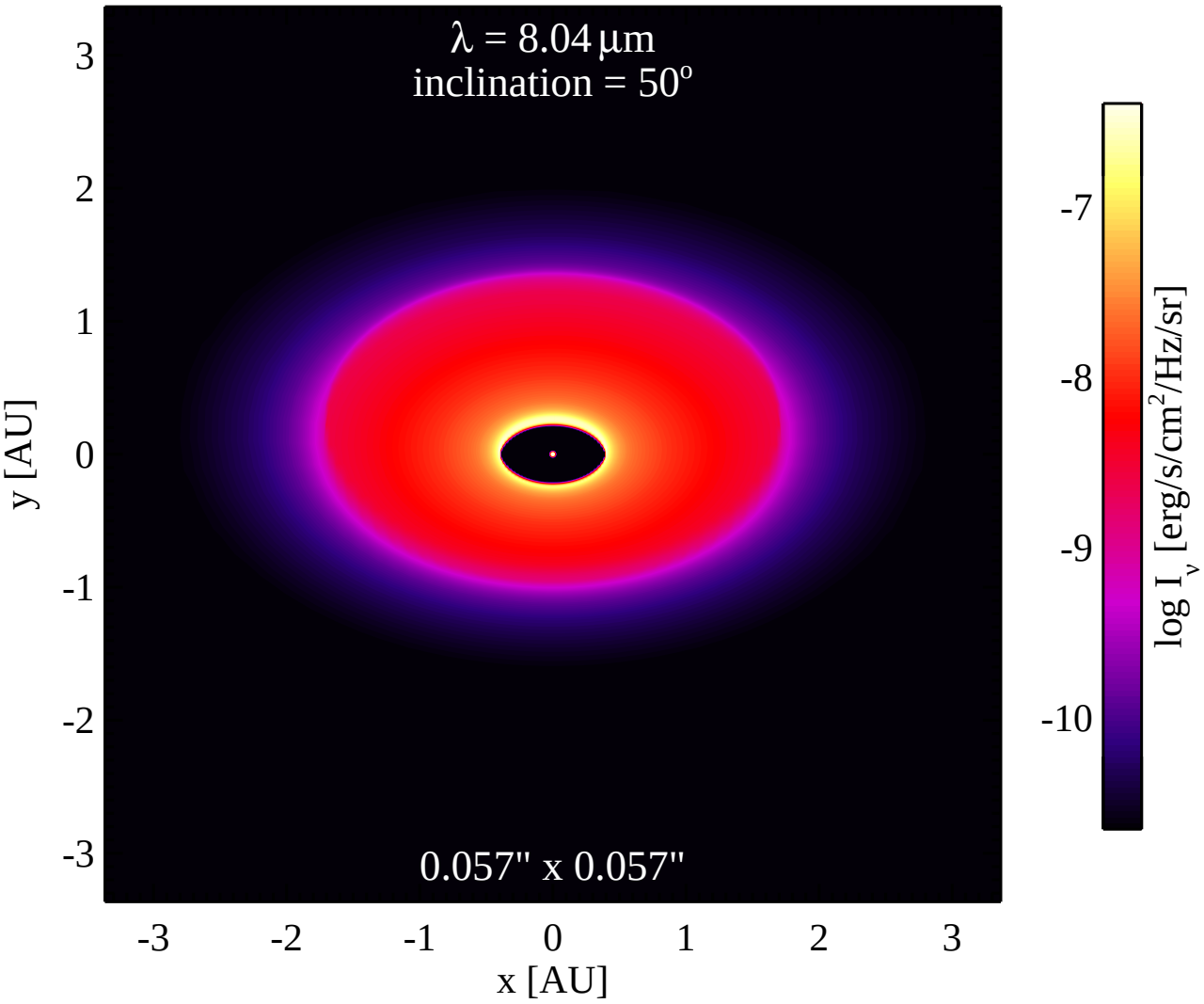

λ = 4.72 μm
inclination = 50°
0.038" x 0.038"
2
1
0
-1
-2
y [AU]
-2
-1
0
1
2
x [AU]
-7
-8
-9
-10
log I_ν [erg/s/cm²/Hz/sr]

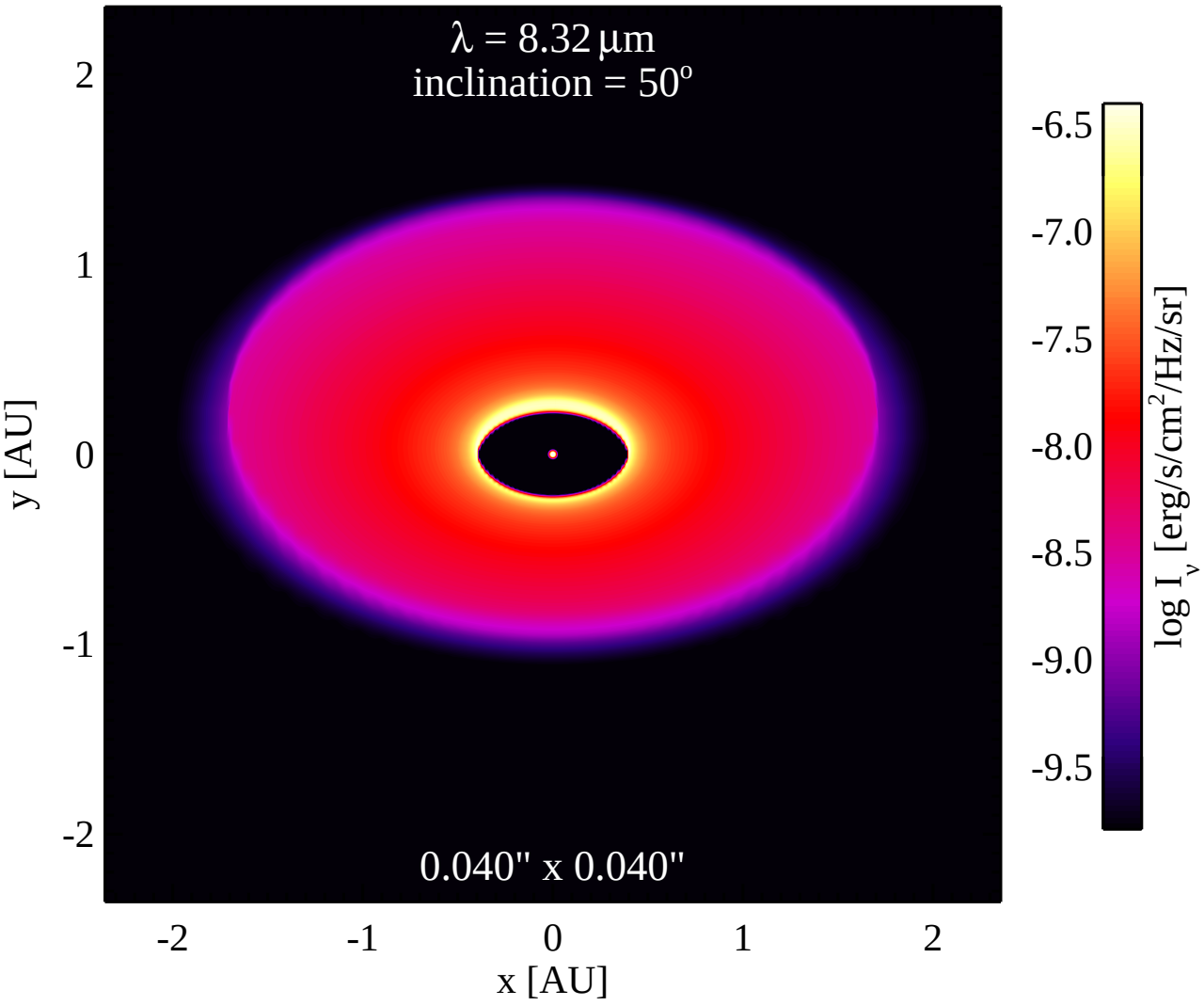

λ = 5.92 μm
inclination = 50°
0.037" x 0.037"
2
1
0
-1
-2
y [AU]
-2
-1
0
1
2
x [AU]
-7
-8
-9
log I_ν [erg/s/cm²/Hz/sr]

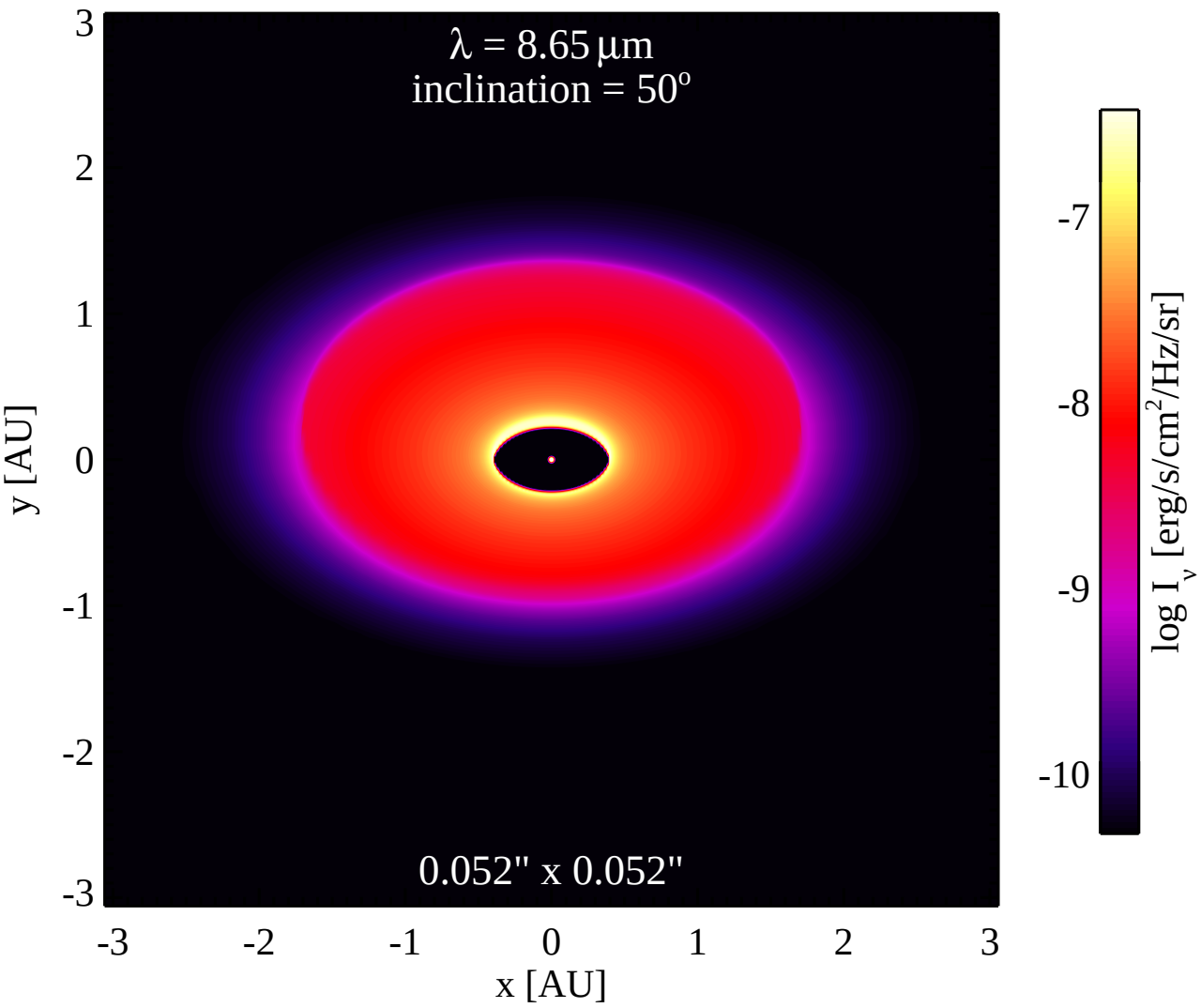

λ = 6.23 μm
inclination = 50°
0.075" x 0.075"
y [AU]
x [AU]
4
2
0
-2
-4
-4
-2
0
2
4
log I_ν [erg/s/cm²/Hz/sr]
-7
-8
-9
-10
-11

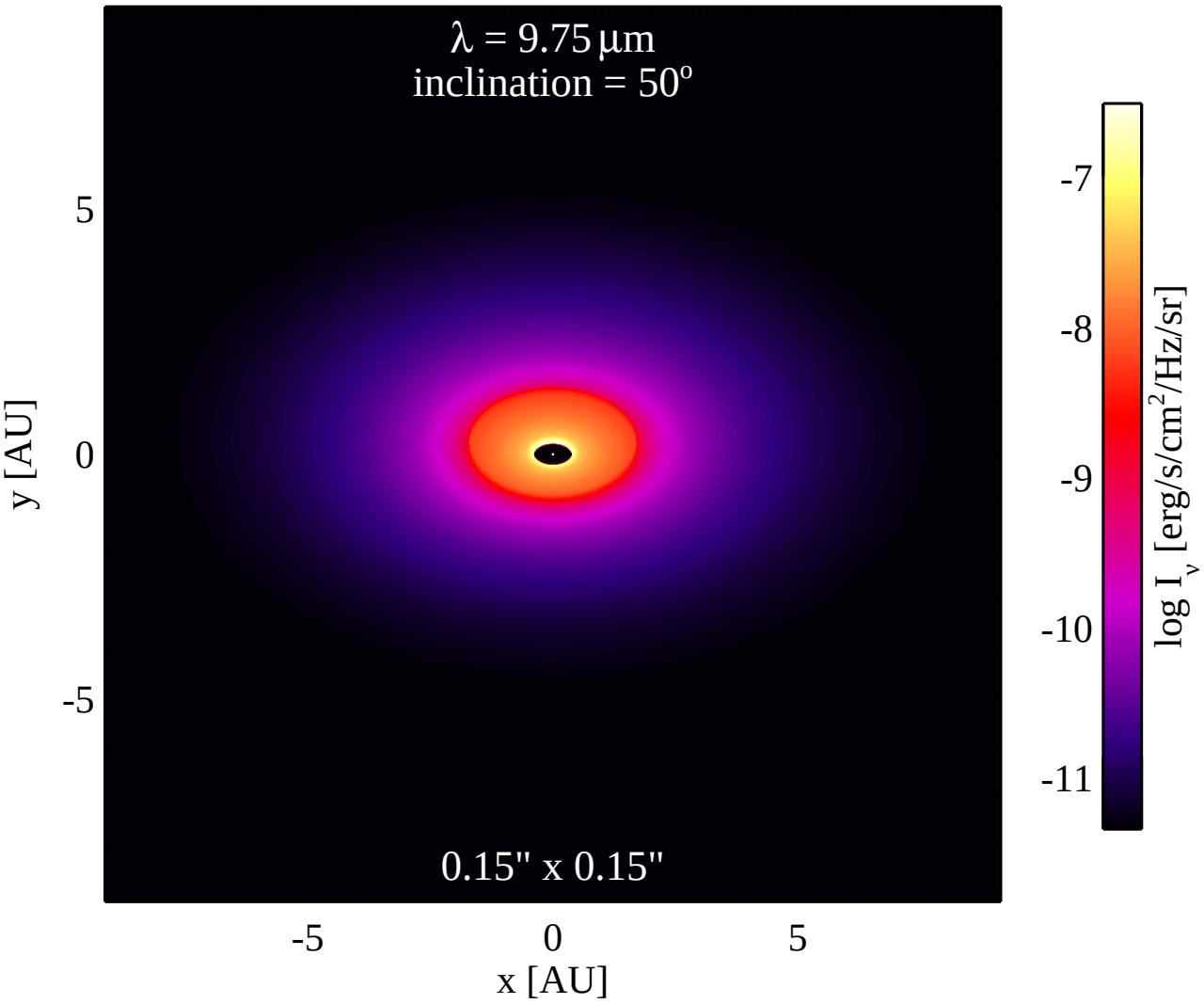

λ = 7.10 μm
inclination = 50°
0.043" x 0.043"
y [AU]
x [AU]
2
1
0
-1
-2
-2
-1
0
1
2
-7
-8
-9
-10
log I_ν [erg/s/cm²/Hz/sr]

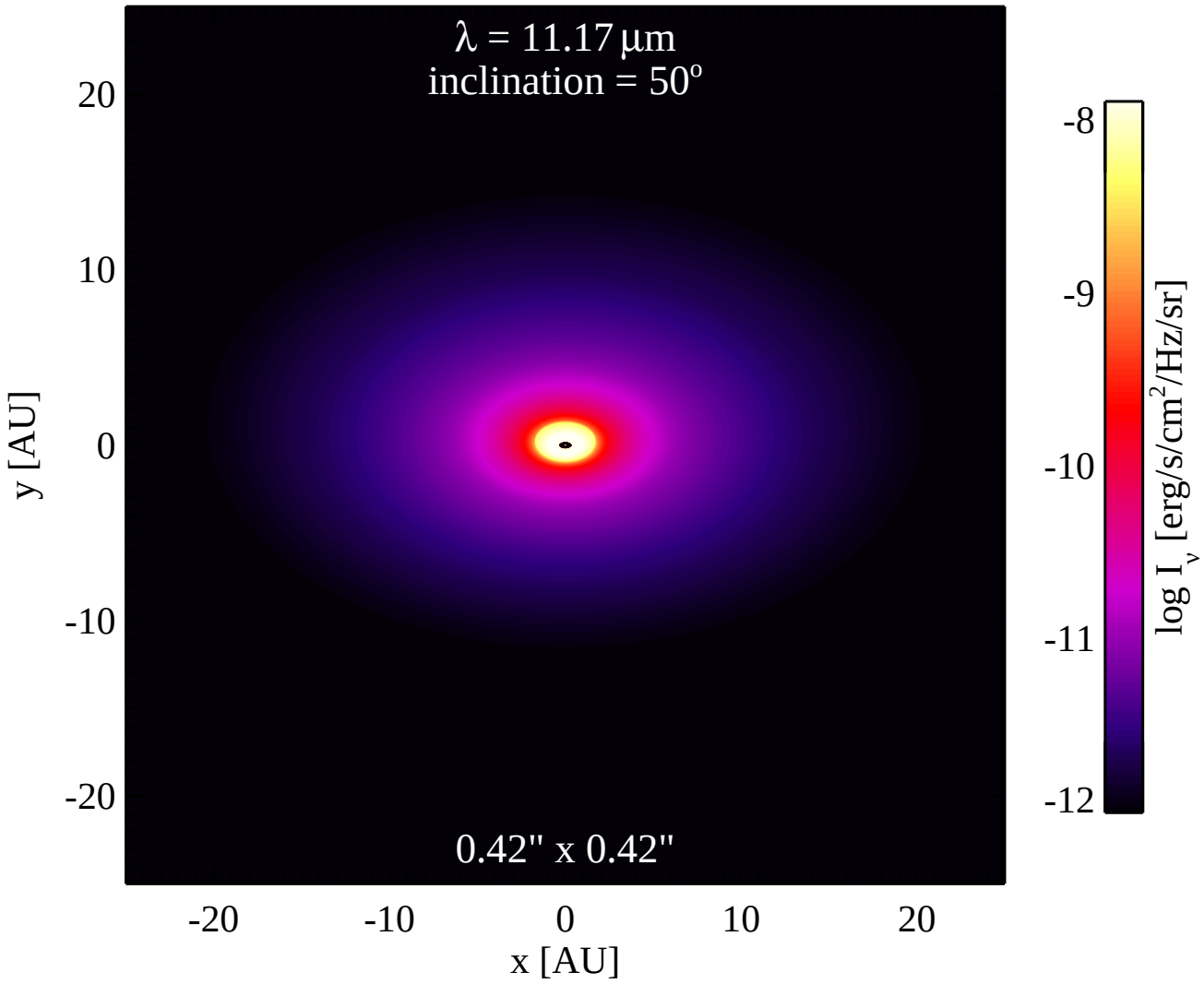

λ = 7.59 μm
inclination = 50°
0.18" x 0.18"
10
5
0
-5
-10
y [AU]
-10
-5
0
5
10
x [AU]
-8
-9
-10
-11
log I_ν [erg/s/cm²/Hz/sr]

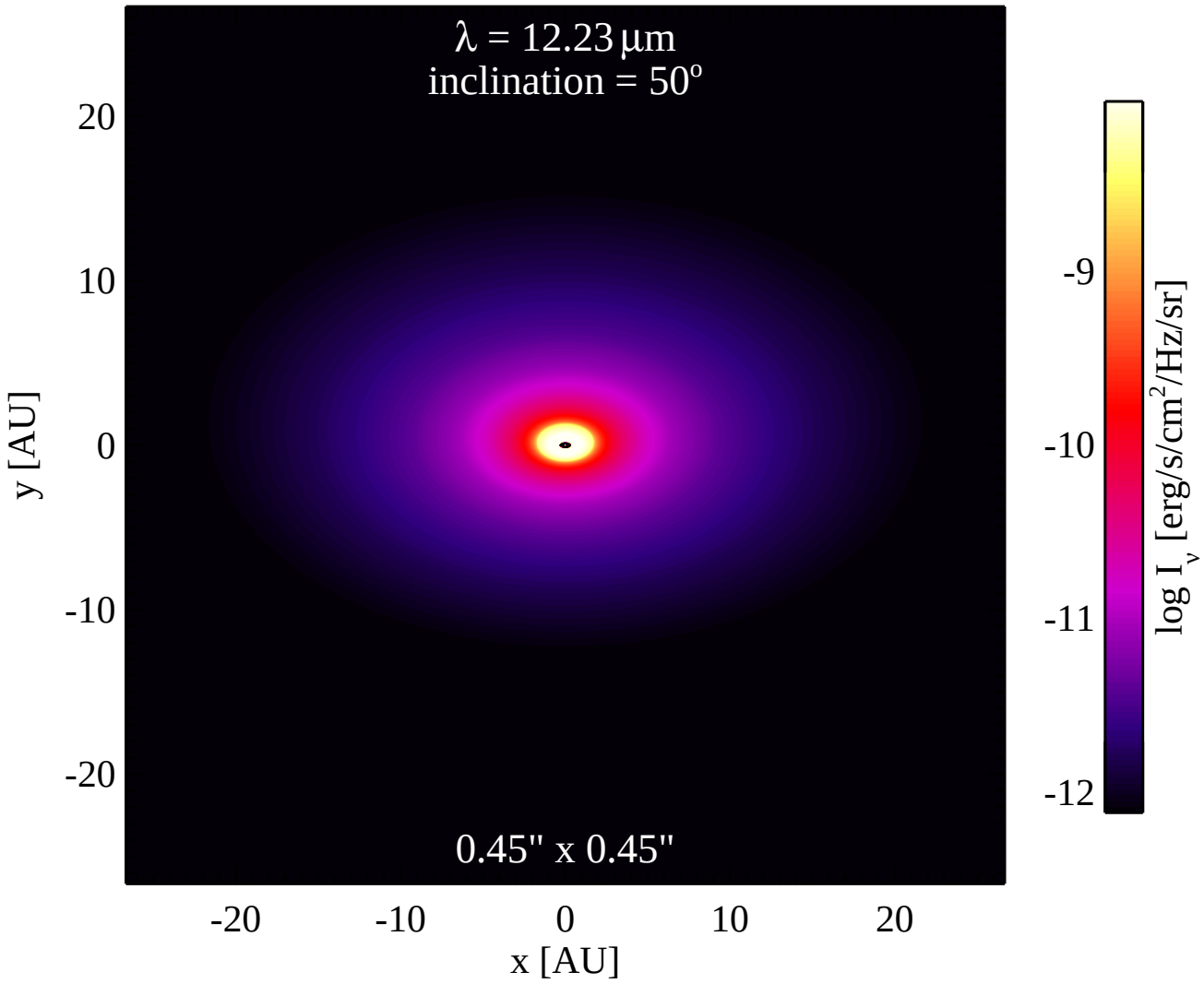

λ = 8.04 μm
inclination = 50°
0.057" x 0.057"
y [AU]
x [AU]
3
2
1
0
-1
-2
-3
-3
-2
-1
0
1
2
3
-7
-8
-9
-10
log I_ν [erg/s/cm²/Hz/sr]

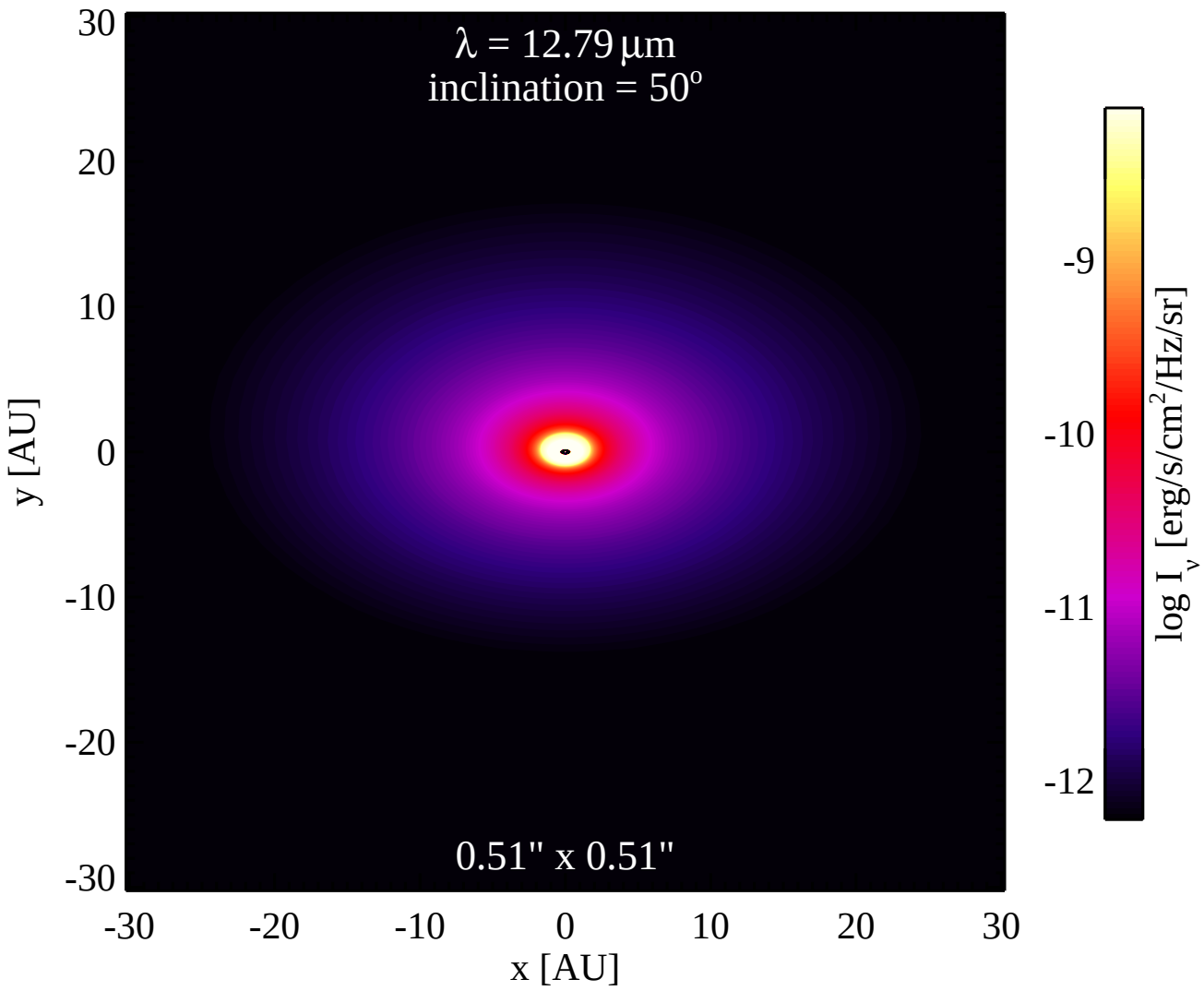

λ = 8.32 μm
inclination = 50°
0.040" x 0.040"
2
1
0
-1
-2
y [AU]
-2
-1
0
1
2
x [AU]
-6.5
-7.0
-7.5
-8.0
-8.5
-9.0
-9.5
log I_ν [erg/s/cm²/Hz/sr]

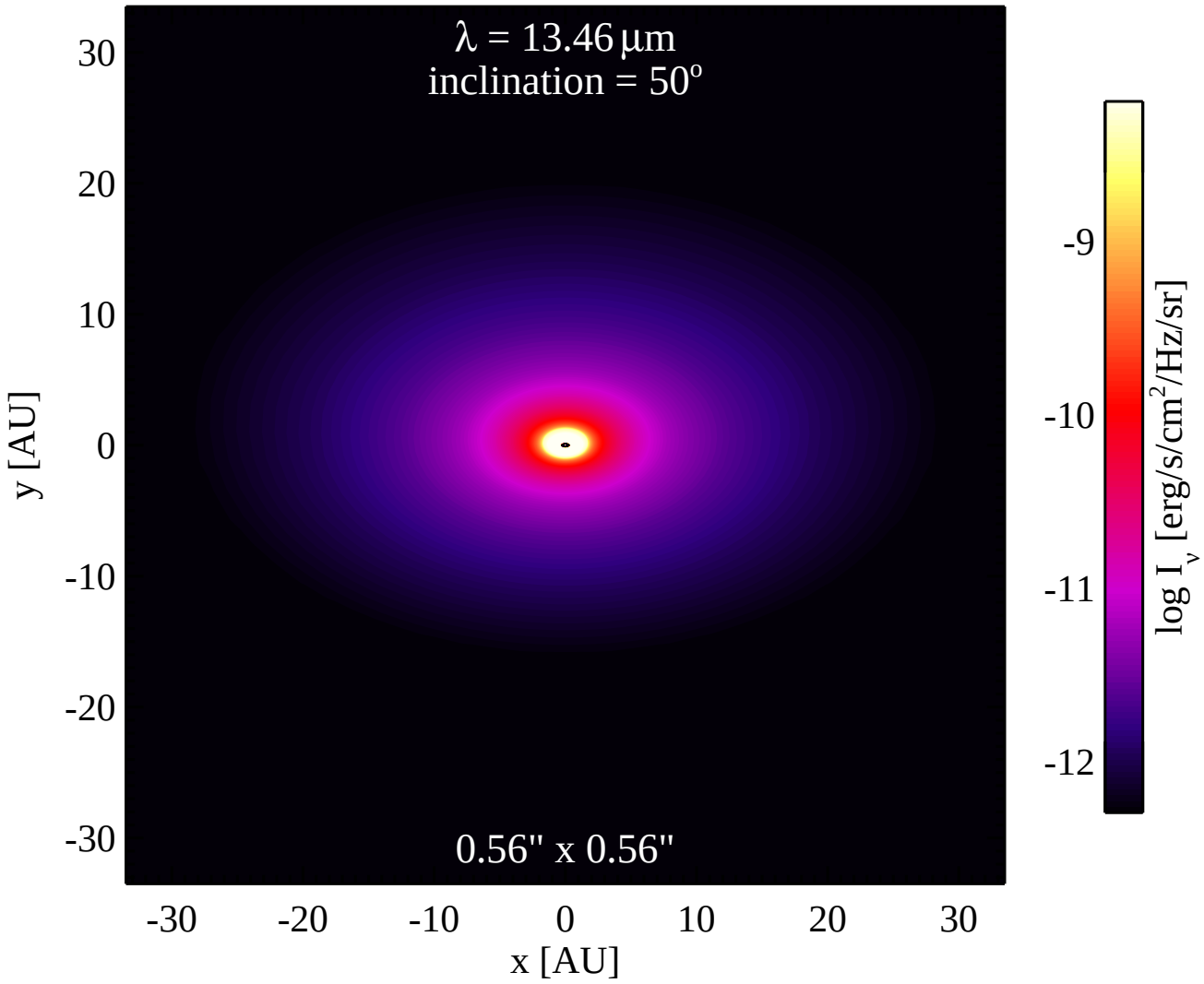

λ = 8.65 μm
inclination = 50°
0.052" x 0.052"
y [AU]
x [AU]
3
2
1
0
-1
-2
-3
-3
-2
-1
0
1
2
3
-7
-8
-9
-10
log I_ν [erg/s/cm²/Hz/sr]

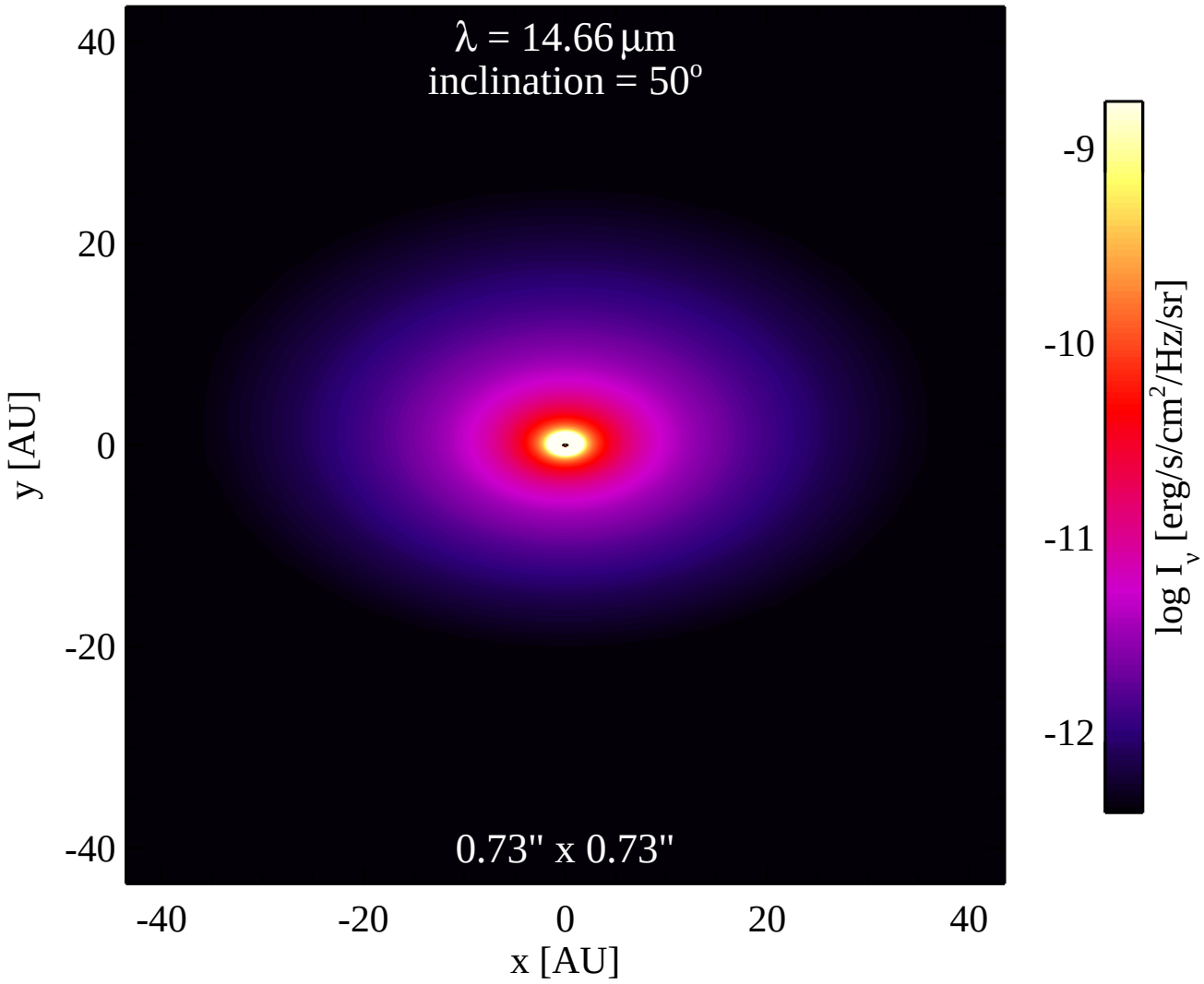

λ = 9.75 μm
inclination = 50°
0.15" x 0.15"
y [AU]
5
0
-5
x [AU]
-5
0
5
log I_ν [erg/s/cm²/Hz/sr]
-7
-8
-9
-10
-11

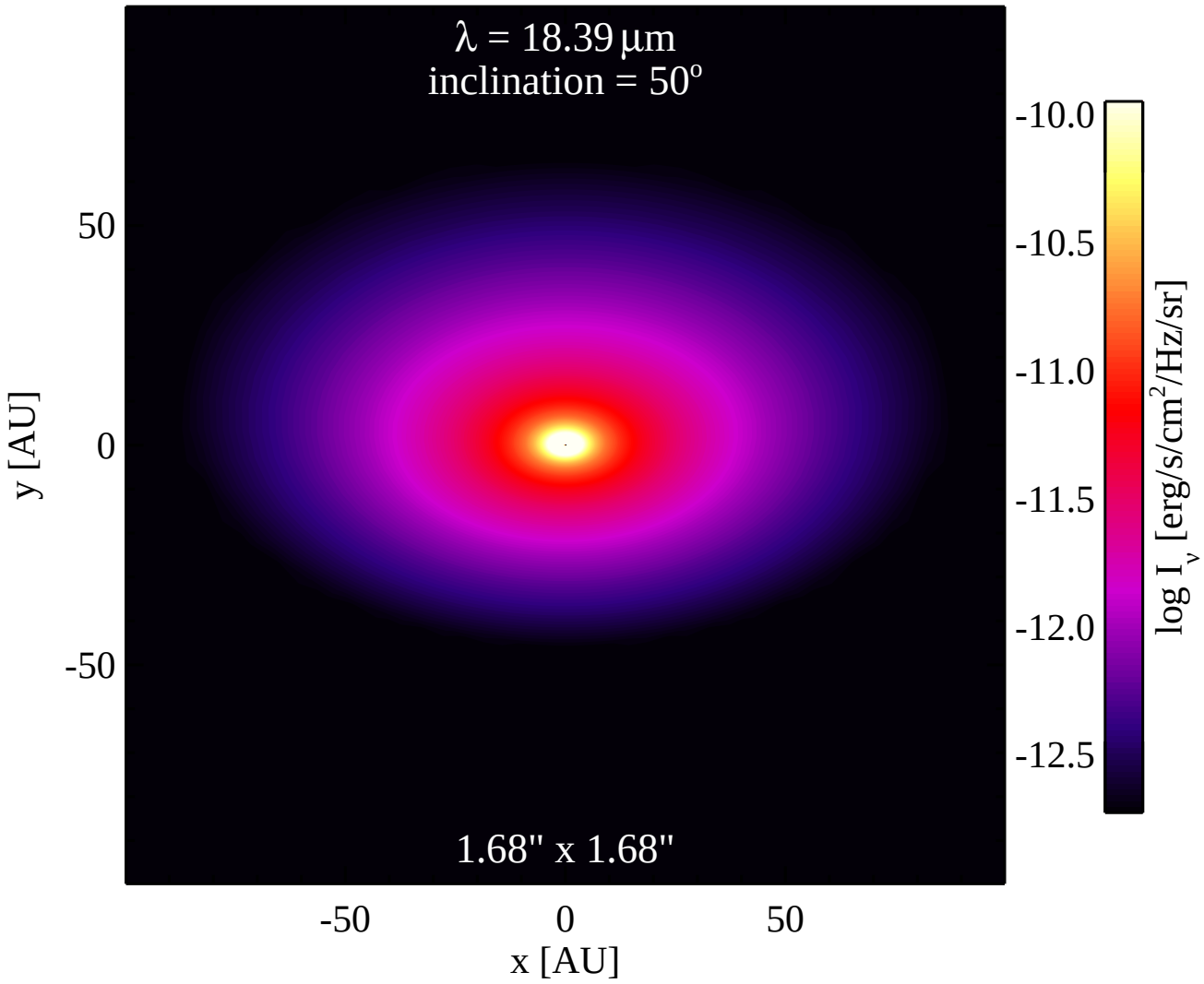

λ = 11.17 μm
inclination = 50°
0.42" x 0.42"
20
10
0
-10
-20
y [AU]
-20
-10
0
10
20
x [AU]
-8
-9
-10
-11
-12
log I_ν [erg/s/cm²/Hz/sr]

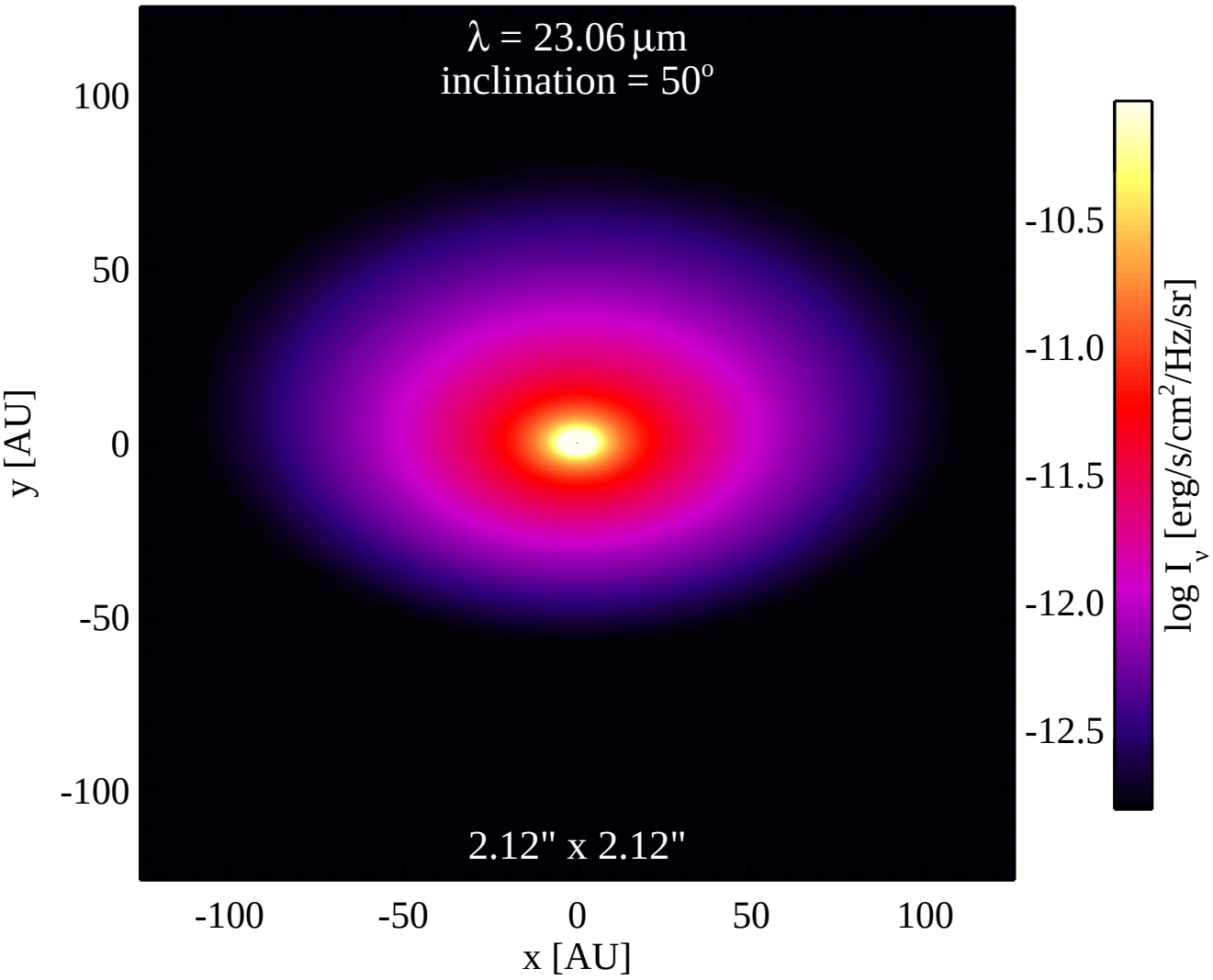

λ = 12.23 μm
inclination = 50°
0.45" x 0.45"
20
10
0
-10
-20
y [AU]
-20
-10
0
10
20
x [AU]
-9
-10
-11
-12
log I_ν [erg/s/cm²/Hz/sr]

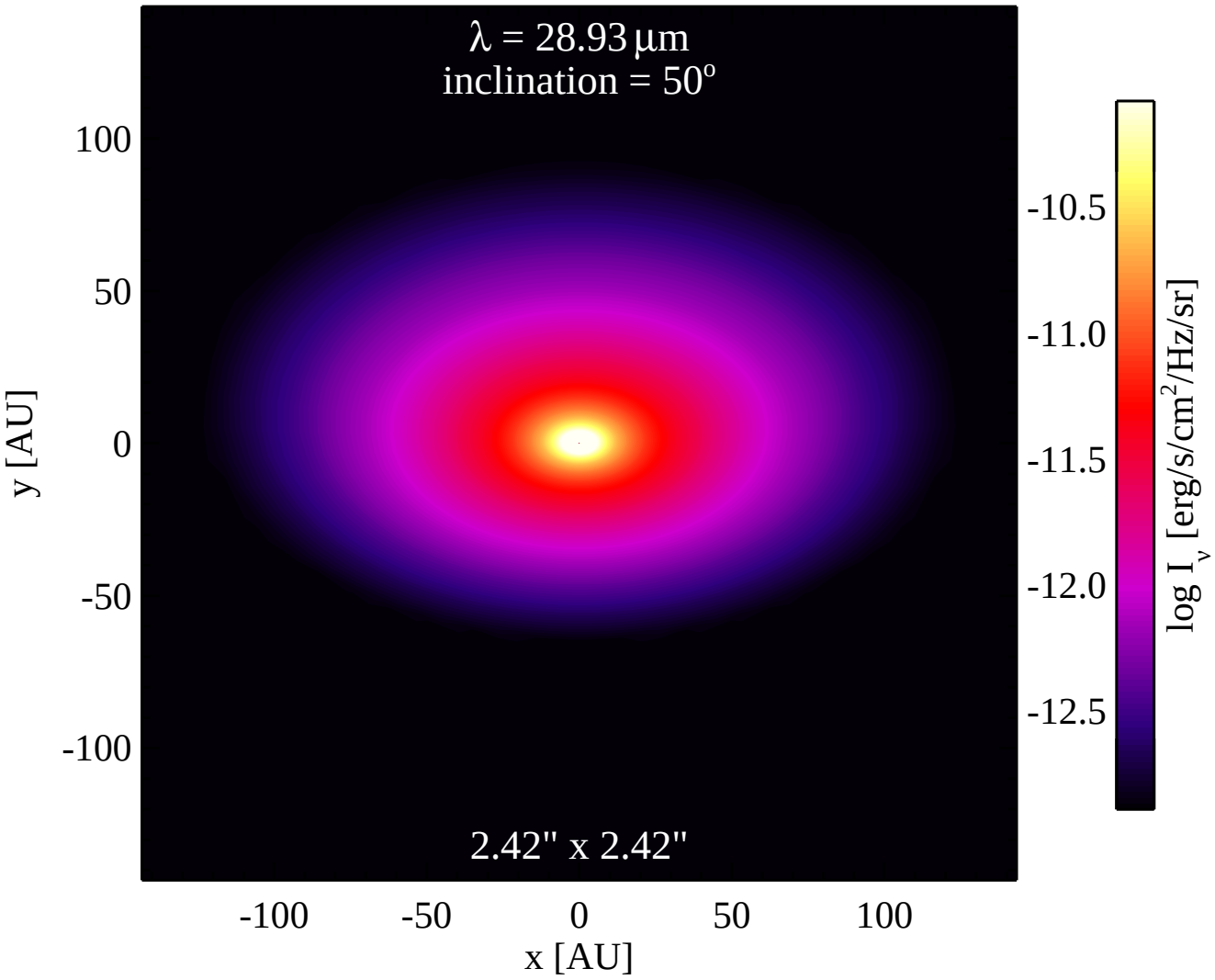

λ = 12.79 μm
inclination = 50°
0.51" x 0.51"
30
20
10
0
-10
-20
-30
y [AU]
-30
-20
-10
0
10
20
30
x [AU]
-9
-10
-11
-12
log I_ν [erg/s/cm²/Hz/sr]

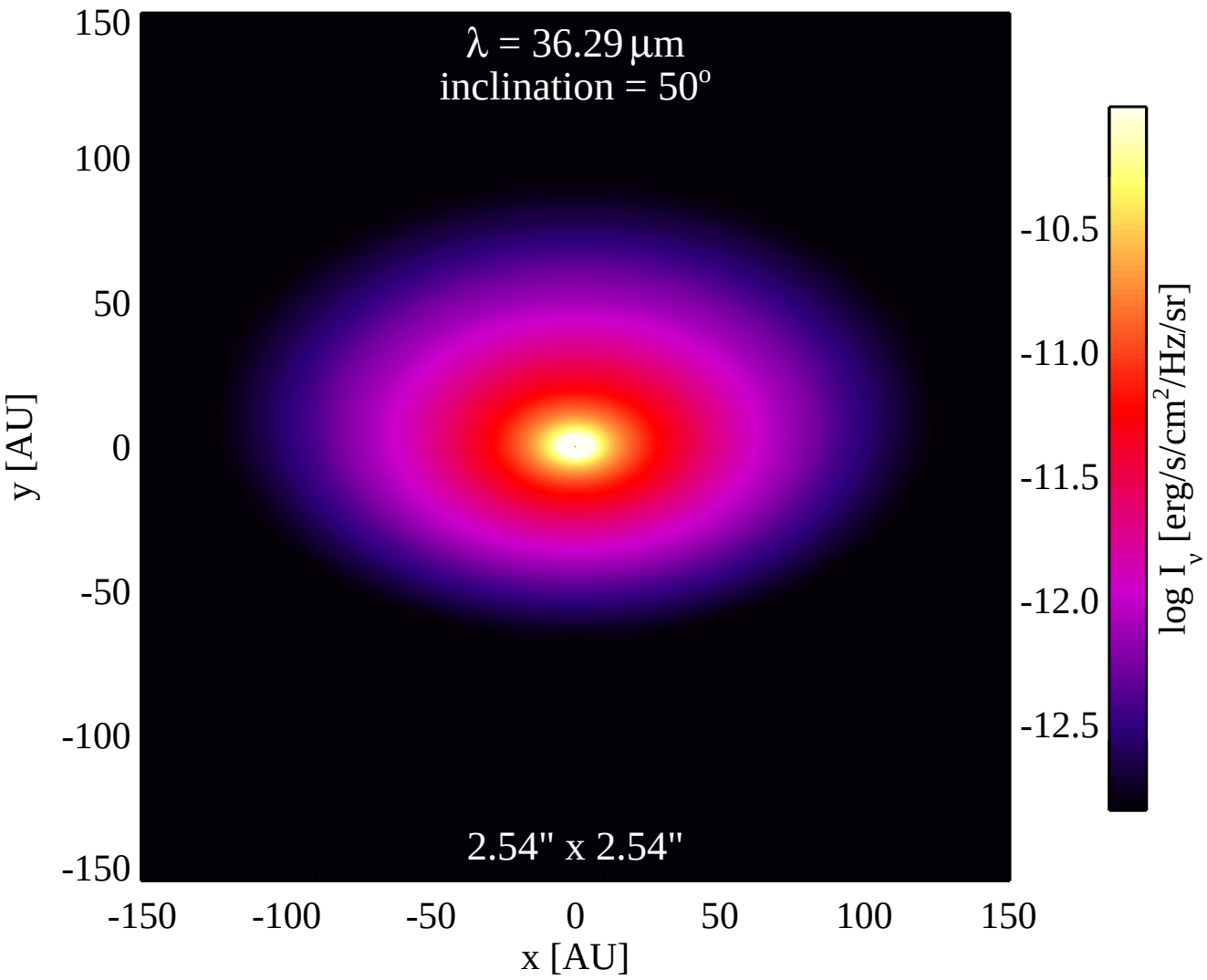

λ = 13.46 μm
inclination = 50°
0.56" x 0.56"
30
20
10
0
-10
-20
-30
y [AU]
-30
-20
-10
0
10
20
30
x [AU]
-9
-10
-11
-12
log I_ν [erg/s/cm²/Hz/sr]

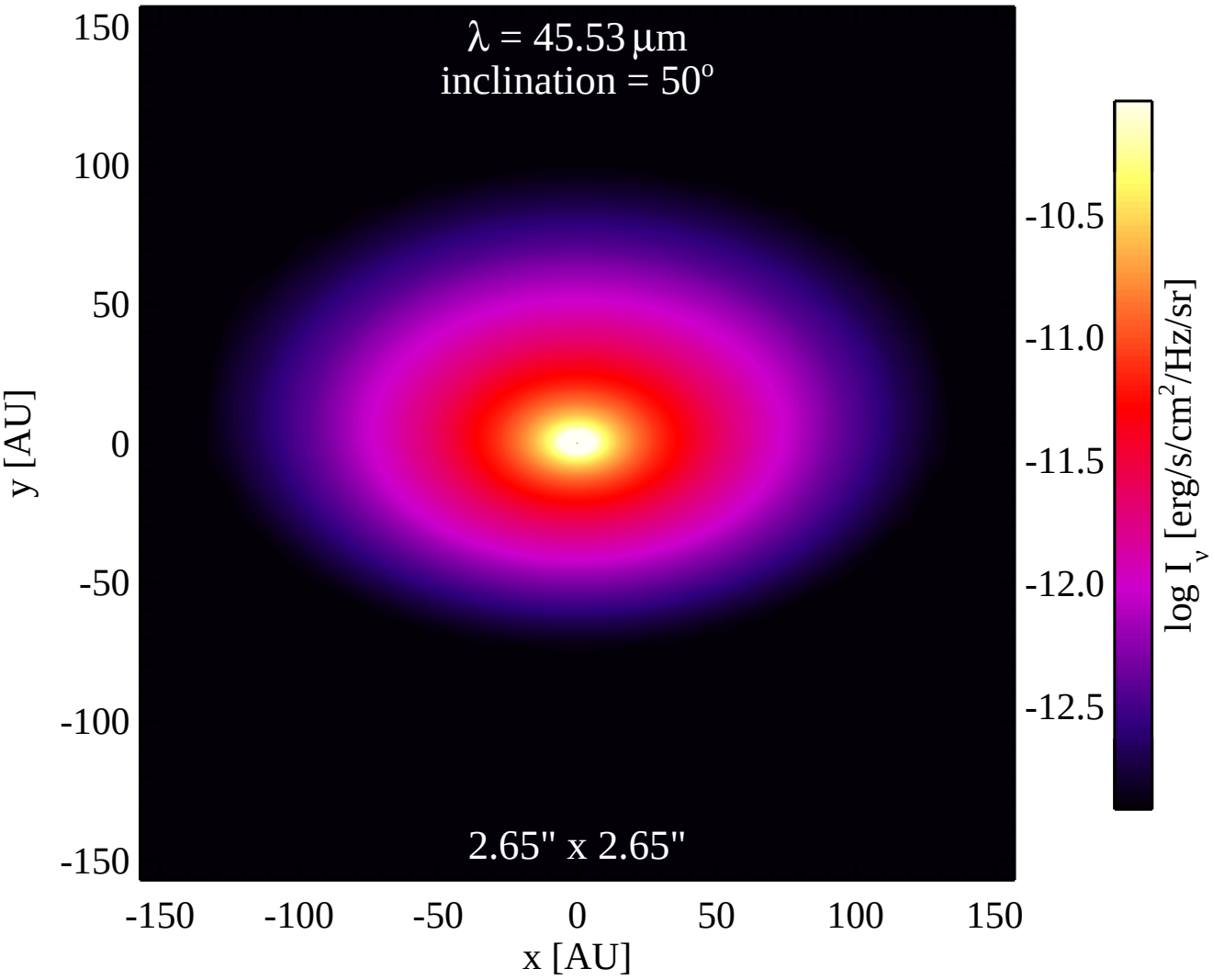

λ = 14.66 μm
inclination = 50°
0.73" x 0.73"
40
20
0
-20
-40
y [AU]
-40
-20
0
20
40
x [AU]
-9
-10
-11
-12
log I_ν [erg/s/cm²/Hz/sr]

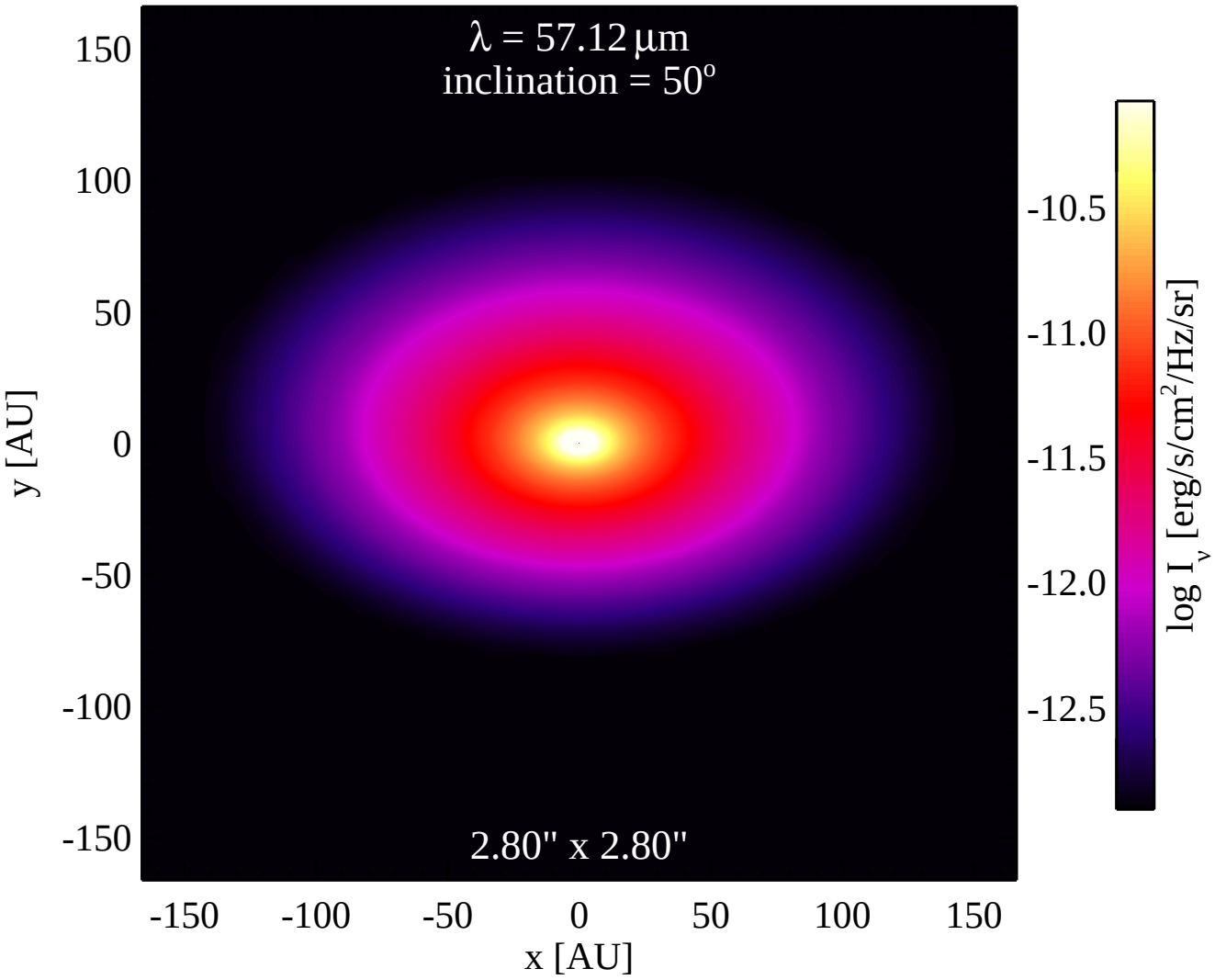

λ = 18.39 μm
inclination = 50°
1.68" x 1.68"
50
0
-50
y [AU]
-50
0
50
x [AU]
-10.0
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

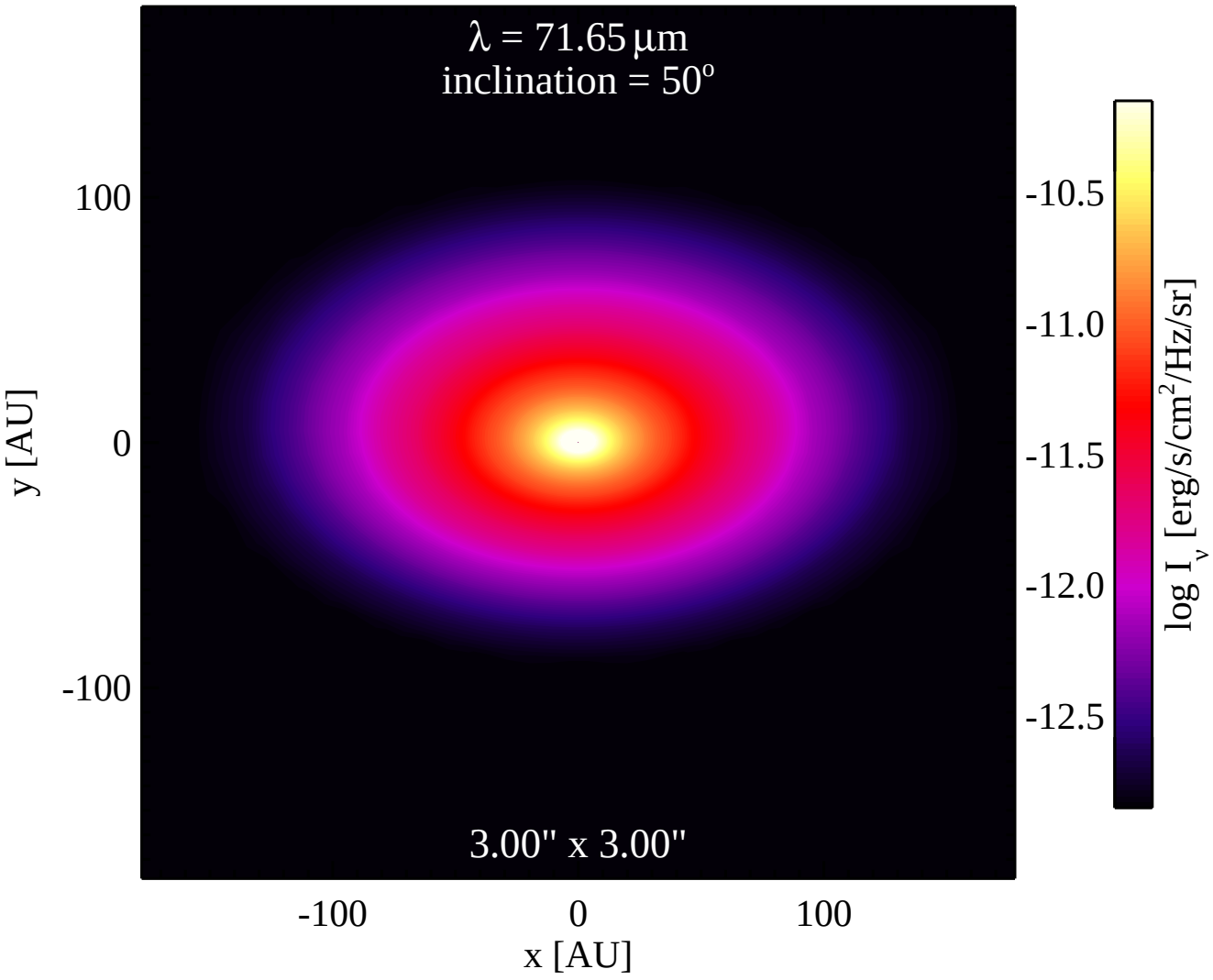

λ = 23.06 μm
inclination = 50°
2.12" x 2.12"
100
50
0
-50
-100
y [AU]
-100
-50
0
50
100
x [AU]
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

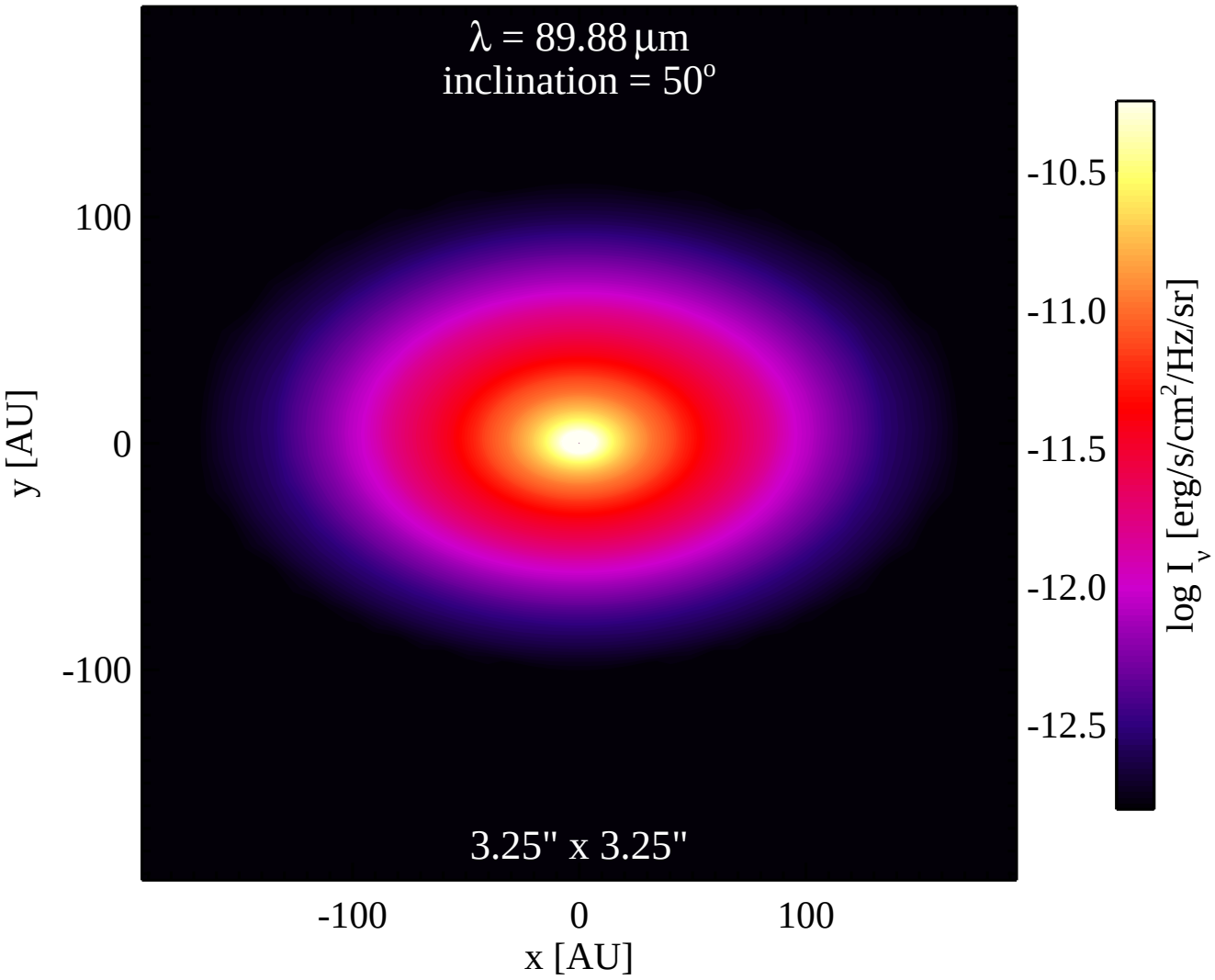

λ = 28.93 μm
inclination = 50°
2.42" x 2.42"
100
50
0
-50
-100
y [AU]
-100
-50
0
50
100
x [AU]
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

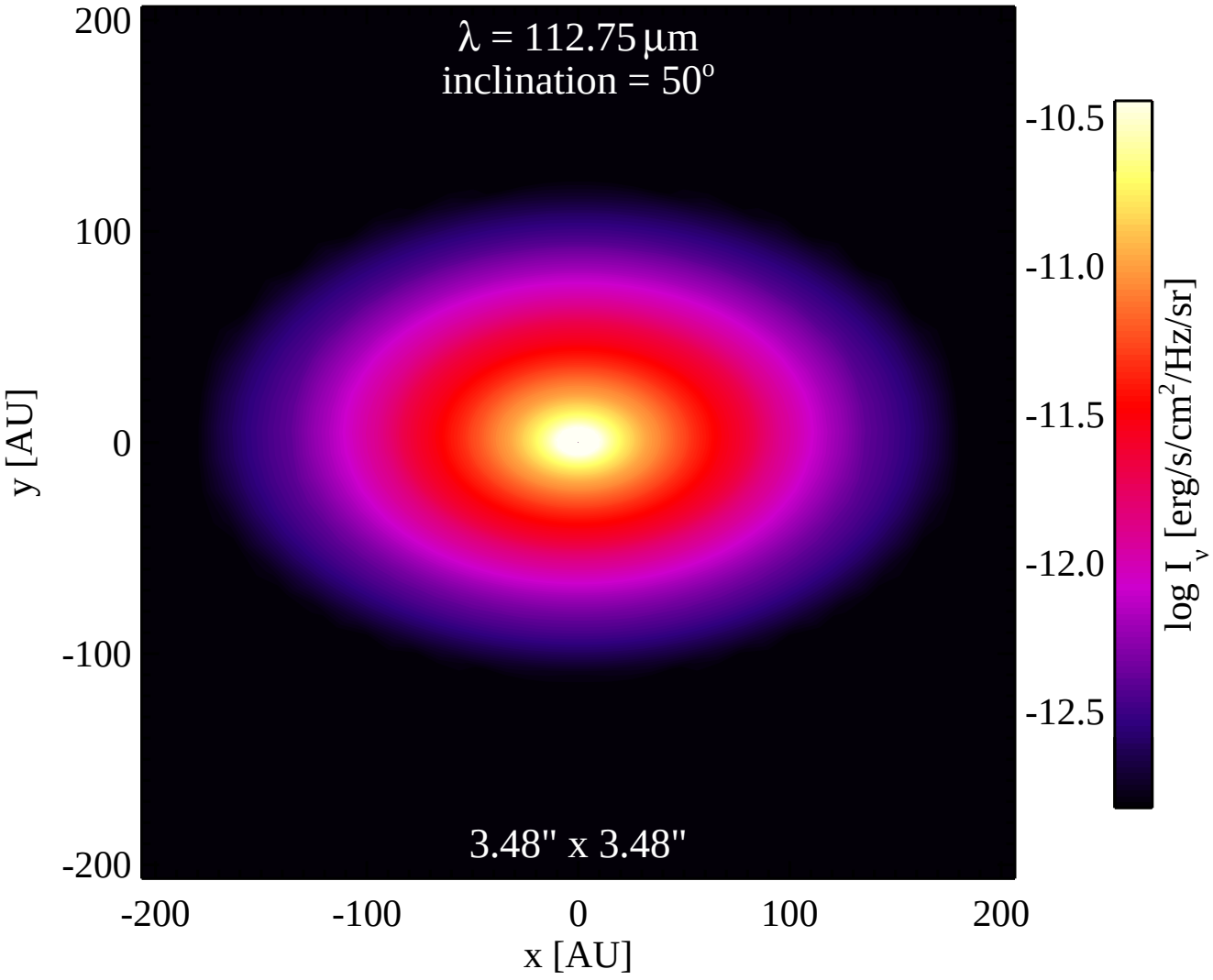

λ = 36.29 μm
inclination = 50°
2.54" x 2.54"
150
100
50
0
-50
-100
-150
y [AU]
-150
-100
-50
0
50
100
150
x [AU]
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

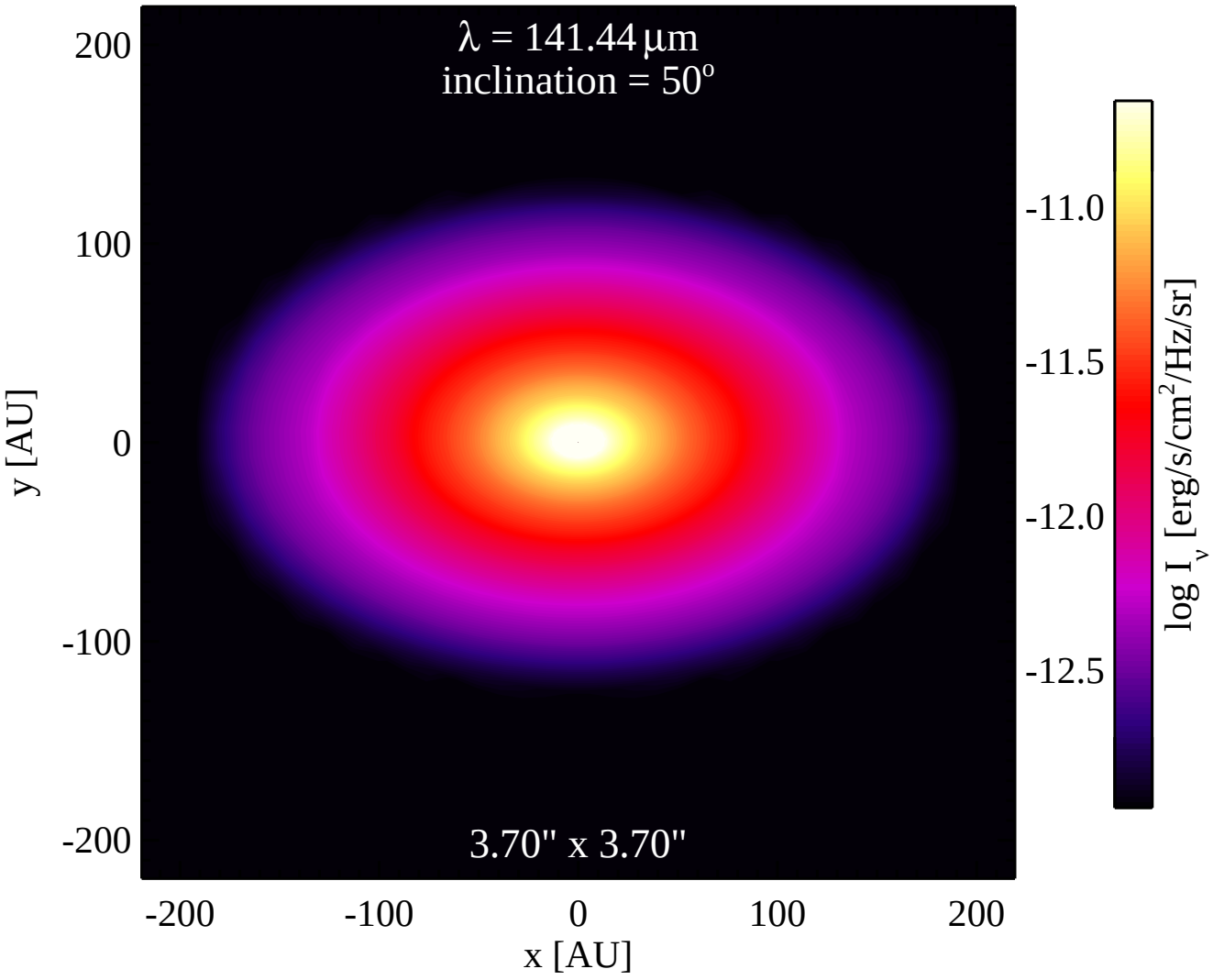

λ = 45.53 μm
inclination = 50°
2.65" x 2.65"
150
100
50
0
-50
-100
-150
y [AU]
-150
-100
-50
0
50
100
150
x [AU]
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

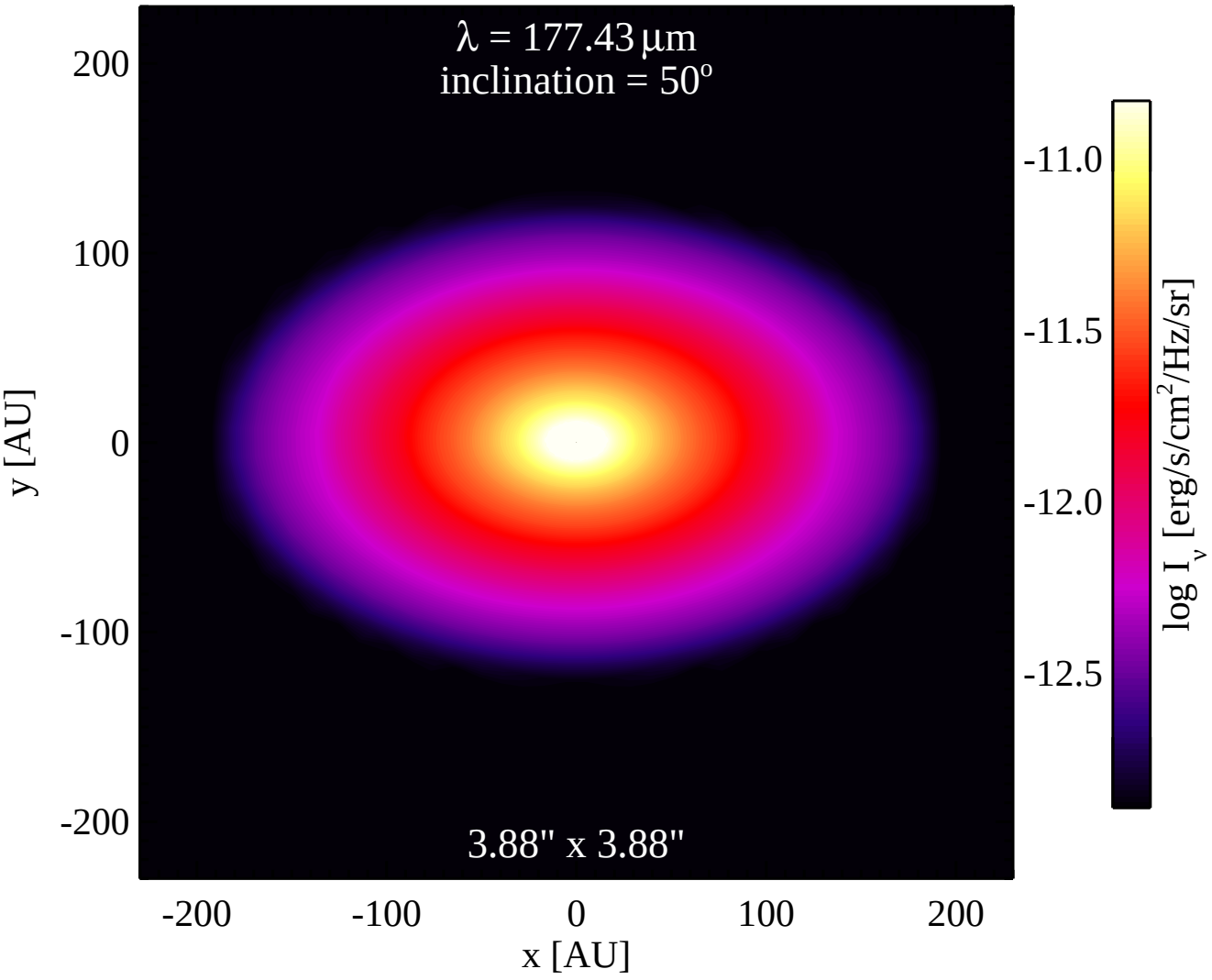

λ = 57.12 μm
inclination = 50°
2.80" x 2.80"
150
100
50
0
-50
-100
-150
y [AU]
-150
-100
-50
0
50
100
150
x [AU]
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

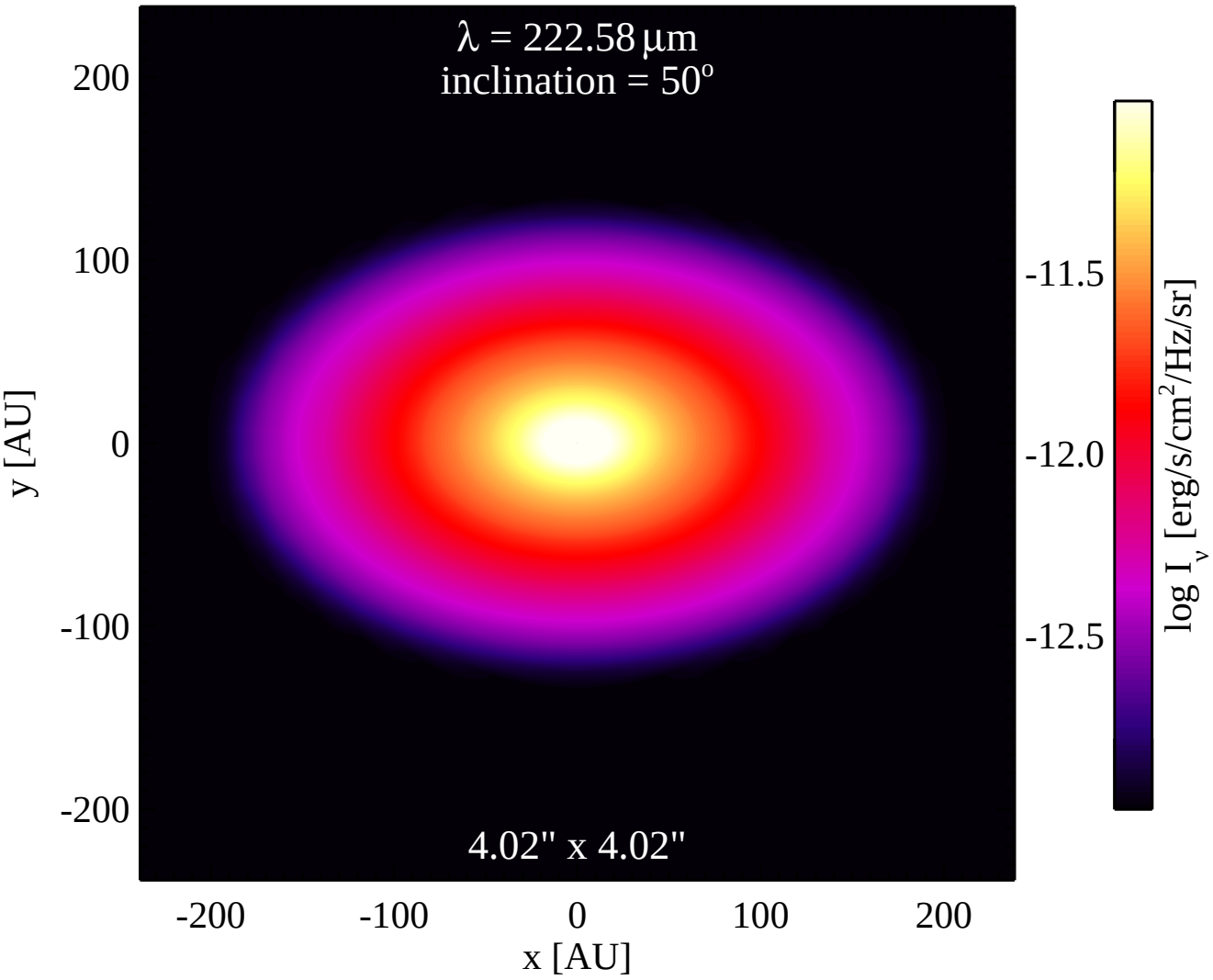

λ = 71.65 μm
inclination = 50°
3.00" x 3.00"
100
0
-100
y [AU]
-100
0
100
x [AU]
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

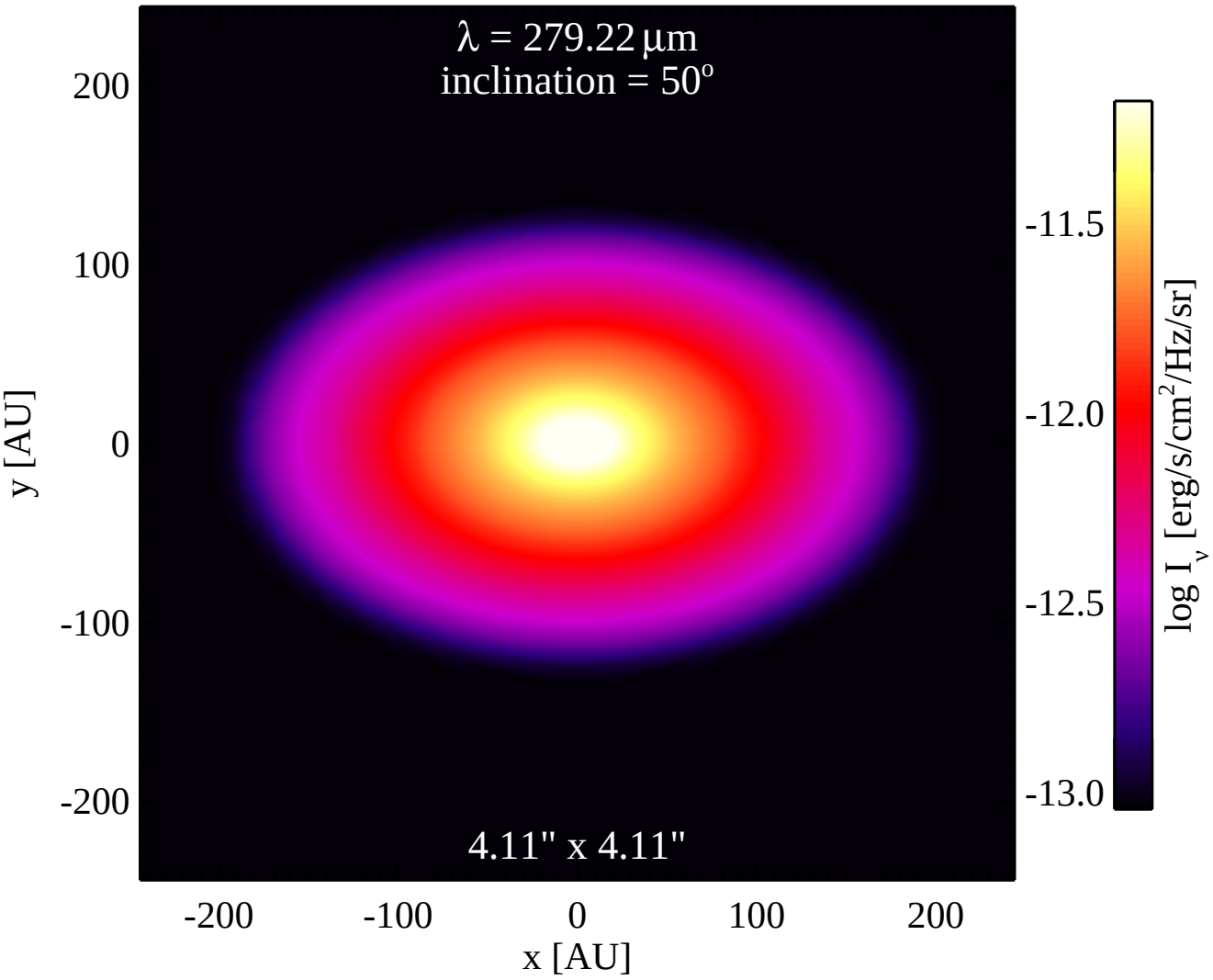

λ = 89.88 μm
inclination = 50°
3.25" x 3.25"
100
0
-100
y [AU]
-100
0
100
x [AU]
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

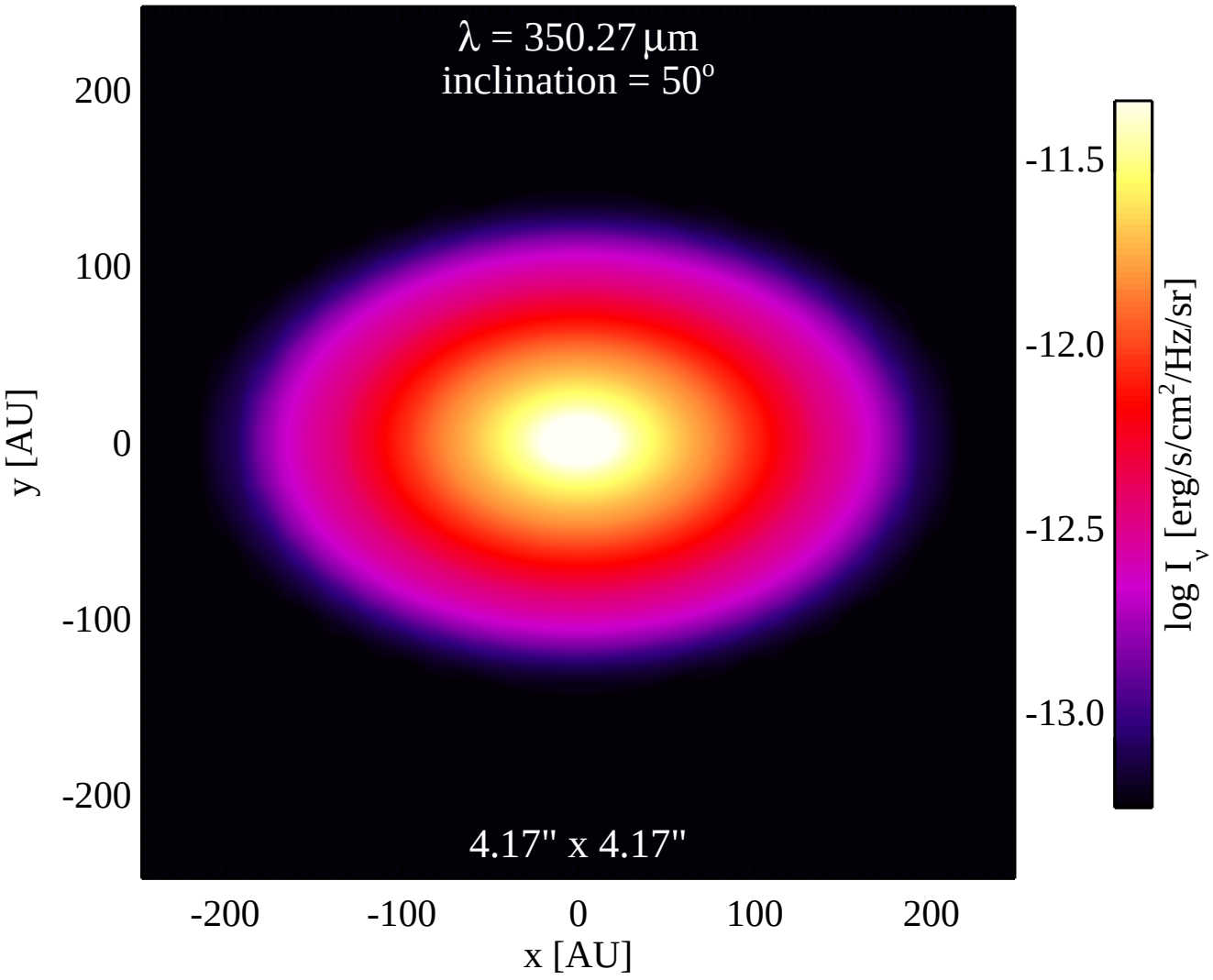

λ = 112.75 μm
inclination = 50°
3.48" x 3.48"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

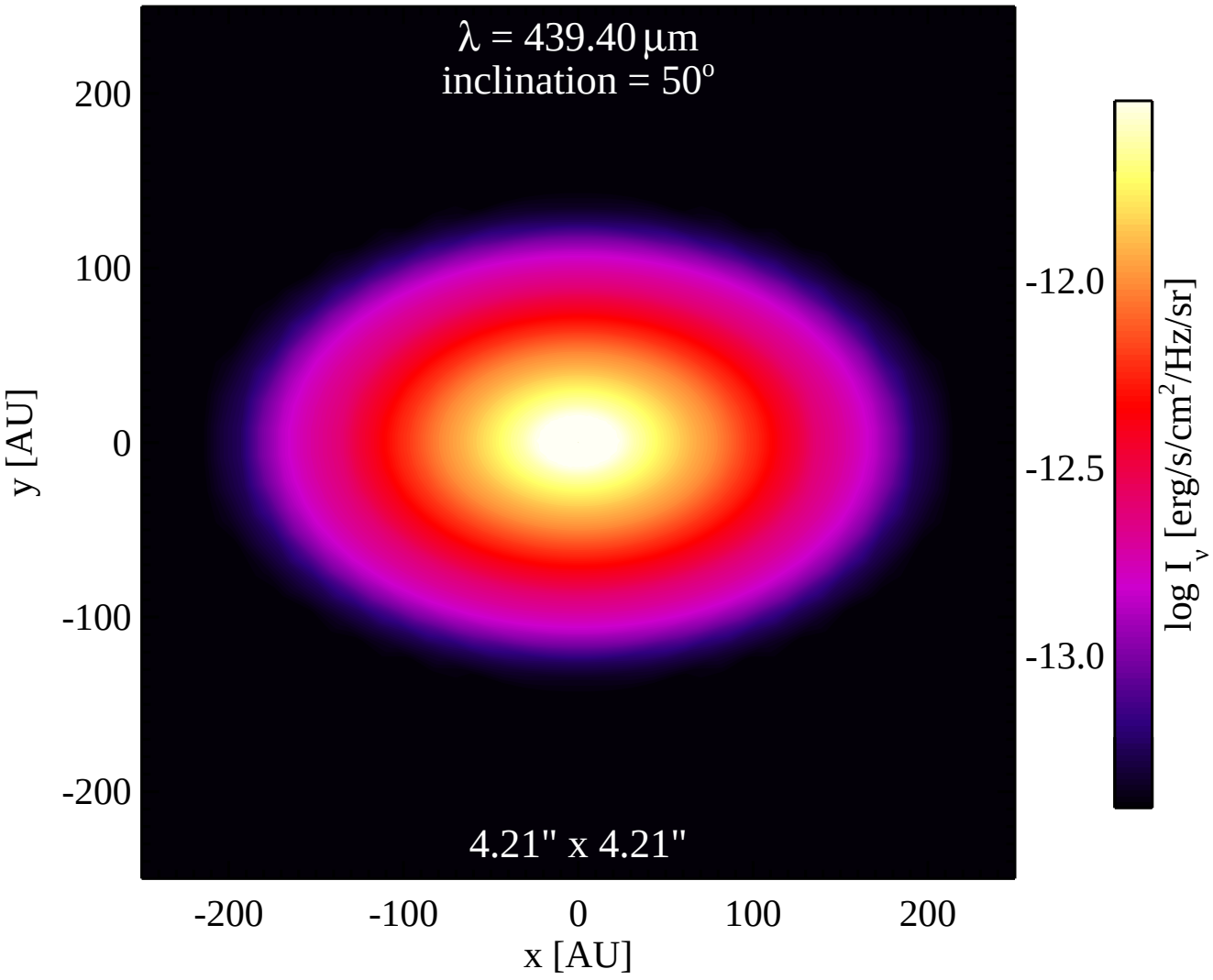

λ = 141.44 μm
inclination = 50°
3.70" x 3.70"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

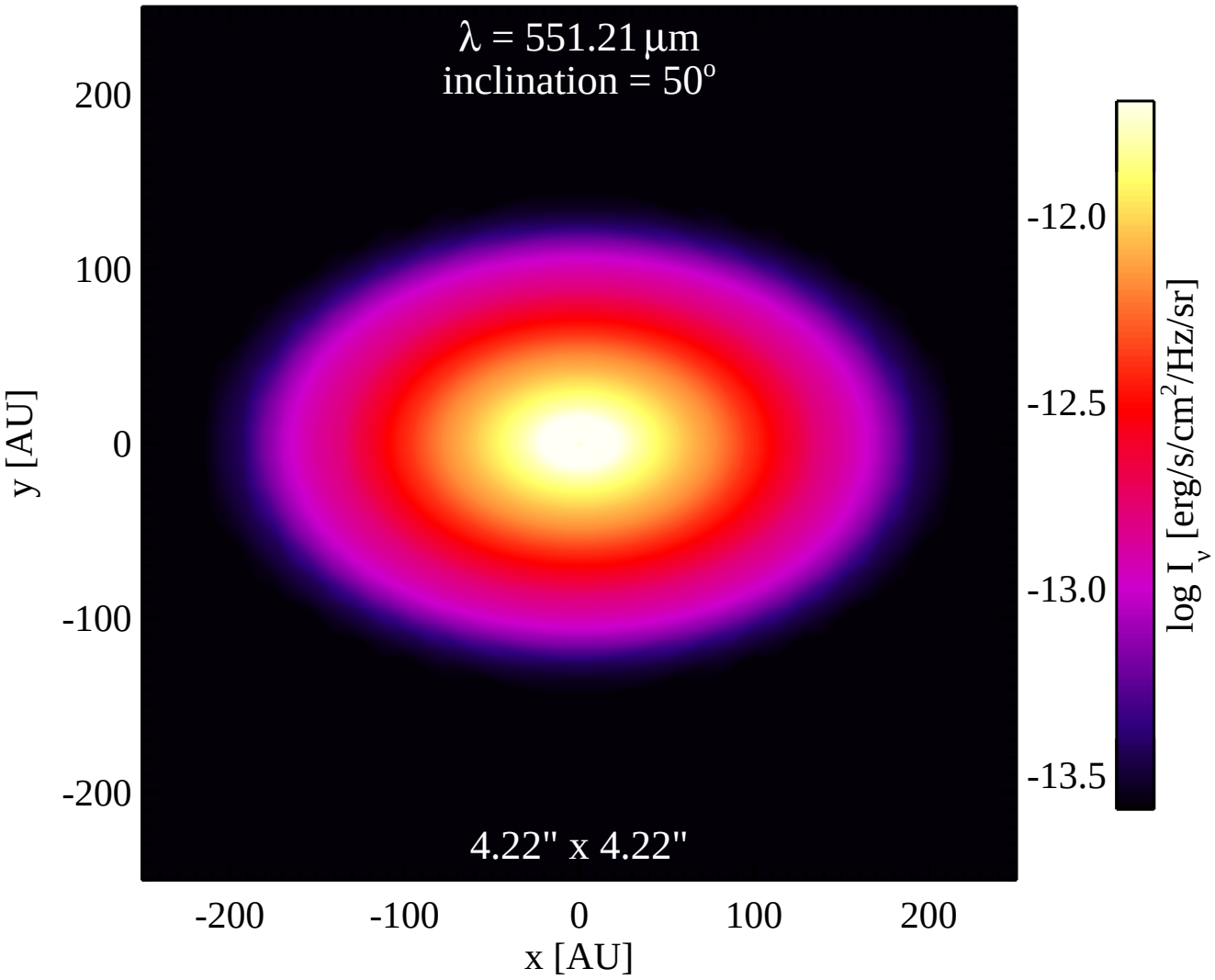

λ = 177.43 μm
inclination = 50°
3.88" x 3.88"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

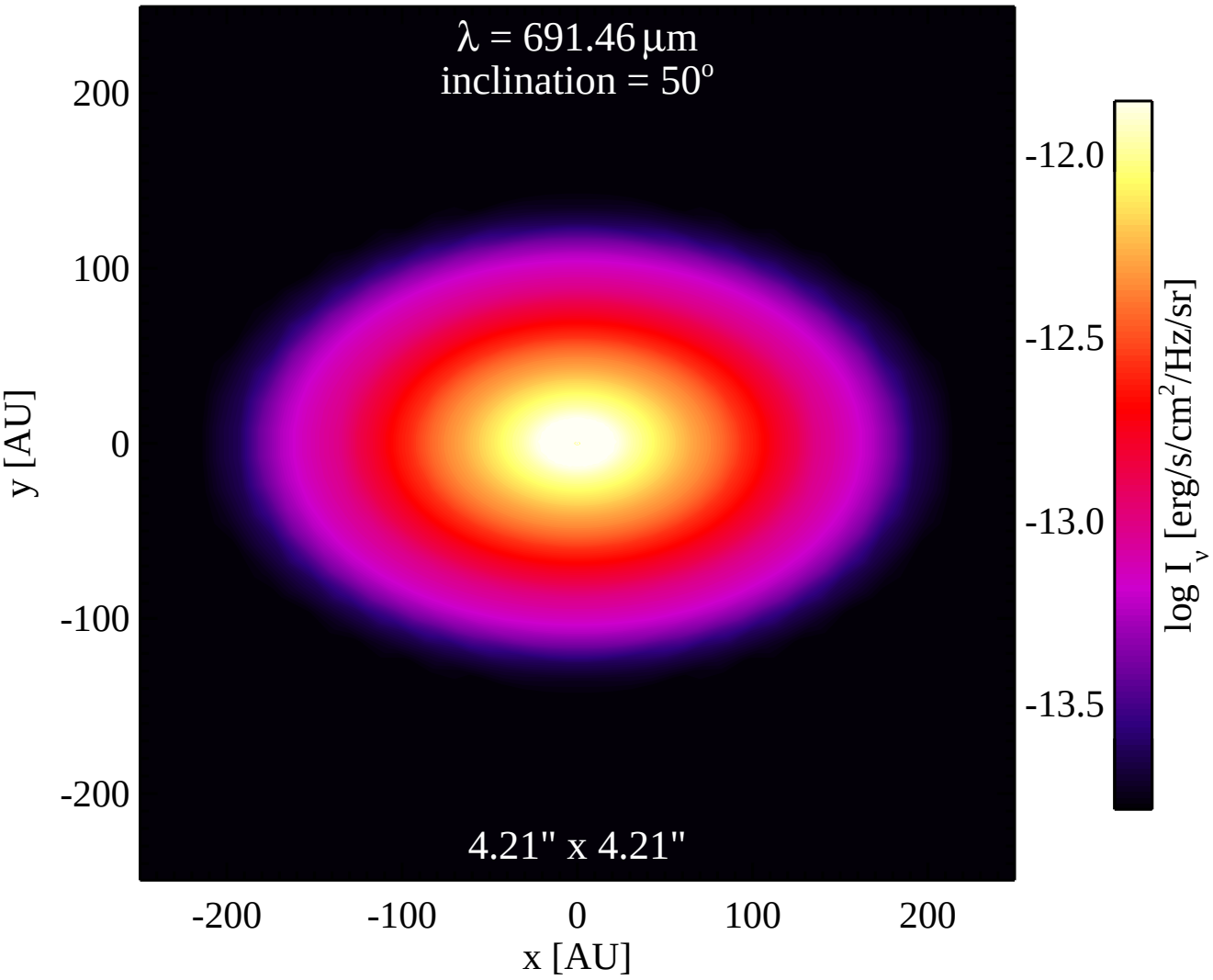

λ = 222.58 μm
inclination = 50°
4.02" x 4.02"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

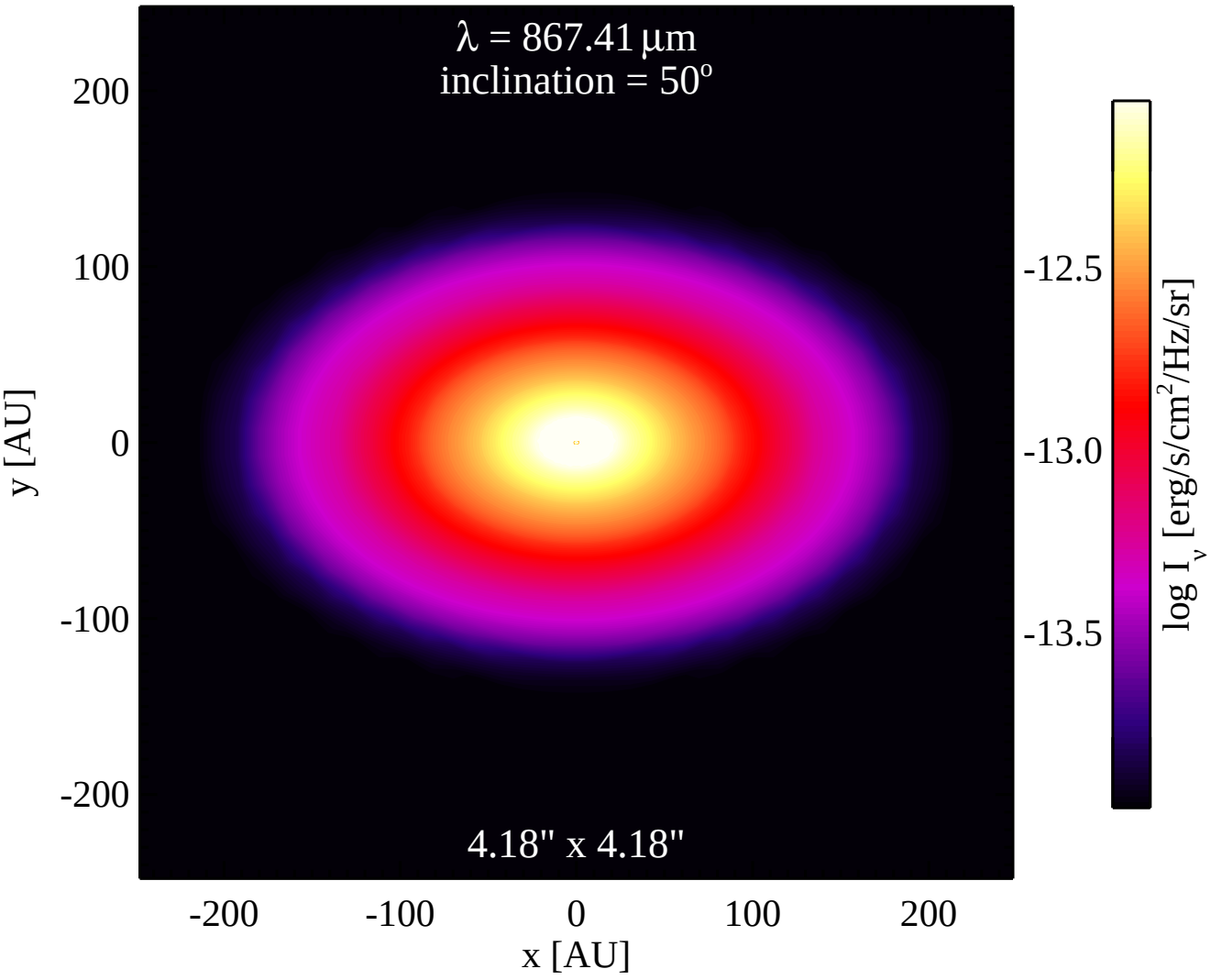

λ = 279.22 μm
inclination = 50°
4.11" x 4.11"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-11.5
-12.0
-12.5
-13.0
log I_ν [erg/s/cm²/Hz/sr]

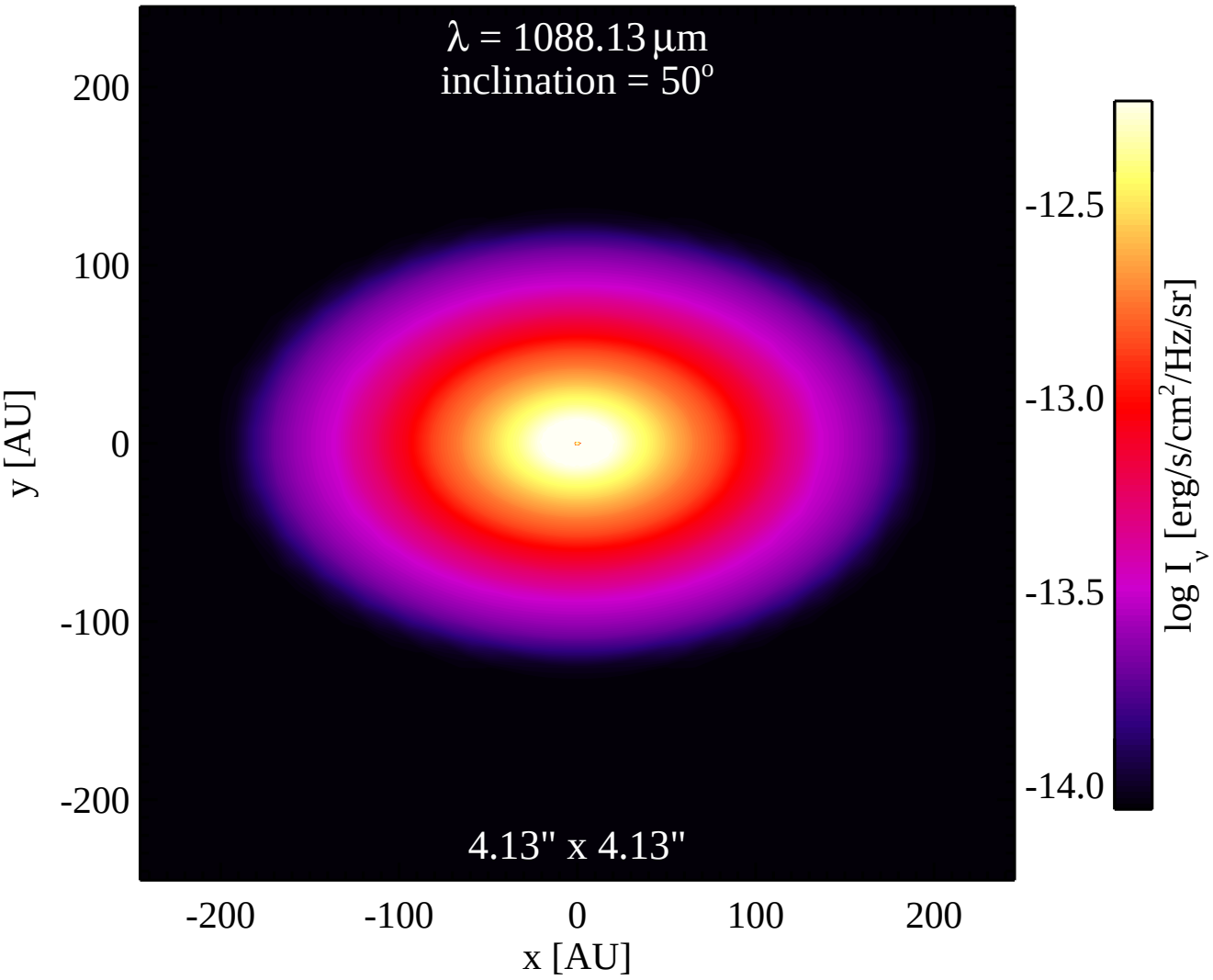

λ = 350.27 μm
inclination = 50°
4.17" x 4.17"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-11.5
-12.0
-12.5
-13.0
log I_ν [erg/s/cm²/Hz/sr]

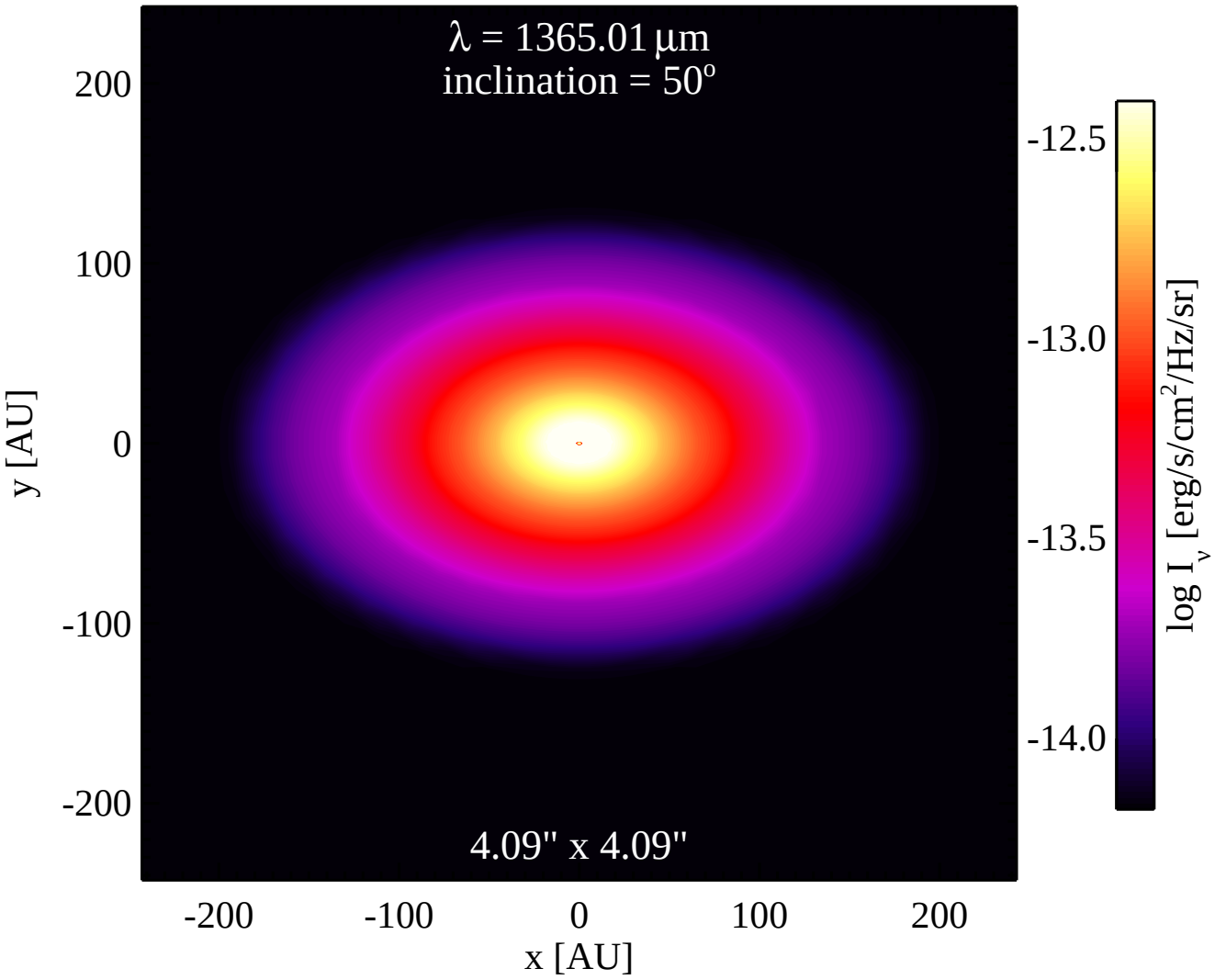

λ = 439.40 μm
inclination = 50°
4.21" x 4.21"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-12.0
-12.5
-13.0
log I_ν [erg/s/cm²/Hz/sr]

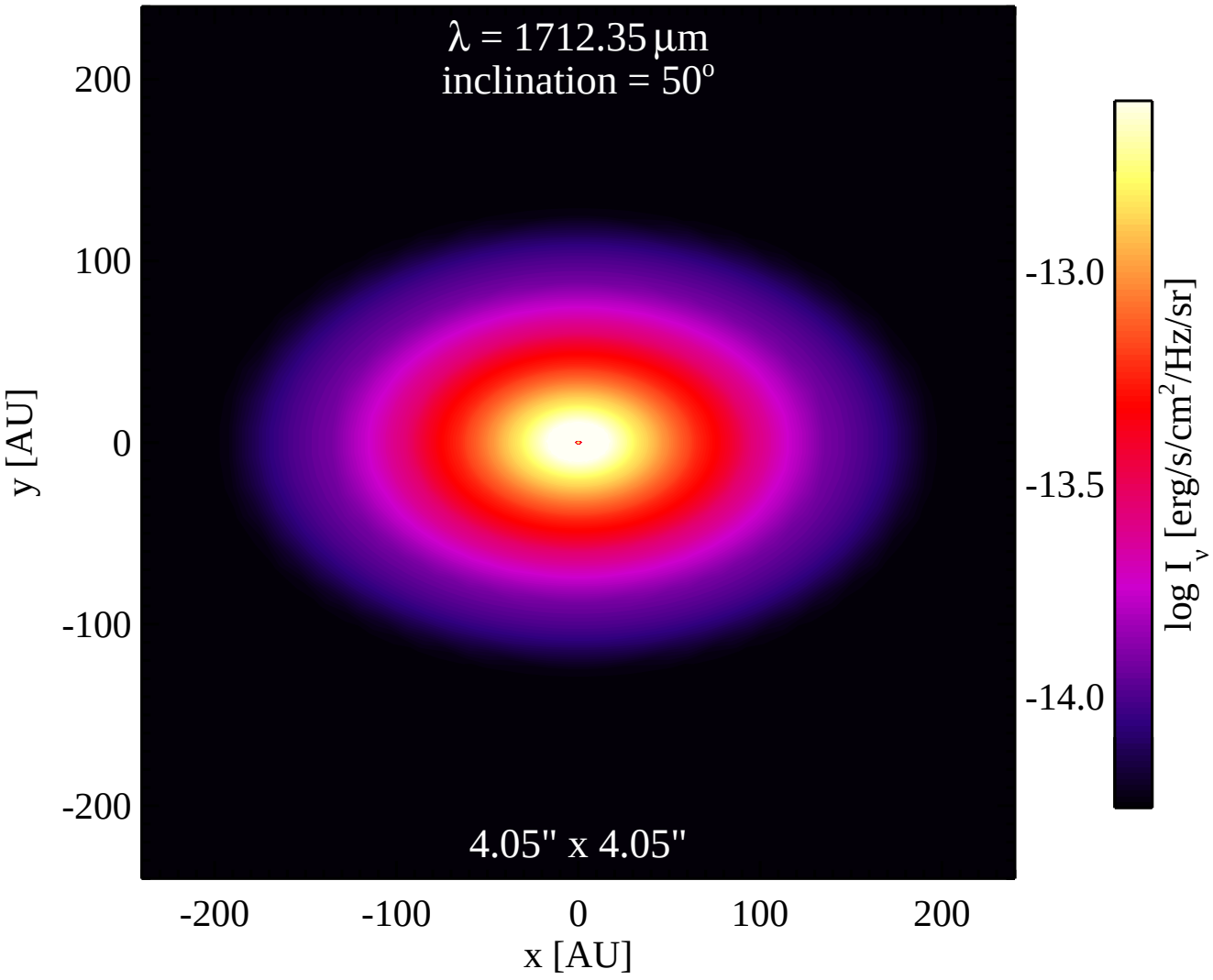

λ = 551.21 μm
inclination = 50°
4.22" x 4.22"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-12.0
-12.5
-13.0
-13.5
log I_ν [erg/s/cm²/Hz/sr]

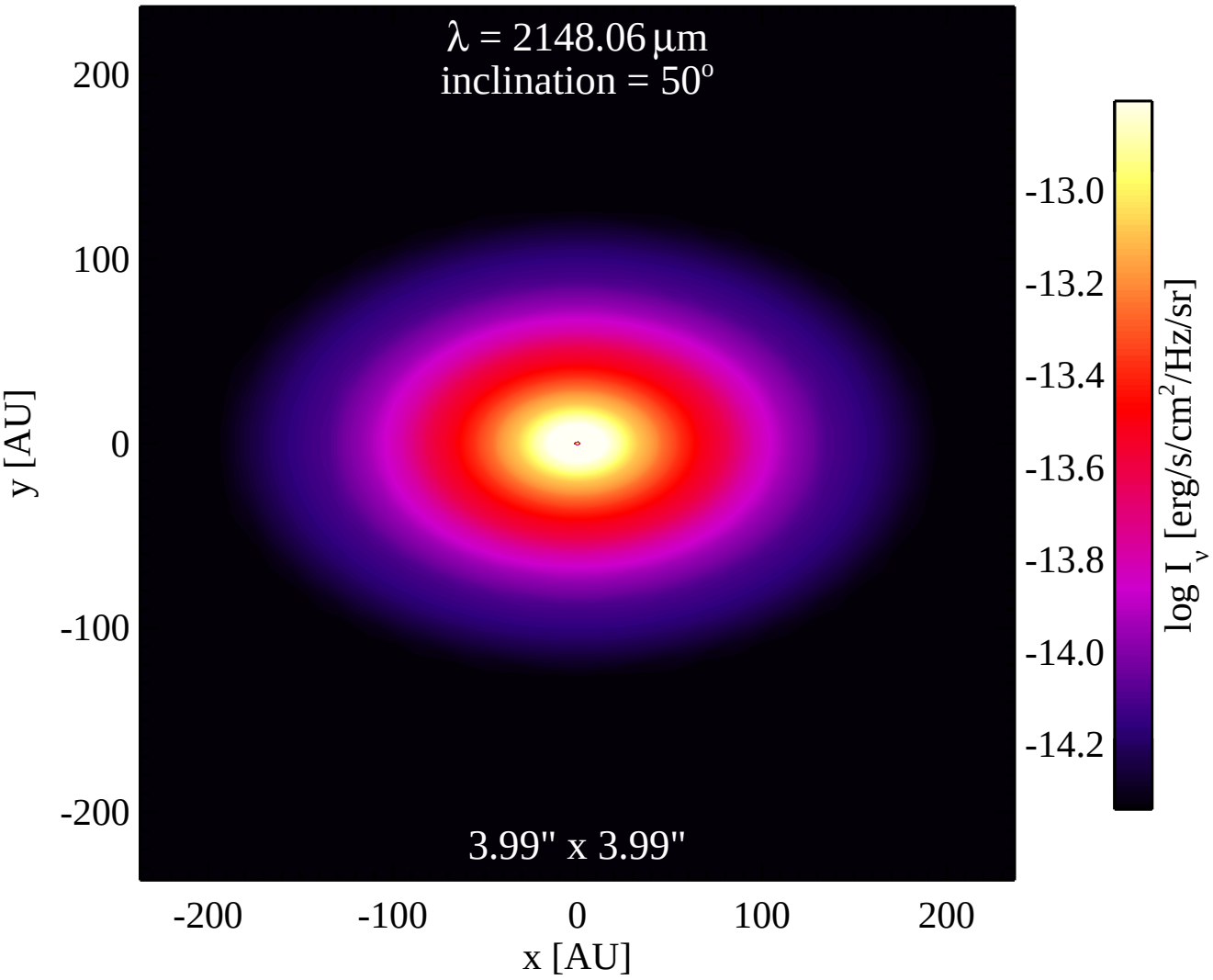

λ = 691.46 μm
inclination = 50°
4.21" x 4.21"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-12.0
-12.5
-13.0
-13.5
log I_ν [erg/s/cm²/Hz/sr]

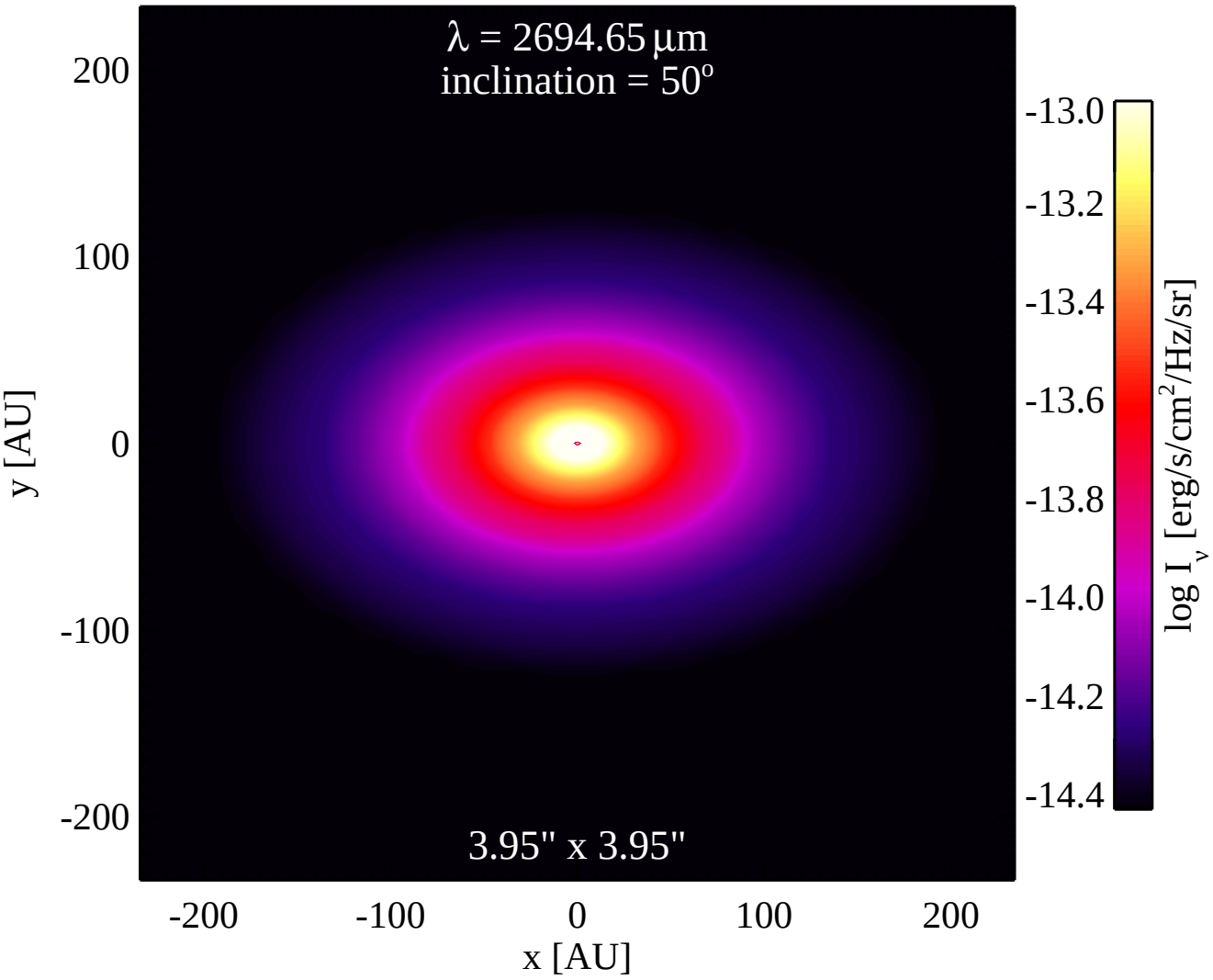

λ = 867.41 μm
inclination = 50°
4.18" x 4.18"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-12.5
-13.0
-13.5
log I_ν [erg/s/cm²/Hz/sr]

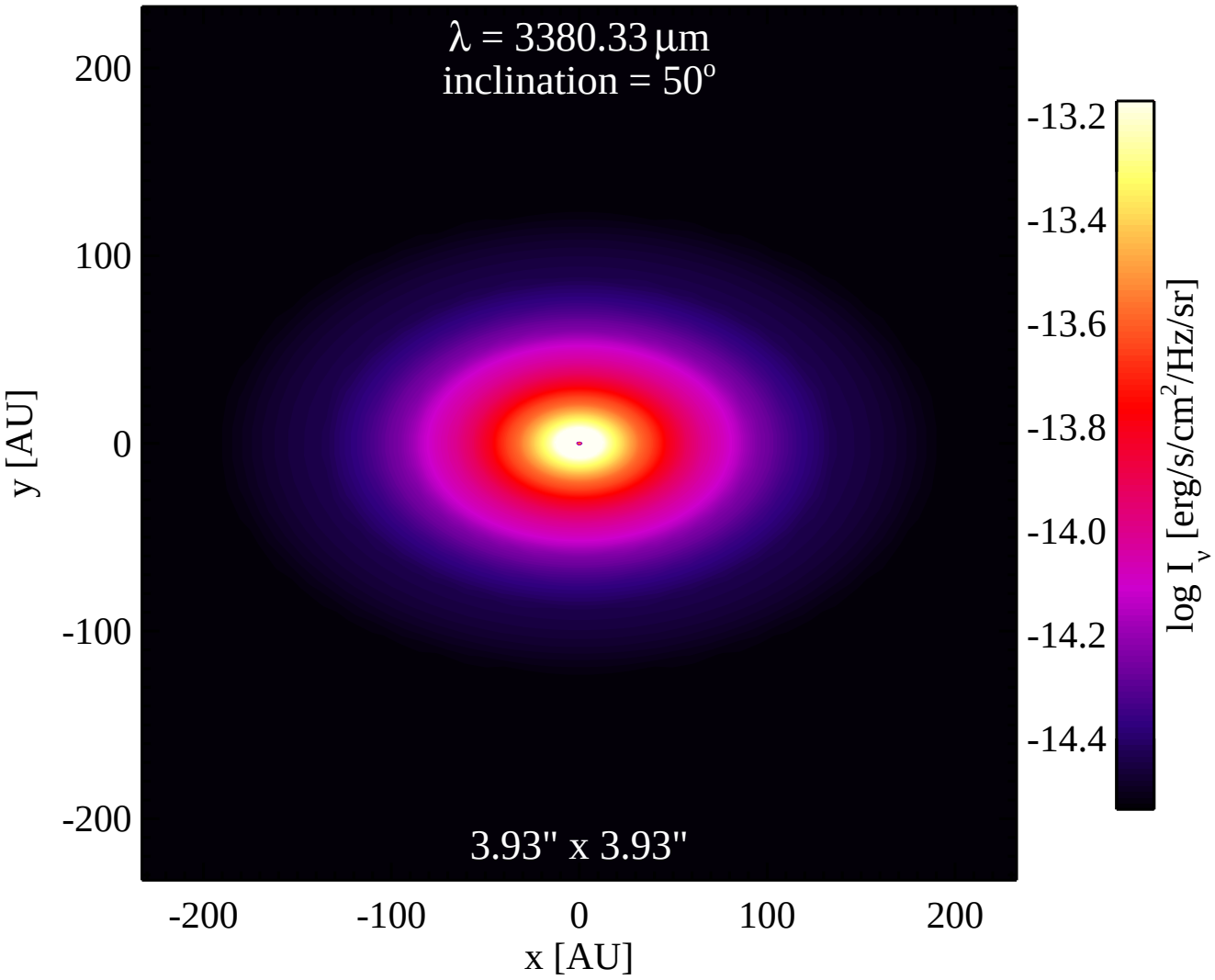

λ = 1088.13 μm
inclination = 50°
4.13" x 4.13"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-12.5
-13.0
-13.5
-14.0
log I_ν [erg/s/cm²/Hz/sr]

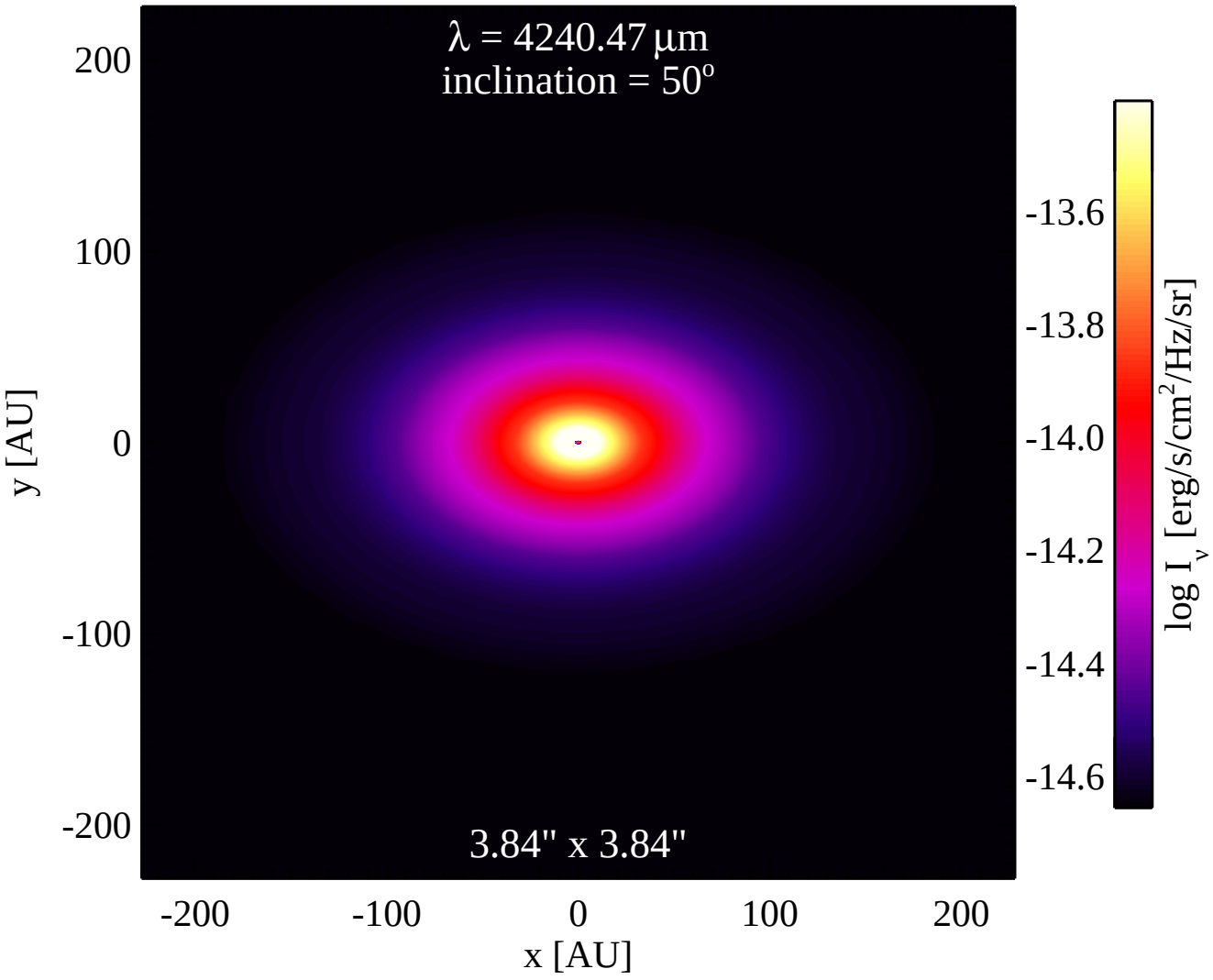

λ = 1365.01 μm
inclination = 50°
4.09" x 4.09"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-12.5
-13.0
-13.5
-14.0
log I_ν [erg/s/cm²/Hz/sr]

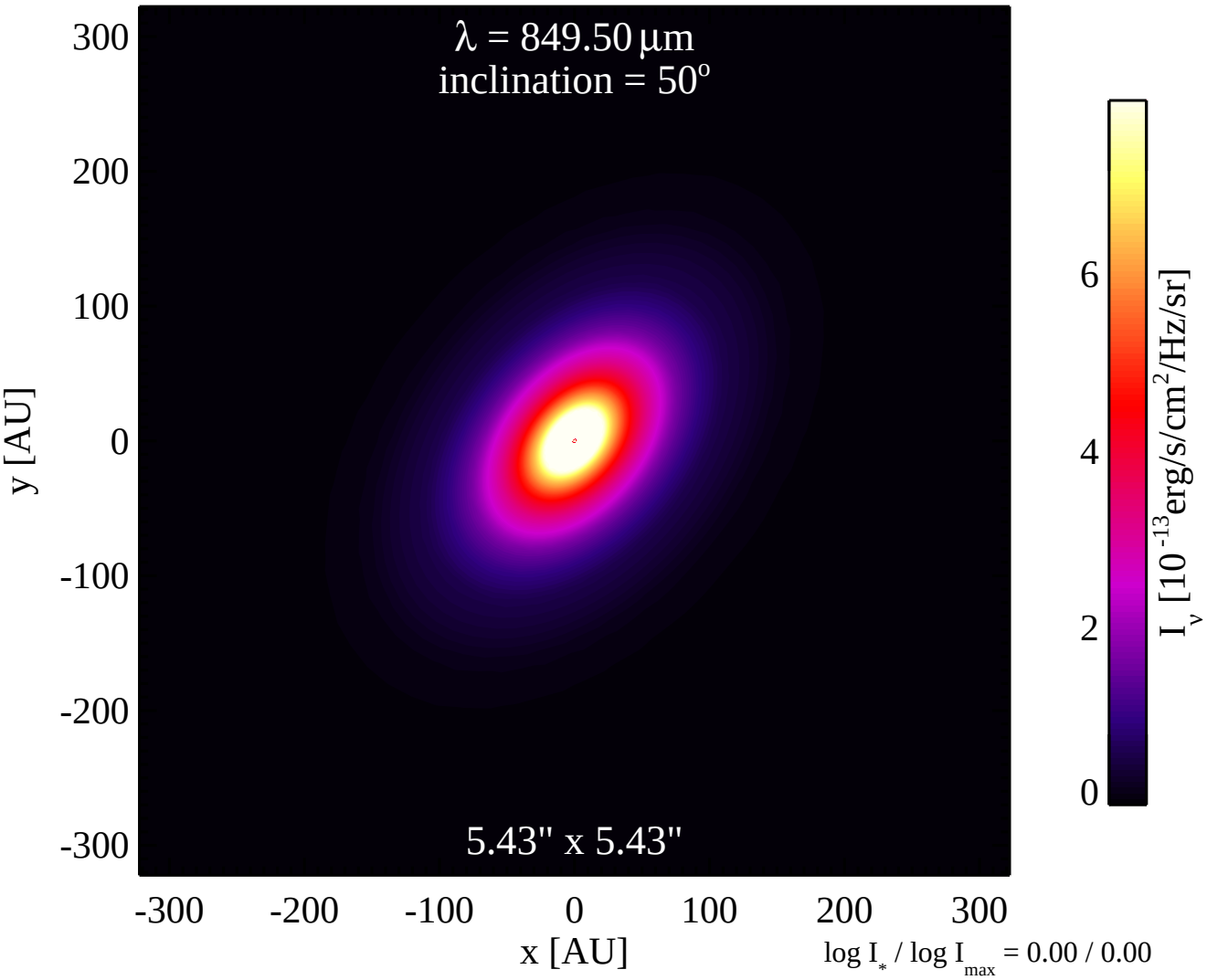

λ = 1712.35 μm
inclination = 50°
4.05" x 4.05"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-13.0
-13.5
-14.0
log I_ν [erg/s/cm²/Hz/sr]

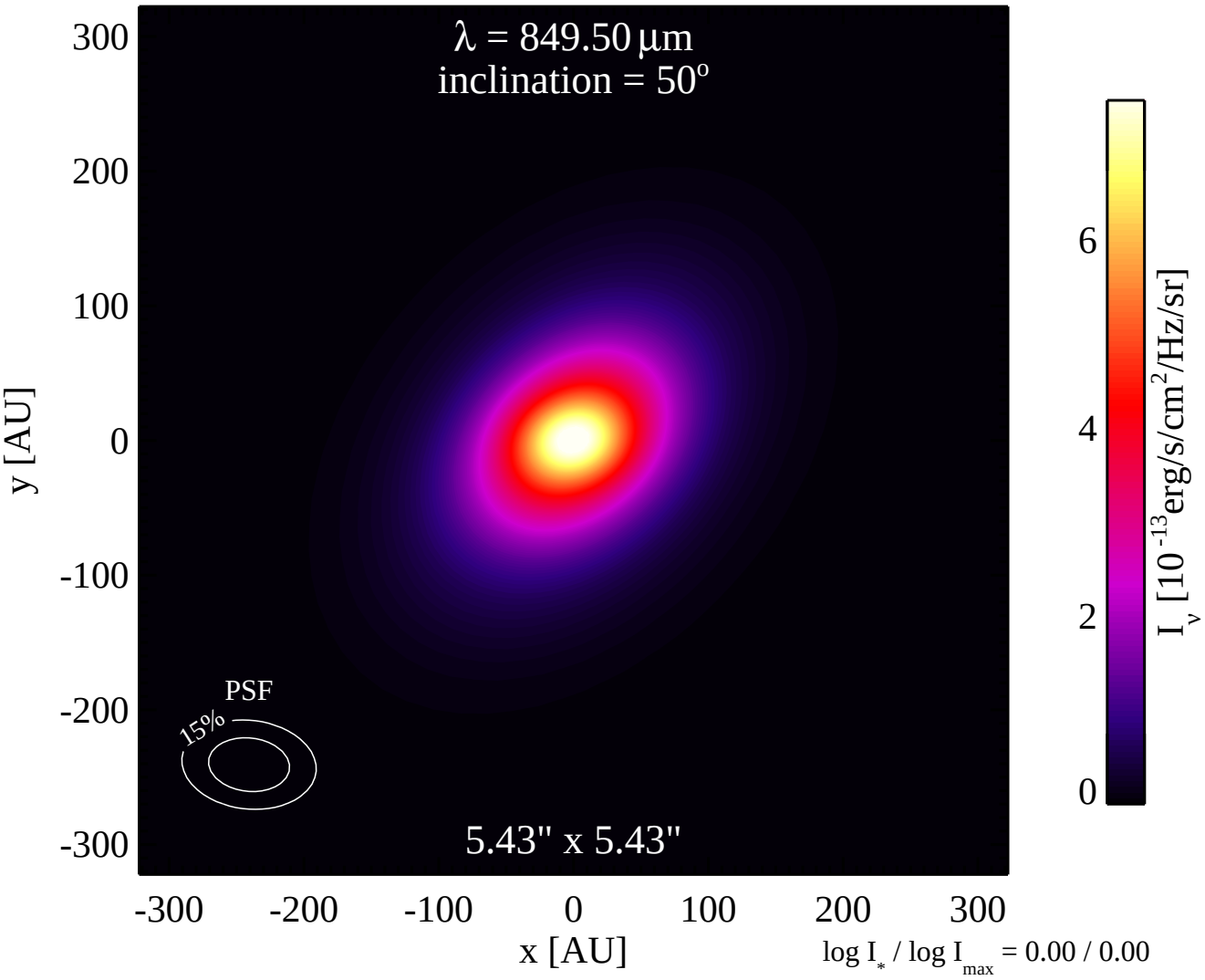

λ = 2148.06 μm
inclination = 50°
3.99" x 3.99"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-13.0
-13.2
-13.4
-13.6
-13.8
-14.0
-14.2
log I_ν [erg/s/cm²/Hz/sr]

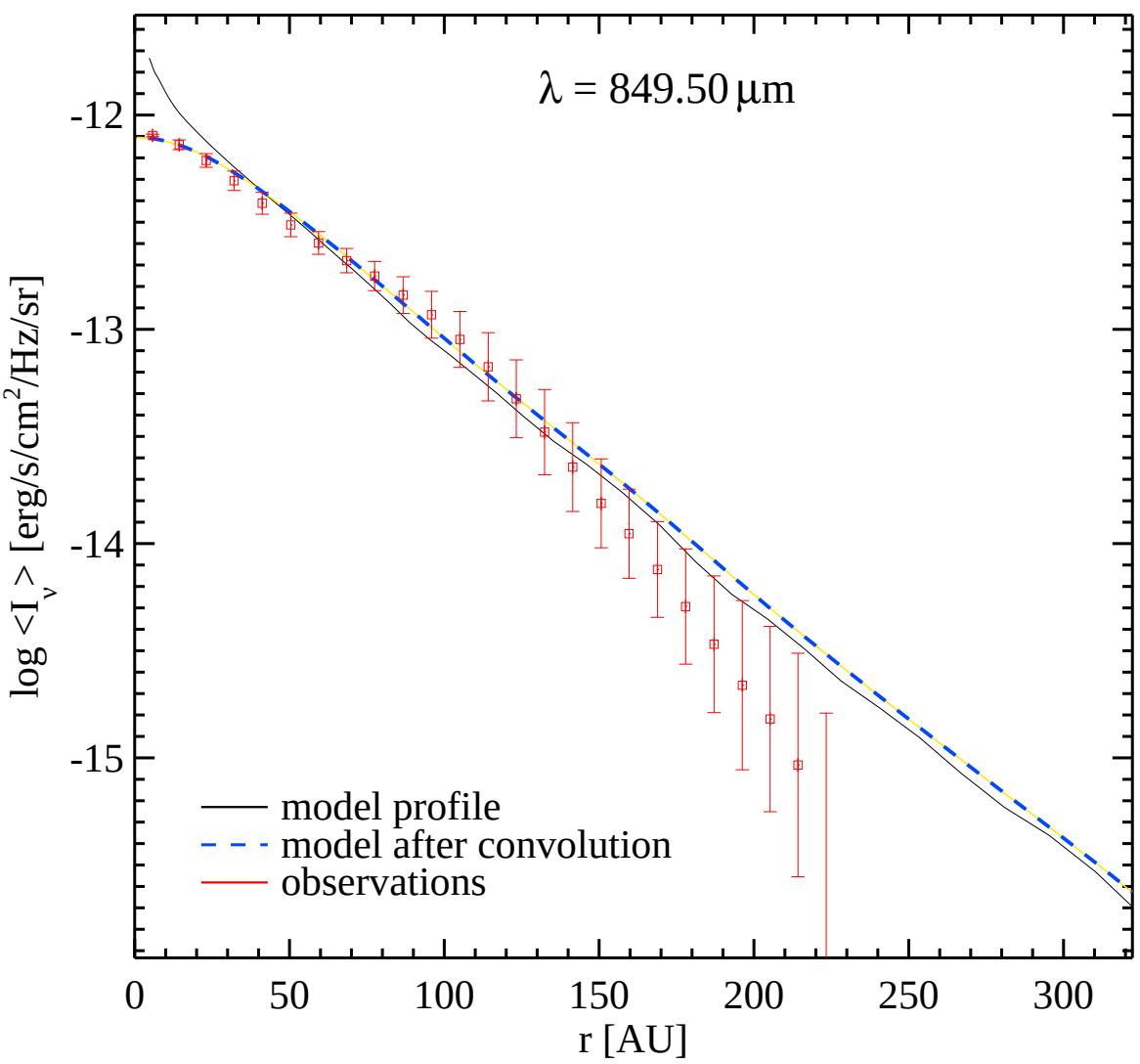

λ = 2694.65 μm
inclination = 50°
3.95" x 3.95"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-13.0
-13.2
-13.4
-13.6
-13.8
-14.0
-14.2
-14.4
log I_ν [erg/s/cm²/Hz/sr]

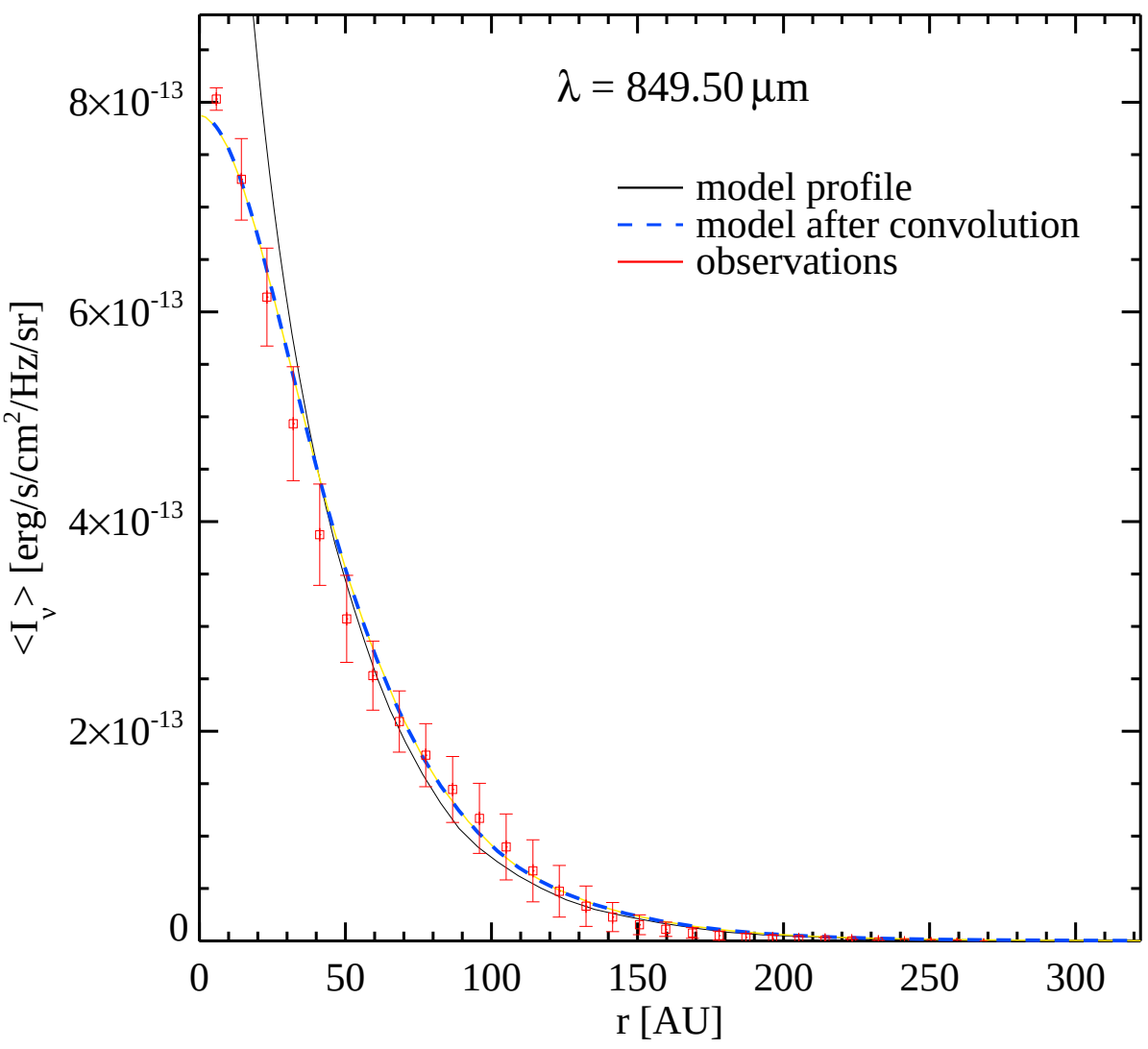

λ = 3380.33 μm
inclination = 50°
3.93" x 3.93"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-13.2
-13.4
-13.6
-13.8
-14.0
-14.2
-14.4
log I_ν [erg/s/cm²/Hz/sr]

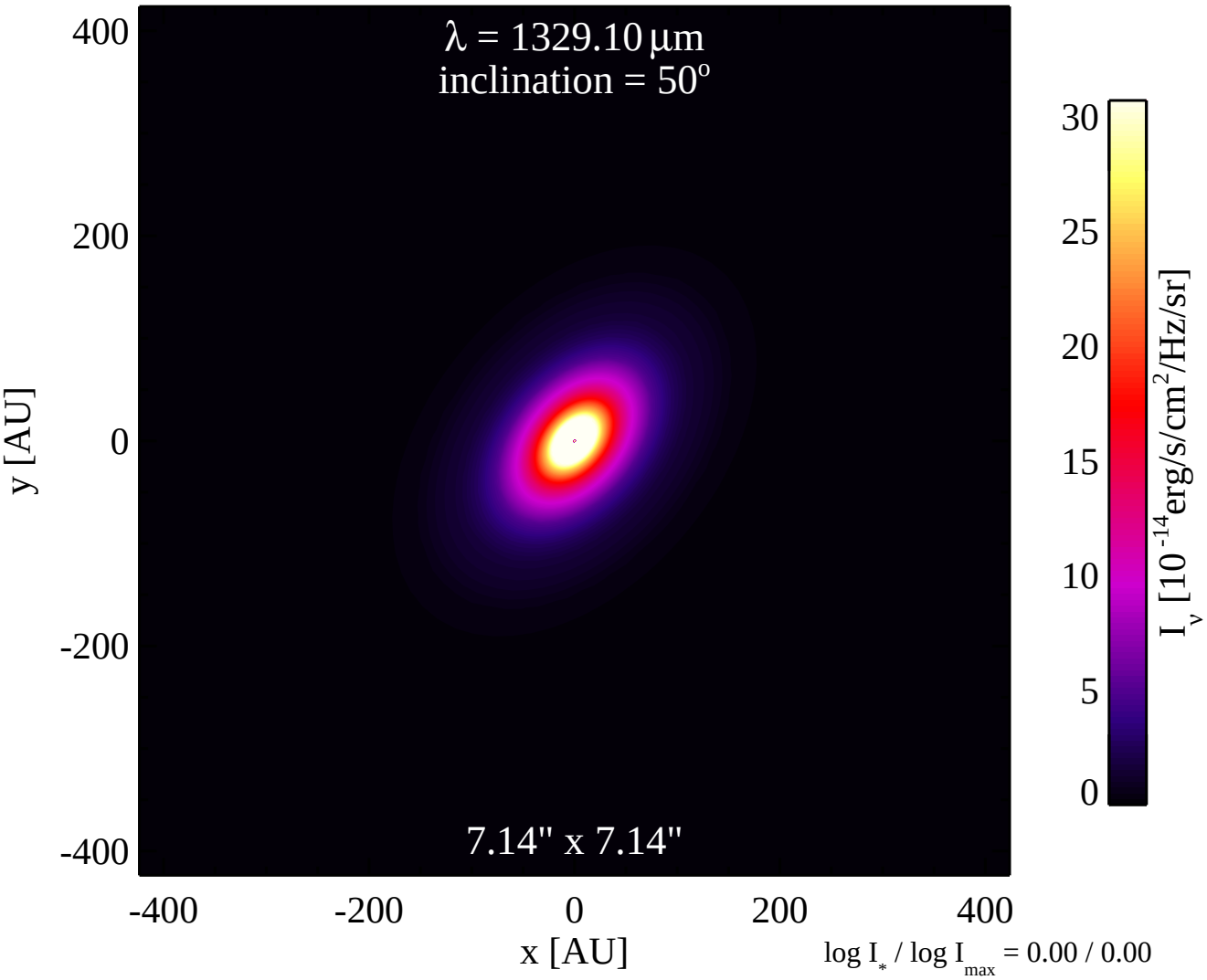

λ = 4240.47 μm
inclination = 50°
3.84" x 3.84"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-13.6
-13.8
-14.0
-14.2
-14.4
-14.6
log I_ν [erg/s/cm²/Hz/sr]

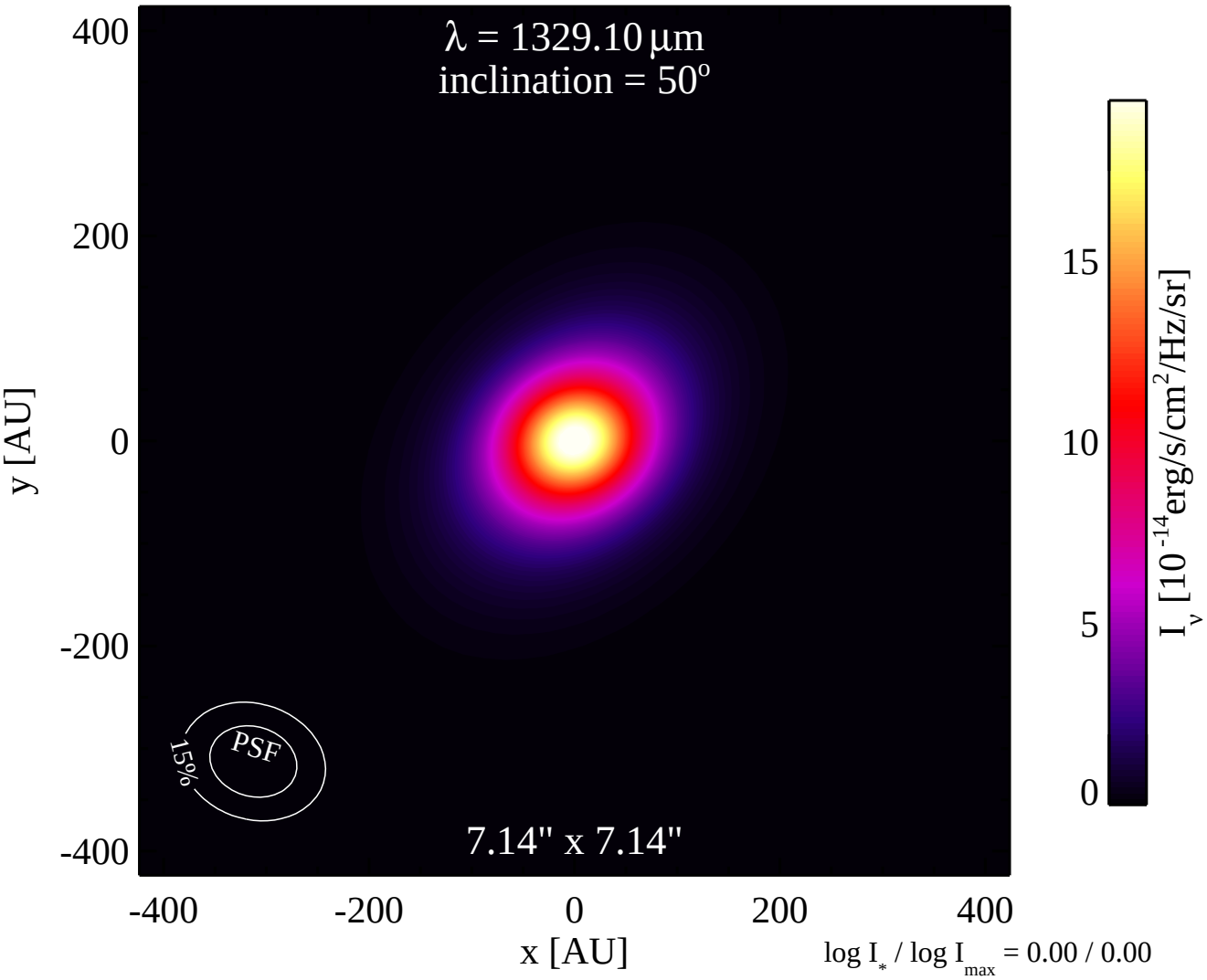

λ = 849.50 μm
inclination = 50°
5.43" x 5.43"
300
200
100
0
-100
-200
-300
y [AU]
-300
-200
-100
0
100
200
300
x [AU]
6
4
2
0
I_ν [10^-13 erg/s/cm^2/Hz/sr]
log I_* / log I_max = 0.00 / 0.00

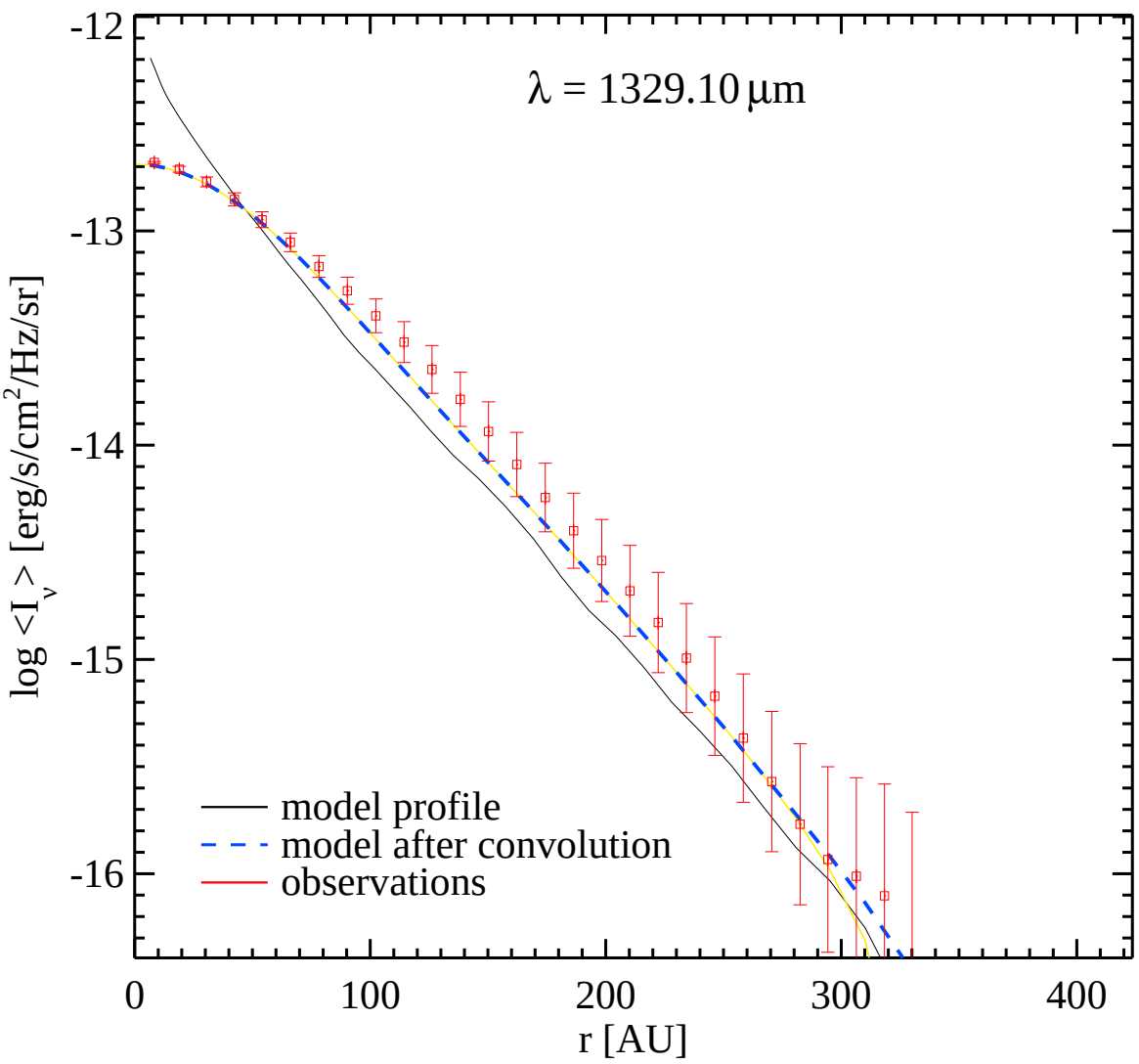

λ = 849.50 μm
inclination = 50°
PSF
15%
5.43" x 5.43"
300
200
100
0
-100
-200
-300
y [AU]
-300
-200
-100
0
100
200
300
x [AU]
6
4
2
0
I_ν [10^-13 erg/s/cm^2/Hz/sr]
log I_* / log I_max = 0.00 / 0.00

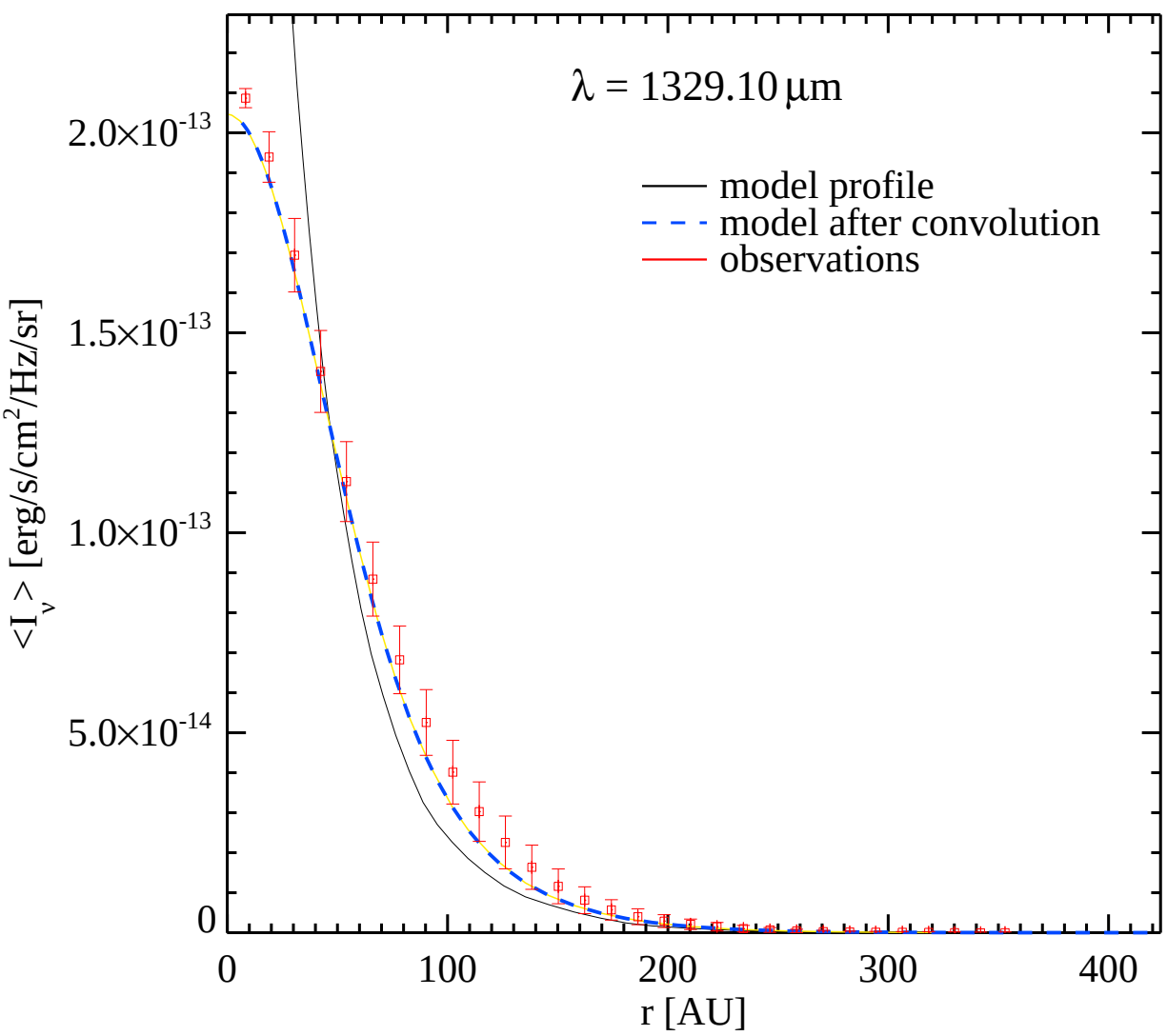

λ = 849.50 μm
-12
-13
-14
-15
log <I_ν> [erg/s/cm²/Hz/sr]
0
50
100
150
200
250
300
r [AU]
model profile
model after convolution
observations


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]
30
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
-12
-13
-14
-15
-16
0
100
200
300
400
r [AU]
log <I_ν> [erg/s/cm²/Hz/sr]
model profile
model after convolution
observations


λ = 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]