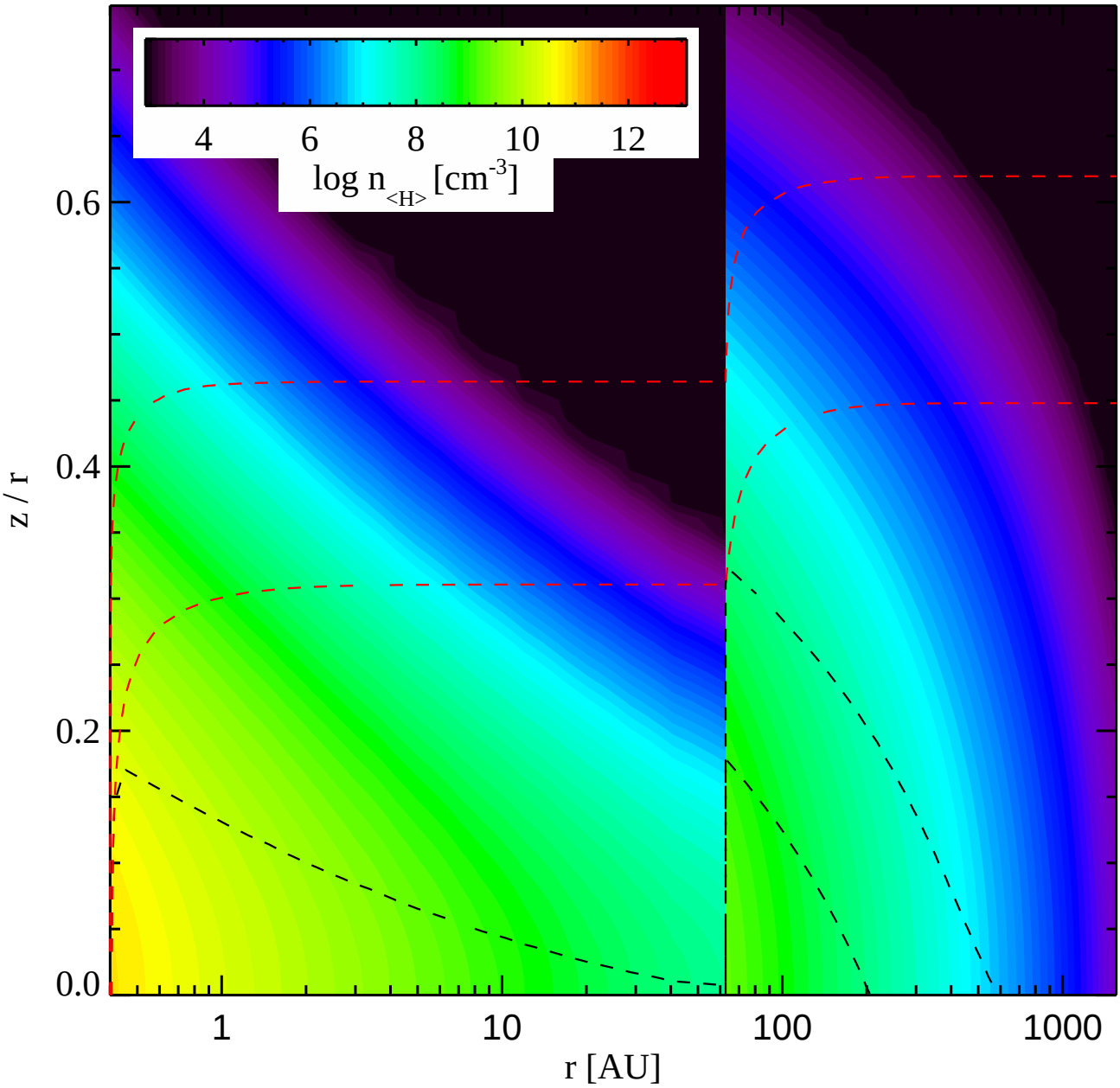
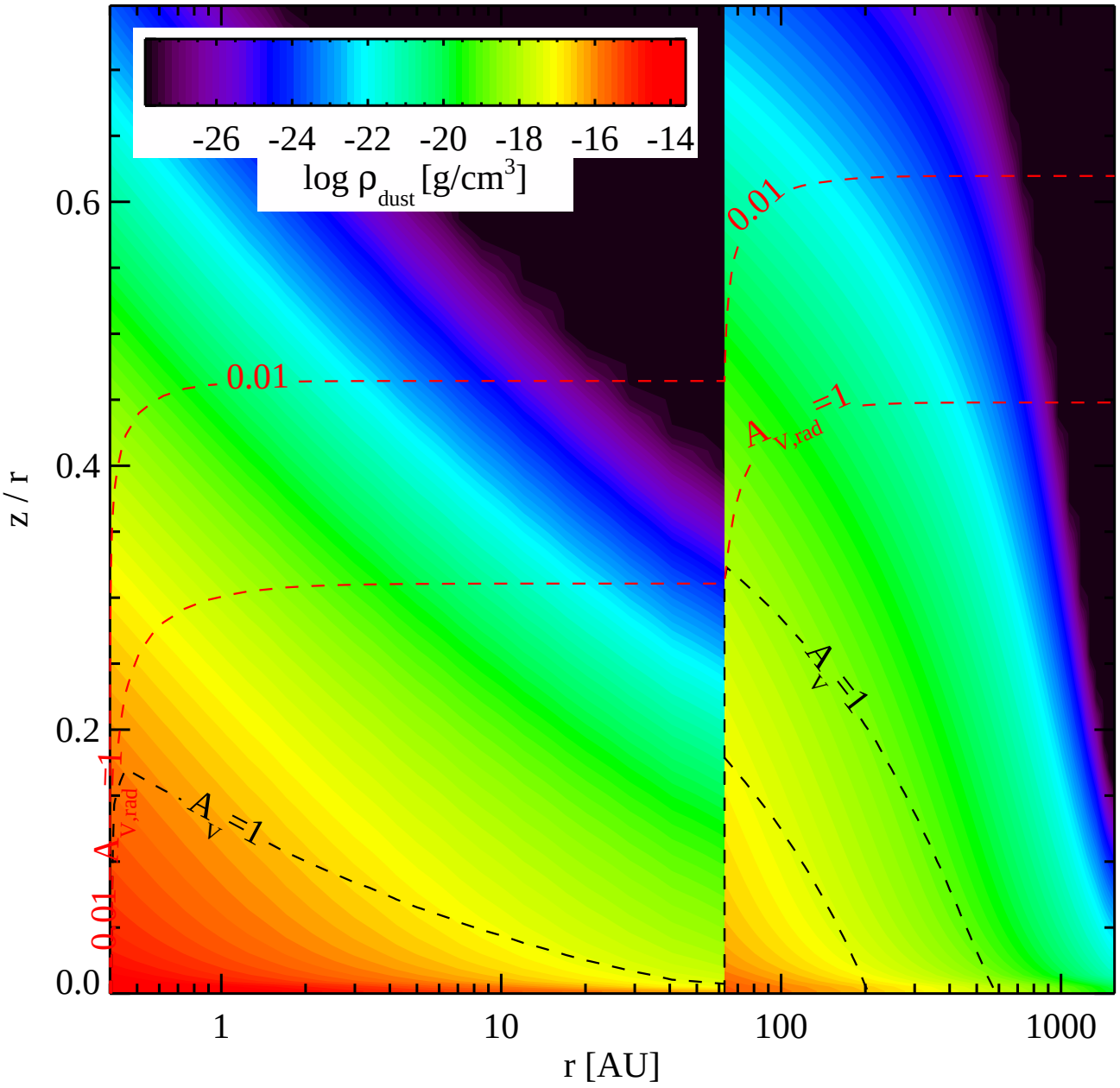
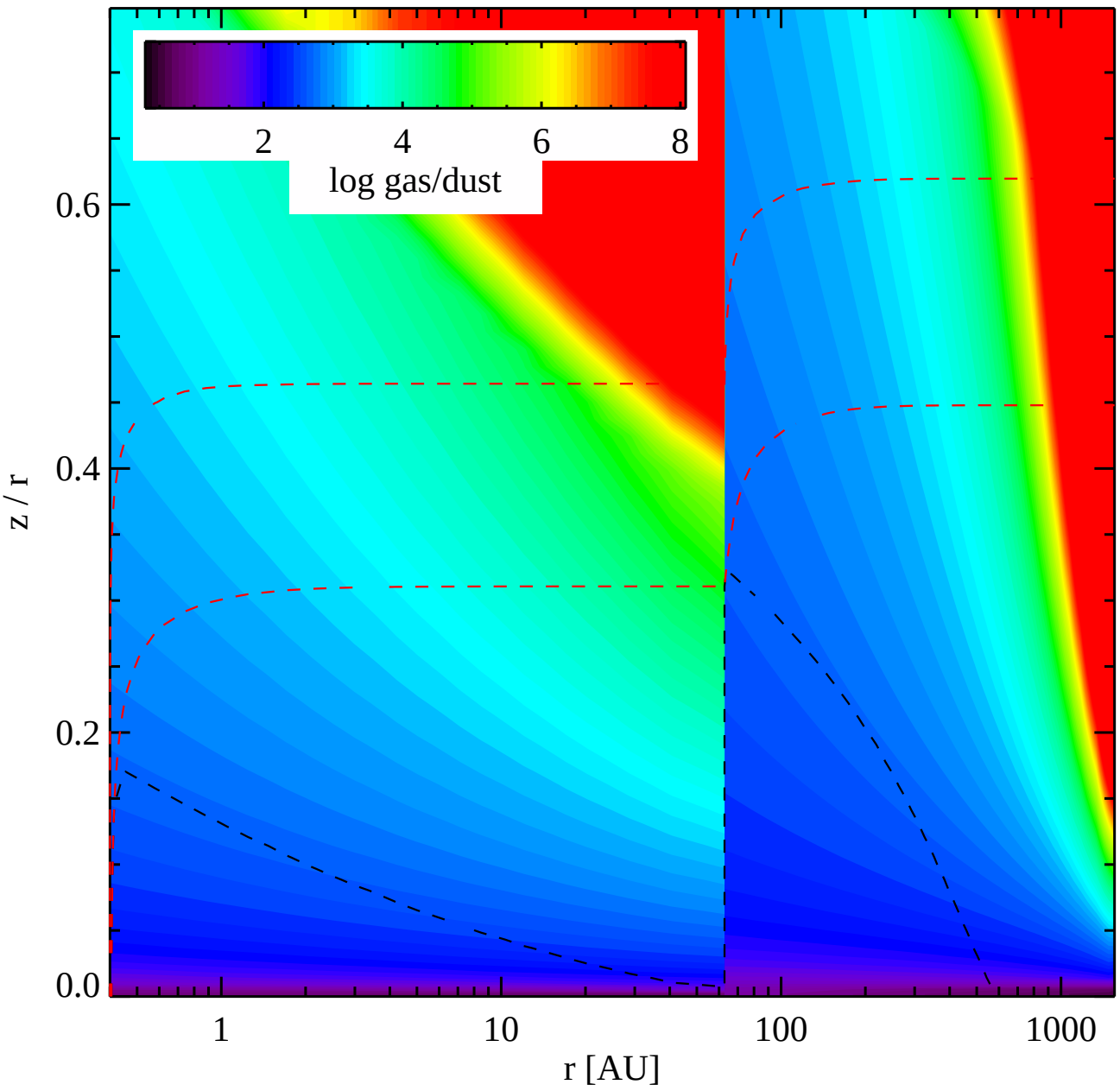
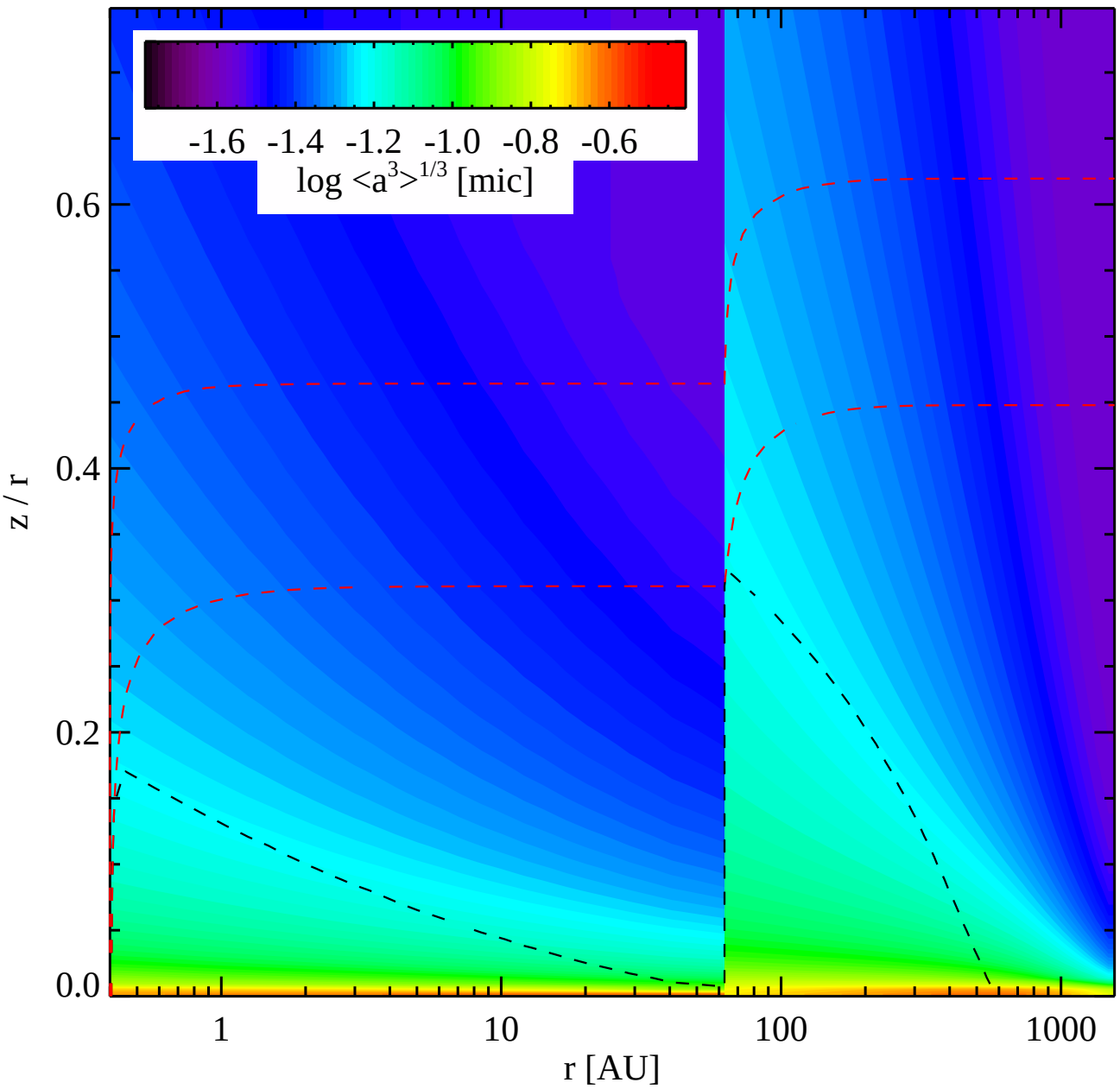
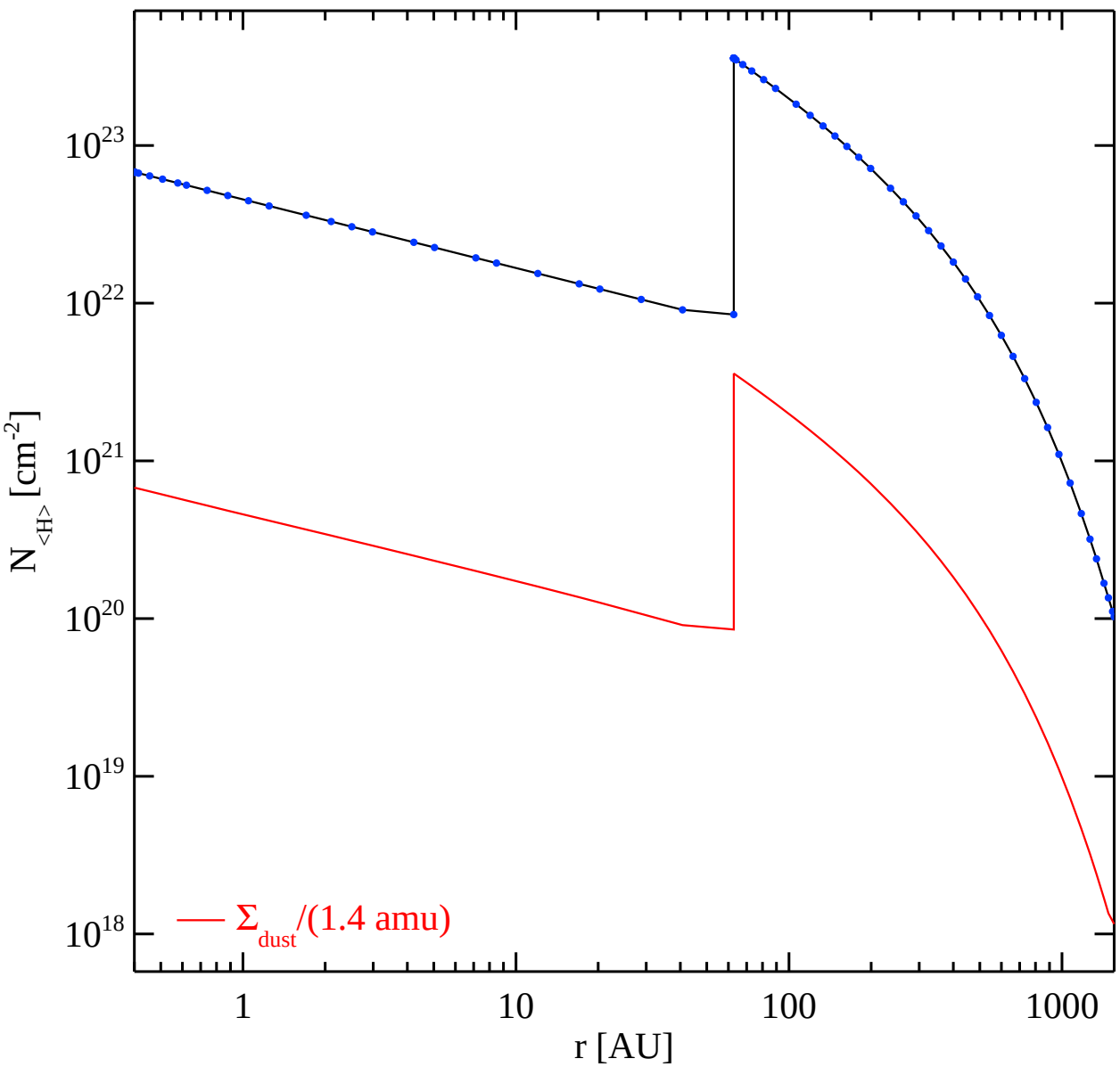
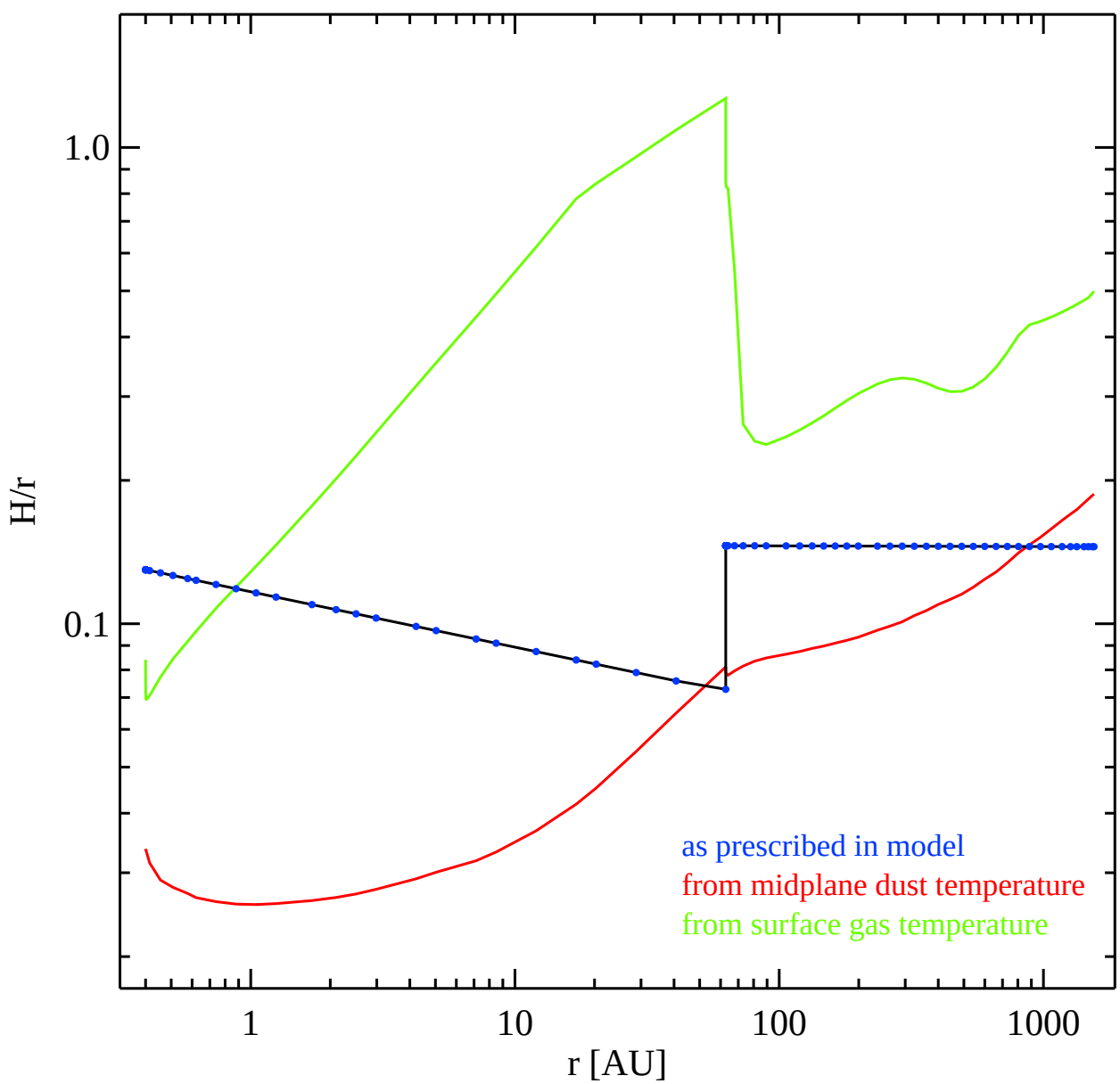

4
6
8
10
12
log n<H> [cm-3]
0.0
0.2
0.4
0.6
z / r
1
10
100
1000
r [AU]

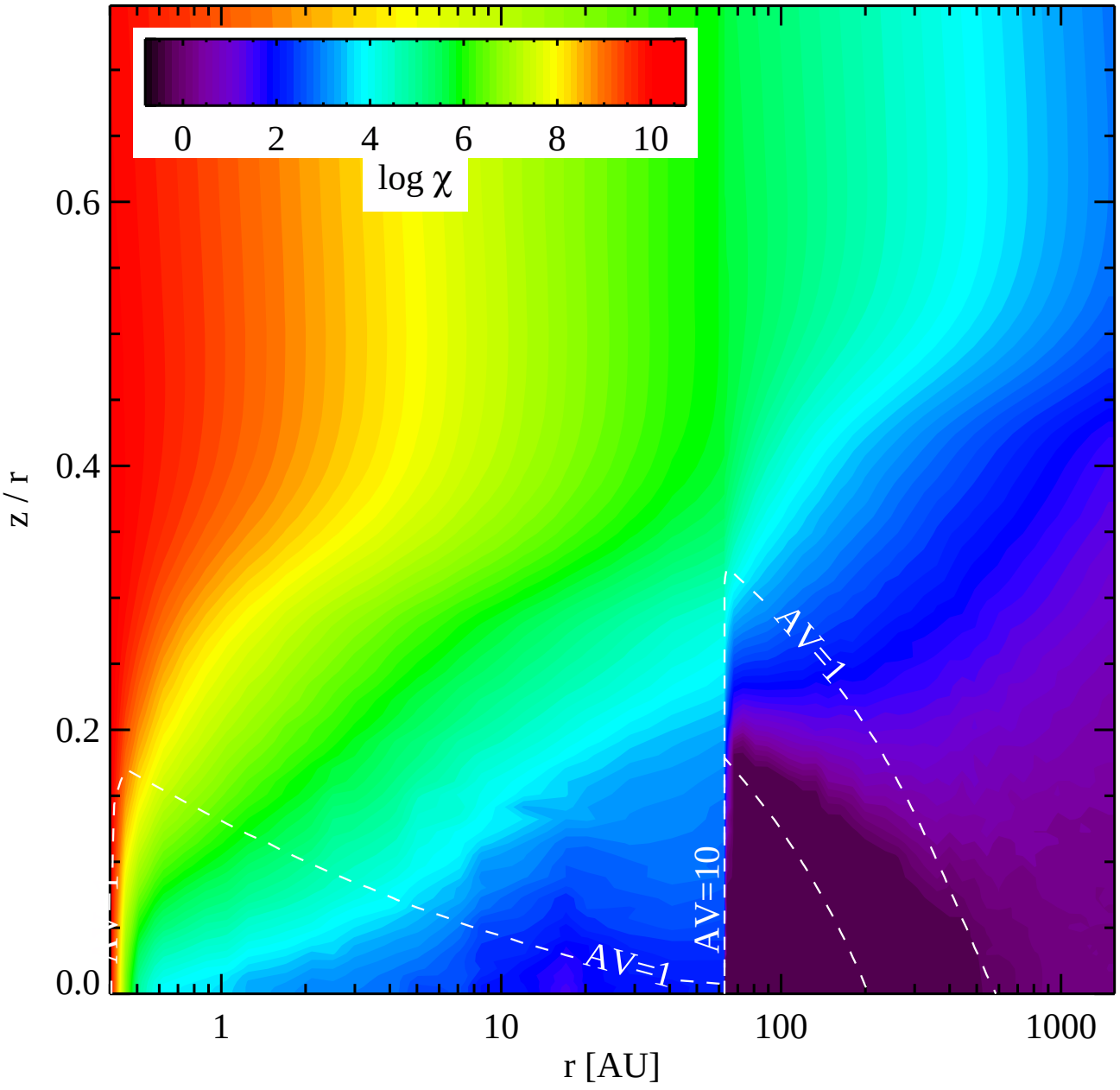

-26
-24
-22
-20
-18
-16
-14
log ρ dust [g/cm3]
0.6
0.4
0.2
0.0
z / r
1
10
100
1000
r [AU]
0.01
0.01
A V,rad =1
A V =1
A V,rad =1
A V =1

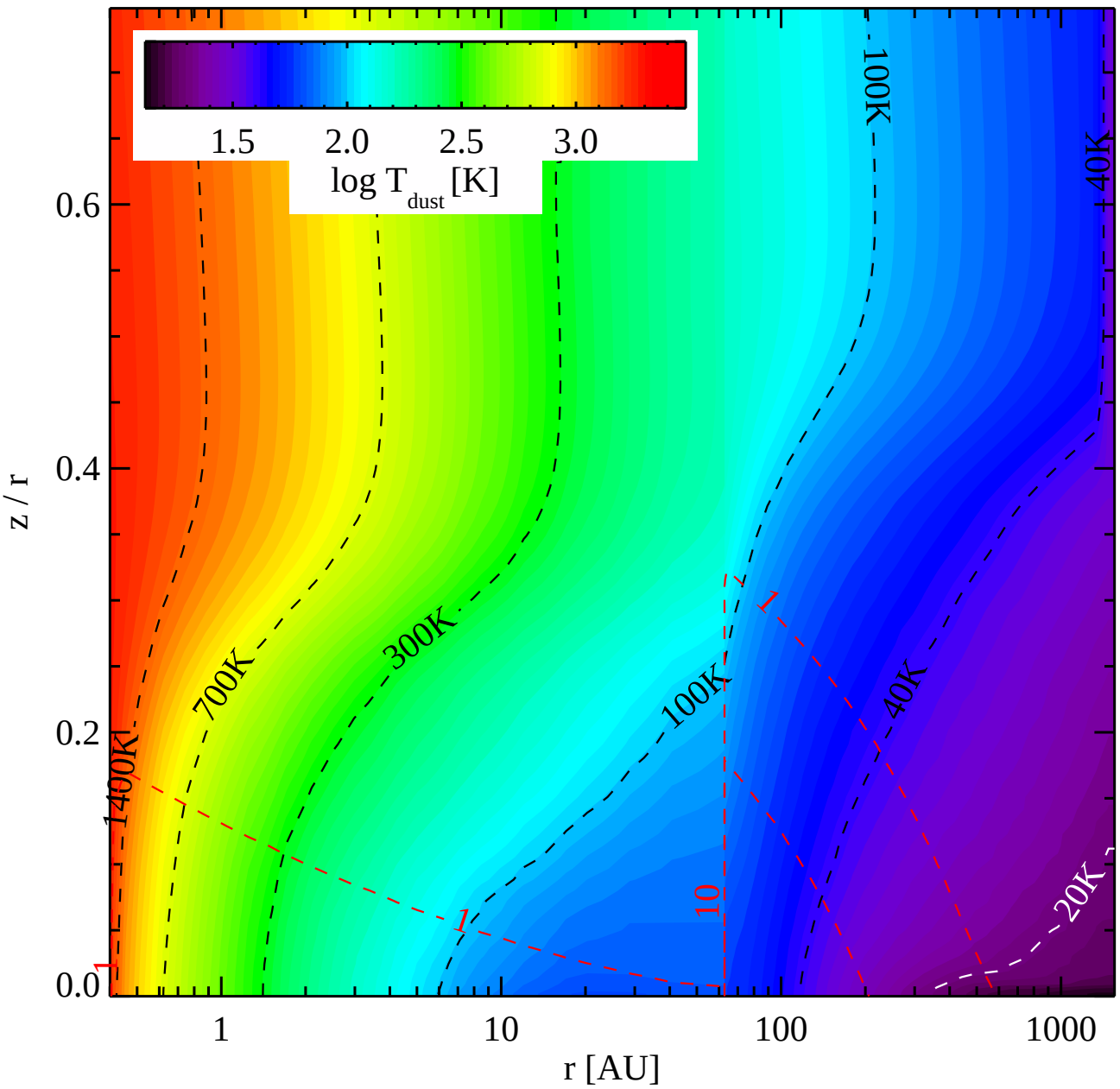

2
4
6
8
log gas/dust
0.6
0.4
0.2
0.0
z / r
1
10
100
1000
r [AU]

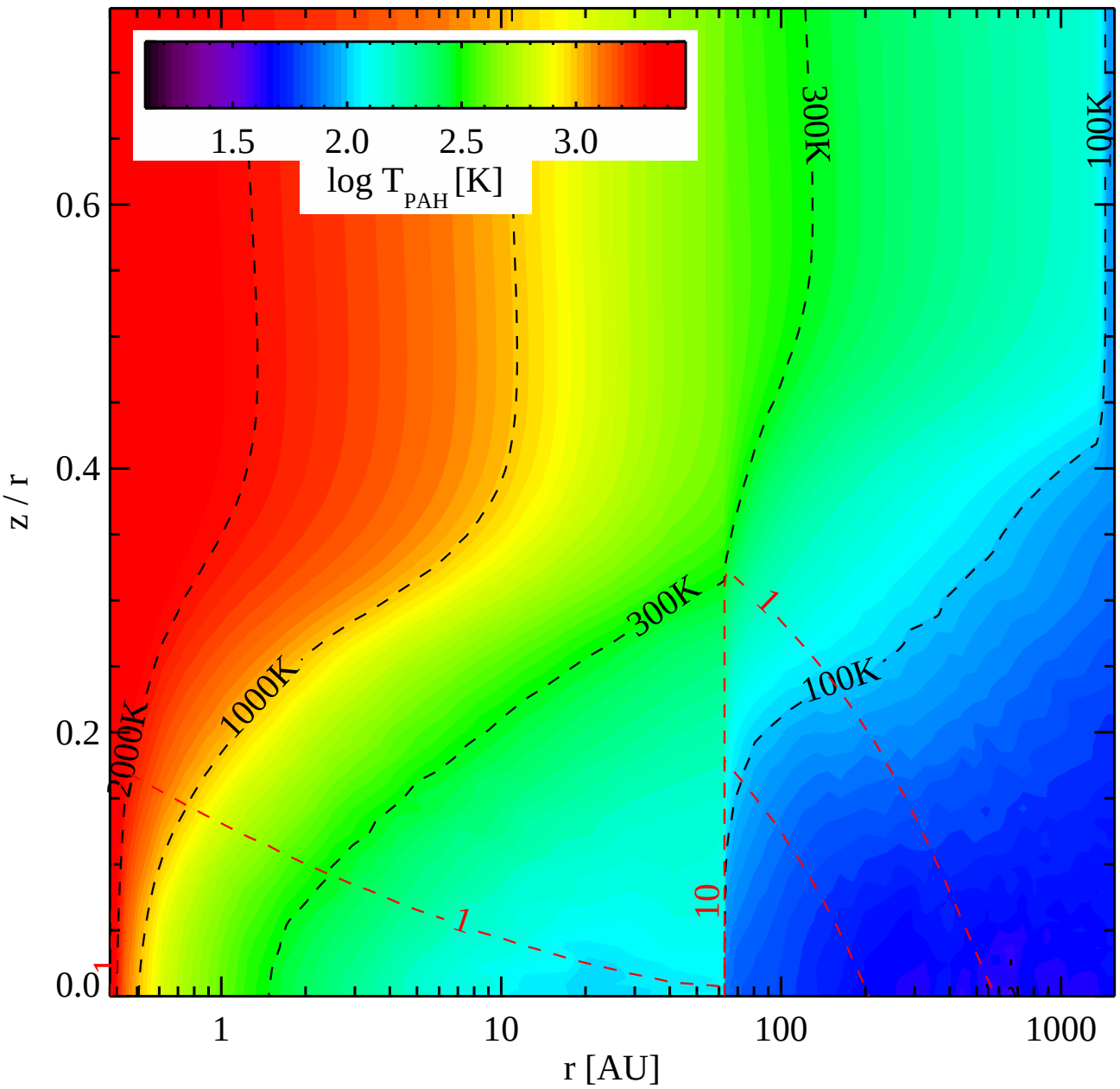

-1.6 -1.4 -1.2 -1.0 -0.8 -0.6
log <a^3>^1/3 [mic]
0.6
0.4
0.2
0.0
z / r
1
10
100
1000
r [AU]

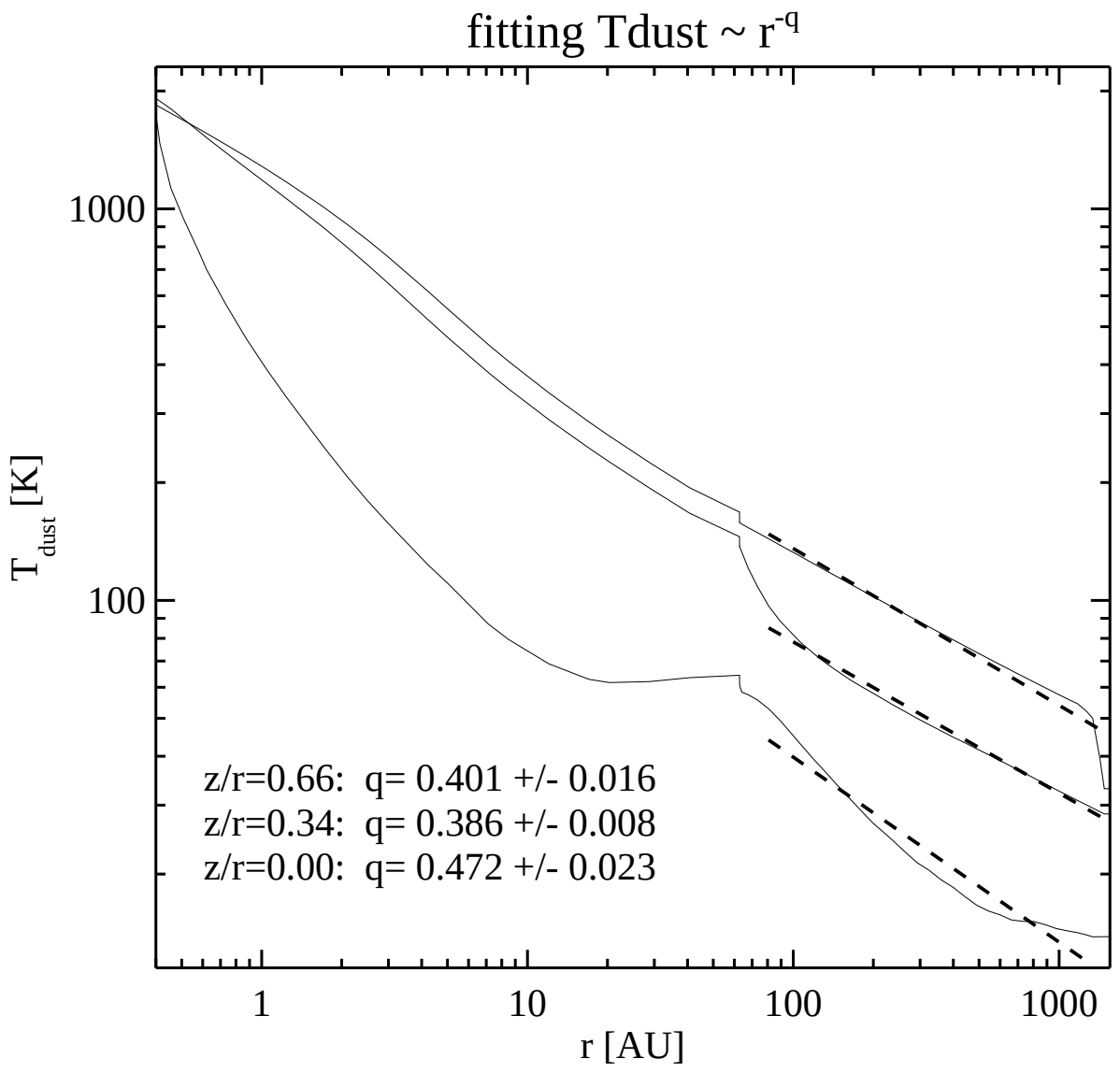

10^{23}
10^{22}
10^{21}
10^{20}
10^{19}
10^{18}
$N_{<H>}$ [cm^{-2}]
1
10
100
1000
r [AU]
Σ_{dust}/(1.4 amu)

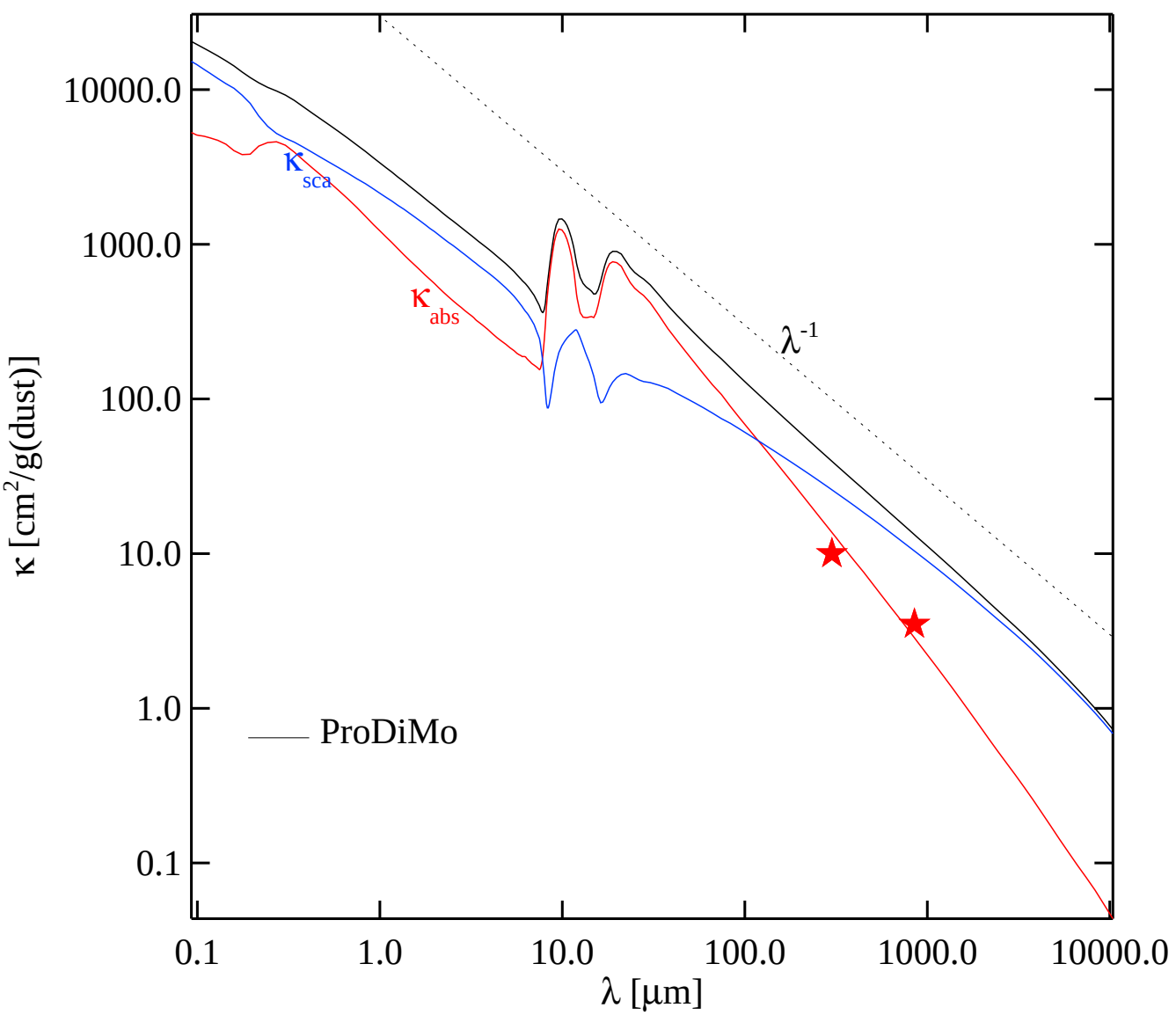

1.0
0.1
H/r
1
10
100
1000
r [AU]
as prescribed in model
from midplane dust temperature
from surface gas temperature

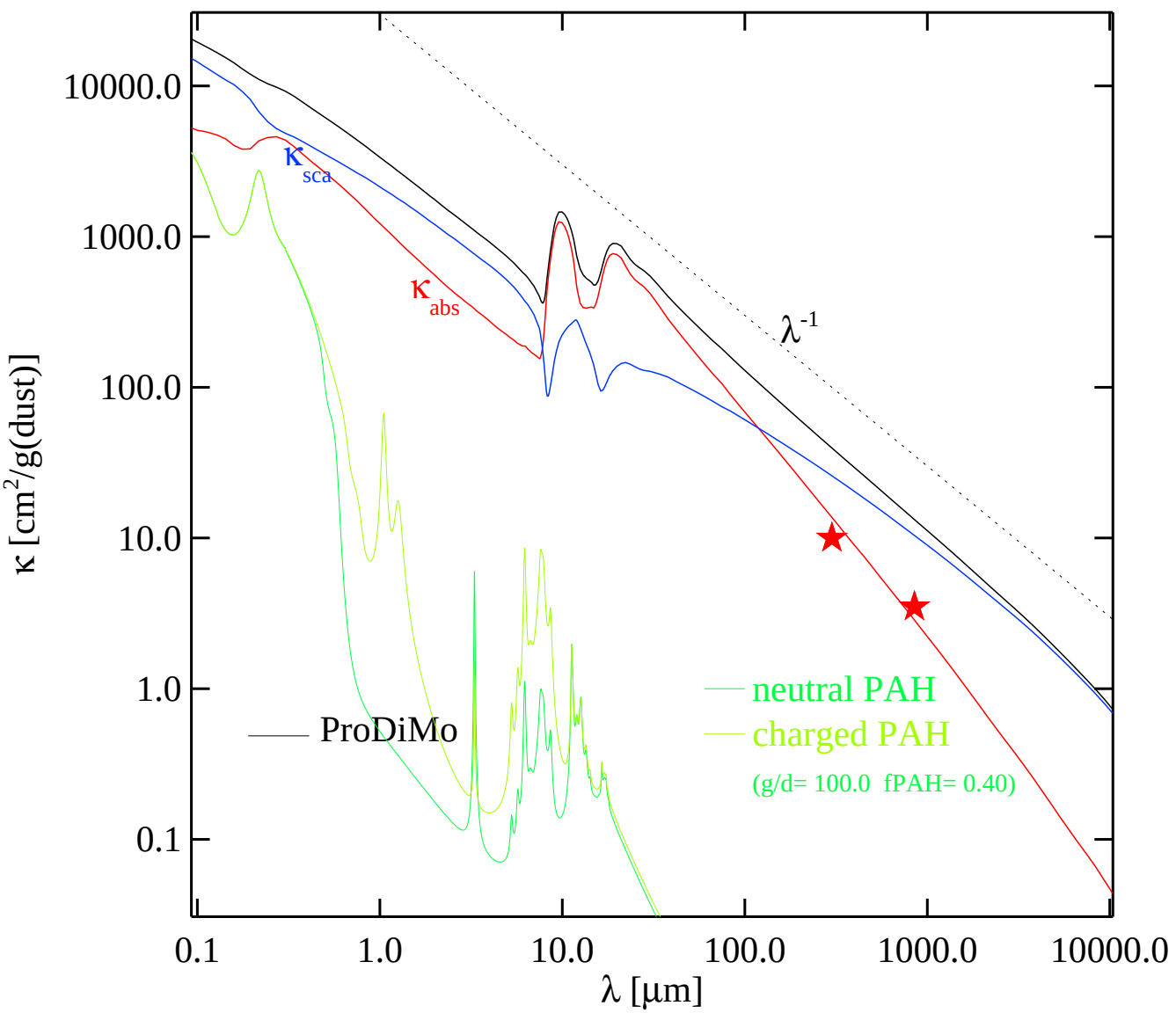

0
2
4
6
8
10
log χ
0.6
0.4
0.2
0.0
z / r
AV=1
AV=1
AV=10
AV=1
1
10
100
1000
r [AU]

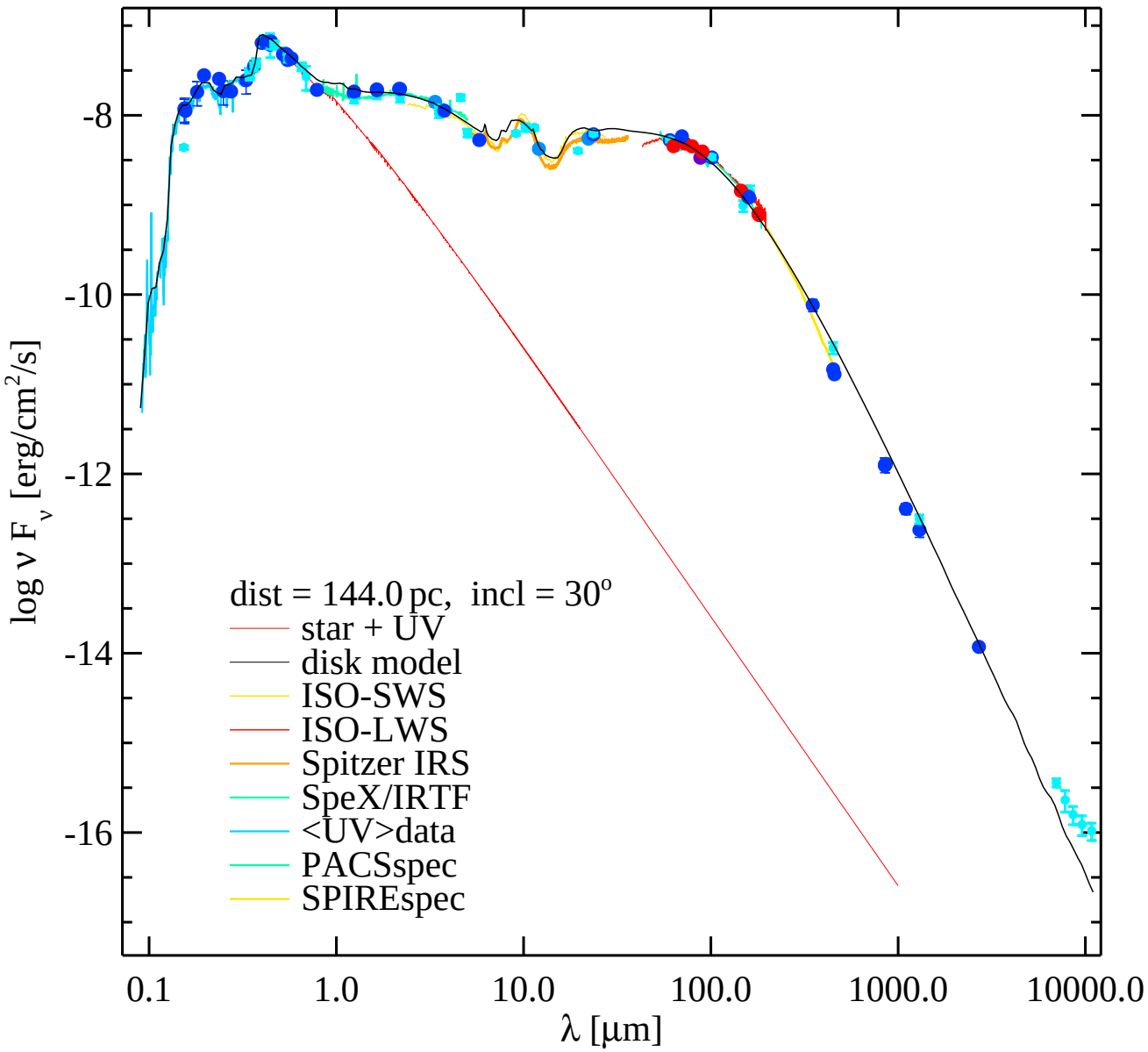

1.5
2.0
2.5
3.0
log T dust [K]
0.0
0.2
0.4
0.6
z / r
1
10
100
1000
r [AU]
1400K
700K
300K
100K
40K
20K
100K
40K
1
1
10

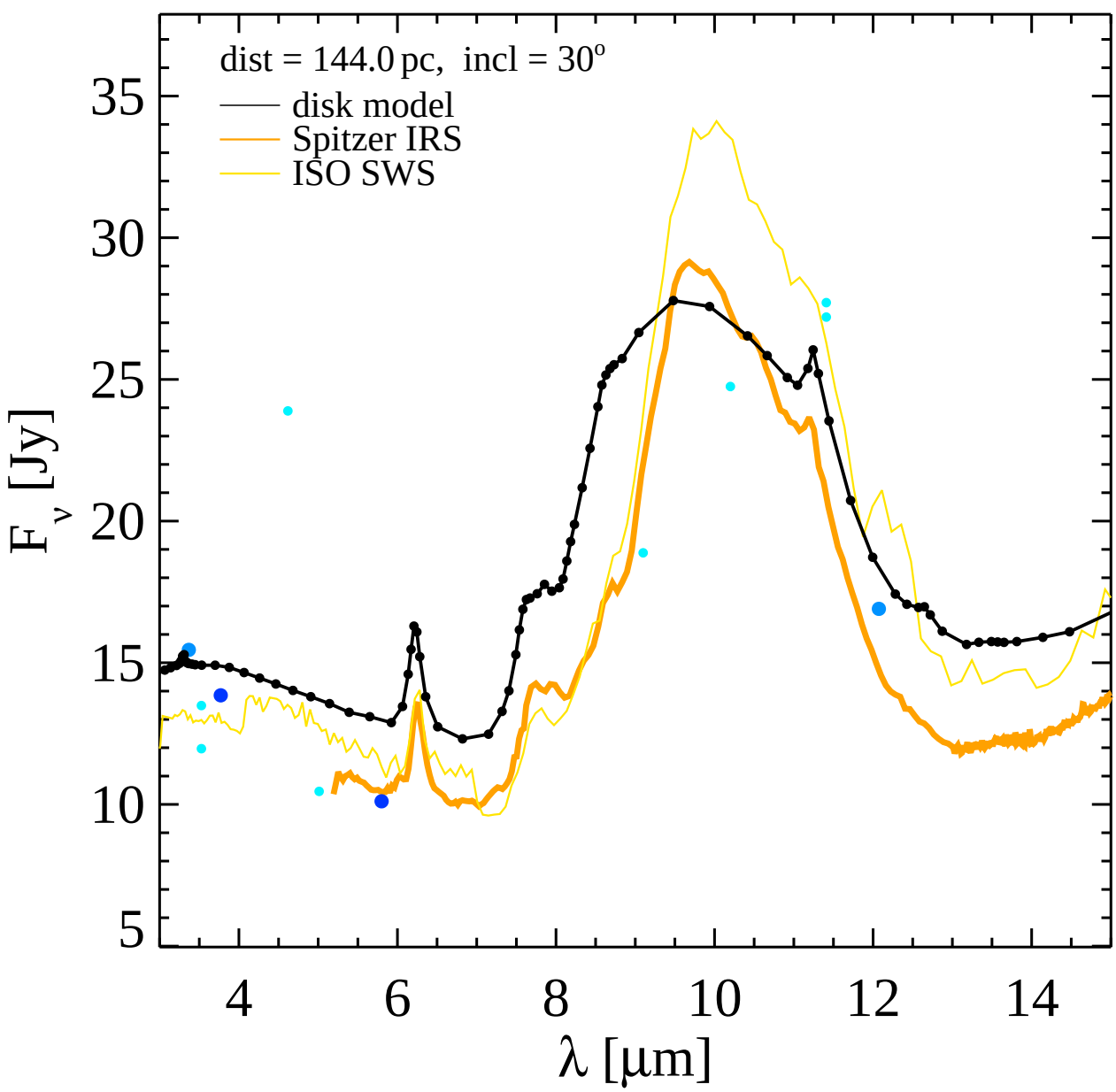

1.5
2.0
2.5
3.0
log T PAH [K]
2000K
1000K
300K
100K
300K
100K
1
1
10
1
0.0
0.2
0.4
0.6
z / r
1
10
100
1000
r [AU]

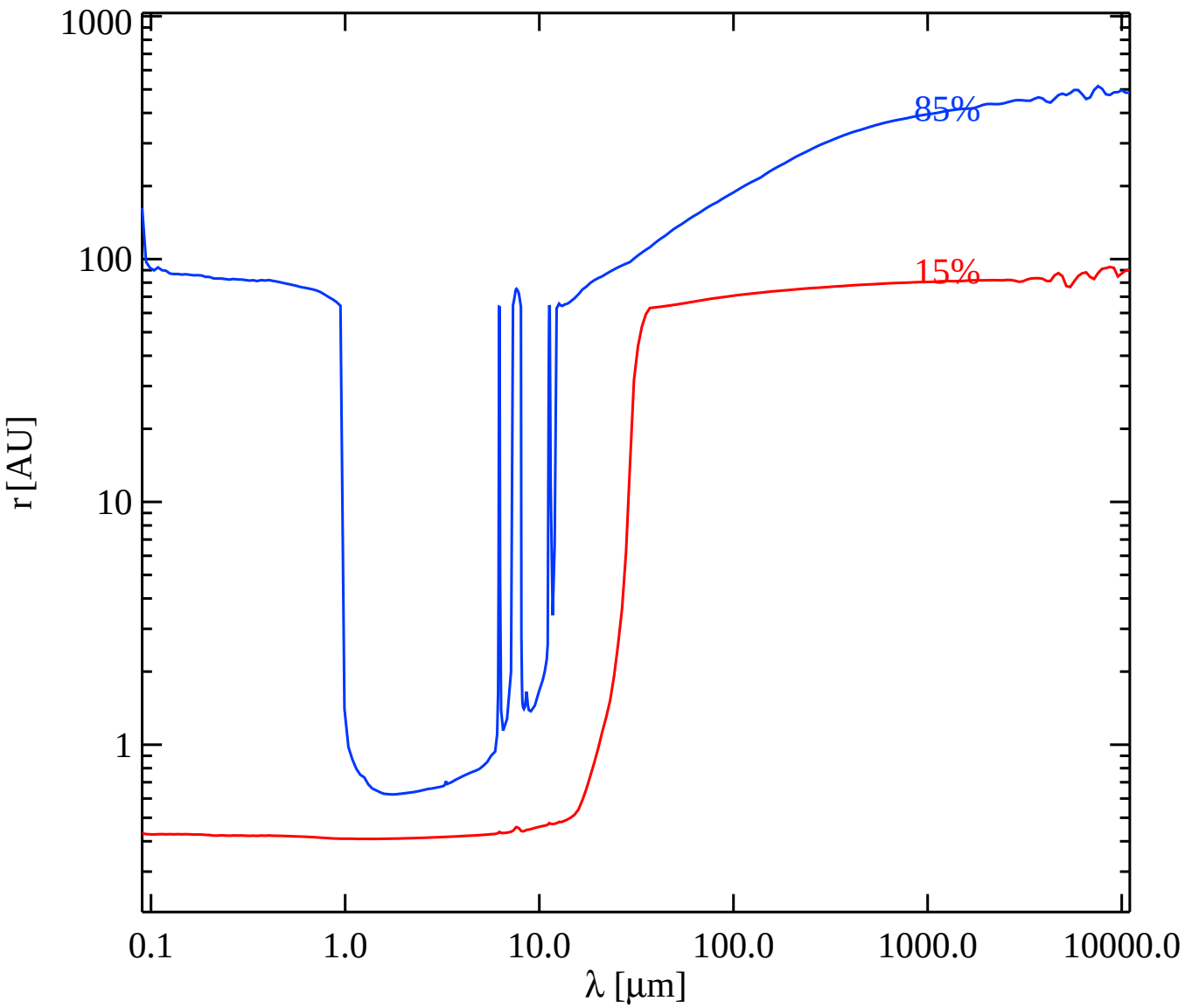

fitting Tdust ~ r^-q
1000
100
T dust [K]
1
10
100
1000
r [AU]
z/r=0.66: q= 0.401 +/- 0.016
z/r=0.34: q= 0.386 +/- 0.008
z/r=0.00: q= 0.472 +/- 0.023

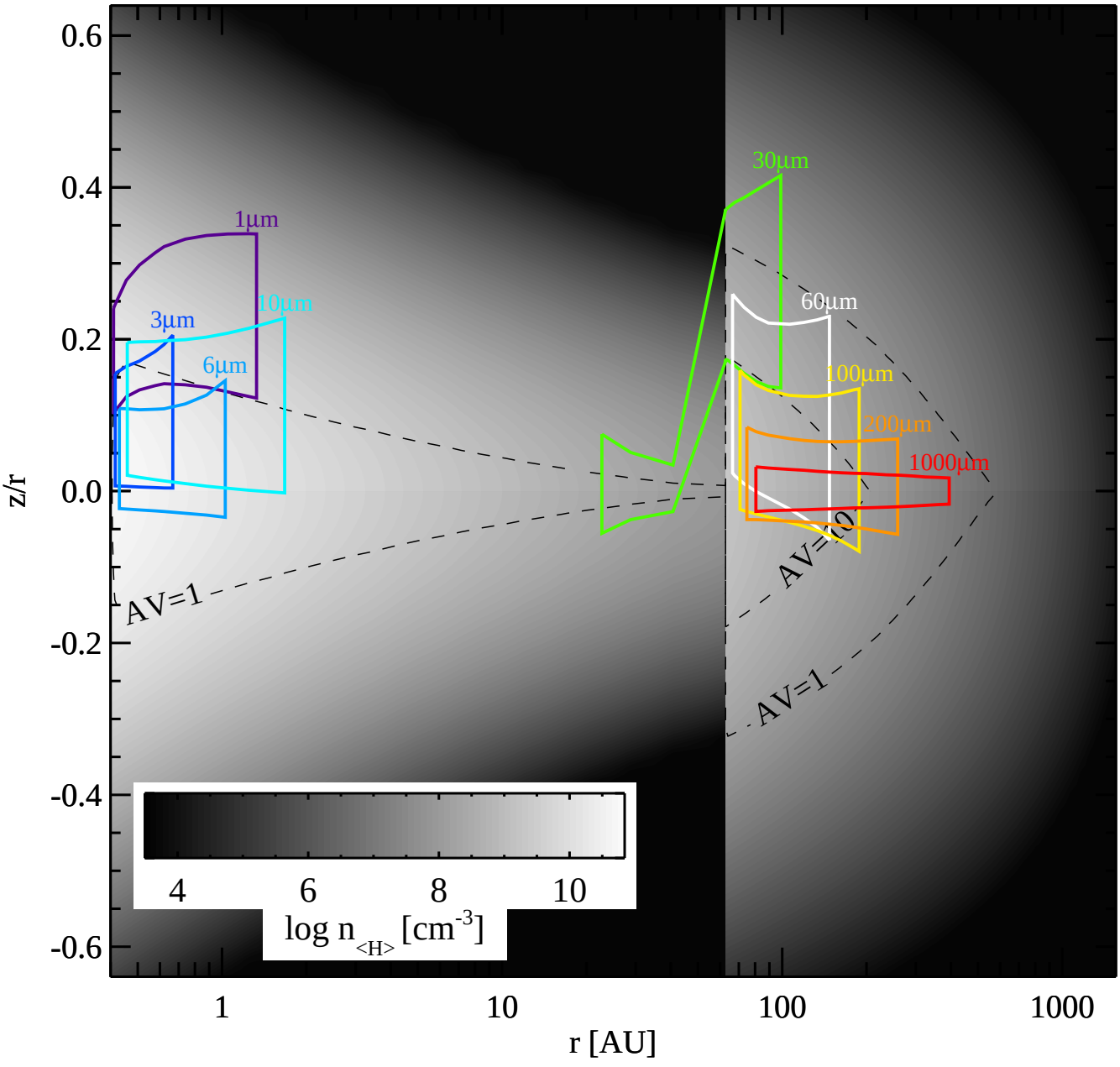

10000.0
1000.0
100.0
10.0
1.0
0.1
κ [cm²/g(dust)]
κsca
κabs
λ-1
ProDiMo
0.1
1.0
10.0
100.0
1000.0
10000.0
λ [μm]

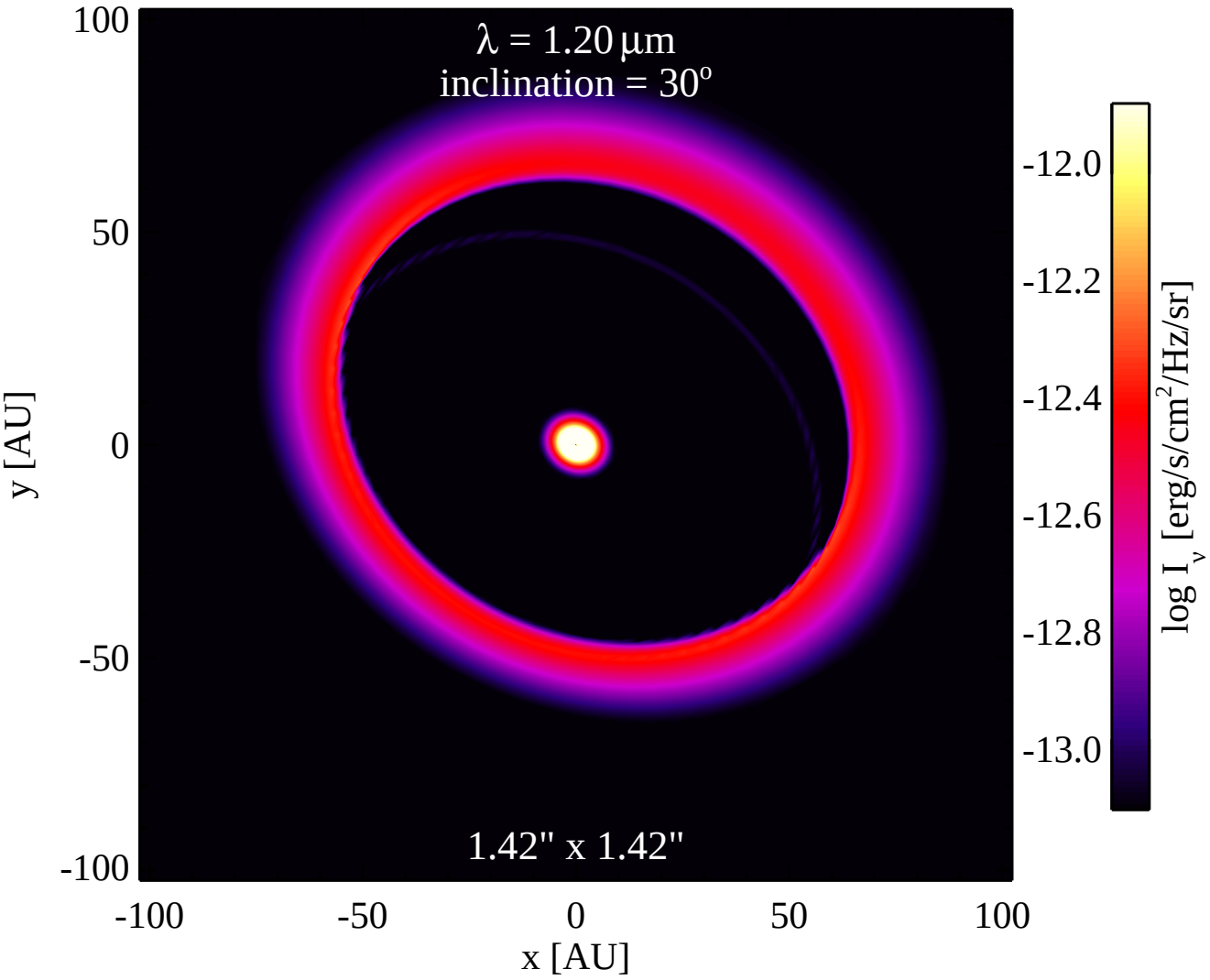

10000.0
1000.0
100.0
10.0
1.0
0.1
κ [cm²/g(dust)]
κ sca
κ abs
λ-1
ProDiMo
neutral PAH
charged PAH
(g/d= 100.0 fPAH= 0.40)
0.1
1.0
10.0
100.0
1000.0
10000.0
λ [μm]

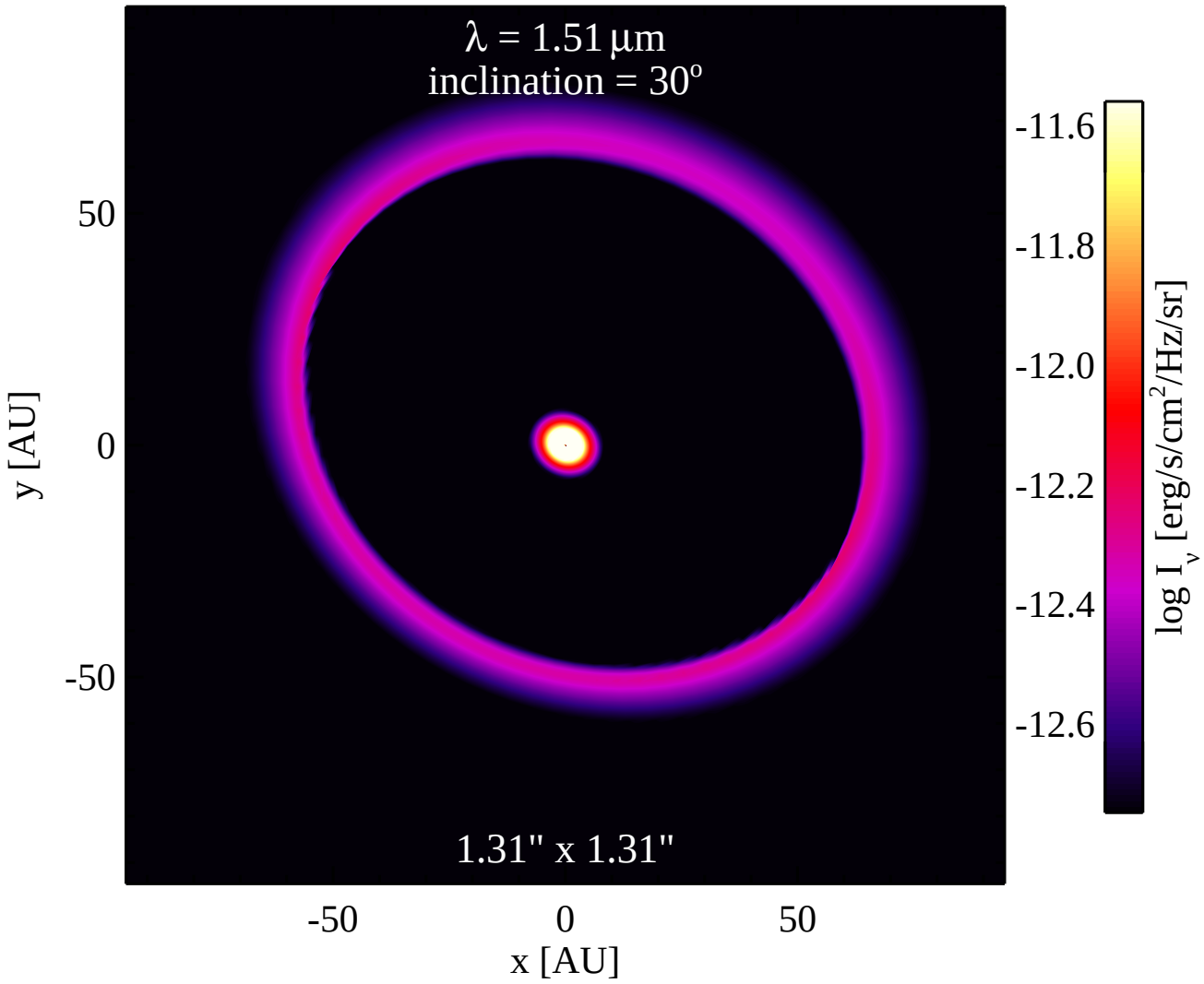

dist = 144.0 pc, incl = 30°
star + UV
disk model
ISO-SWS
ISO-LWS
Spitzer IRS
SpeX/IRTF
<UV>data
PACSspec
SPIREspec
log ν F_ν [erg/cm²/s]
λ [μm]
-8
-10
-12
-14
-16
0.1
1.0
10.0
100.0
1000.0
10000.0

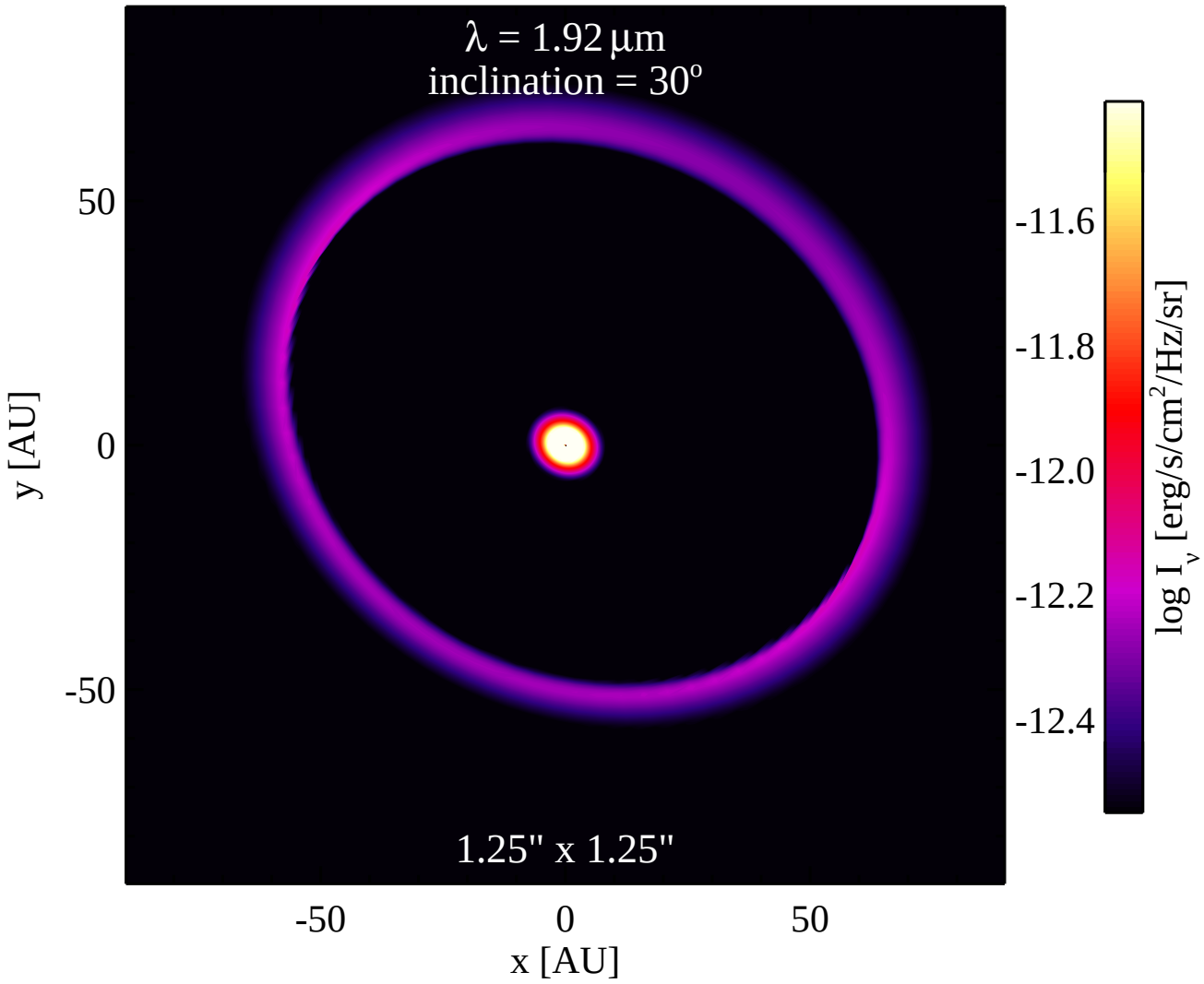

dist = 144.0 pc, incl = 30°
disk model
Spitzer IRS
ISO SWS
35
30
25
20
15
10
5
F_ν [Jy]
4
6
8
10
12
14
λ [μm]

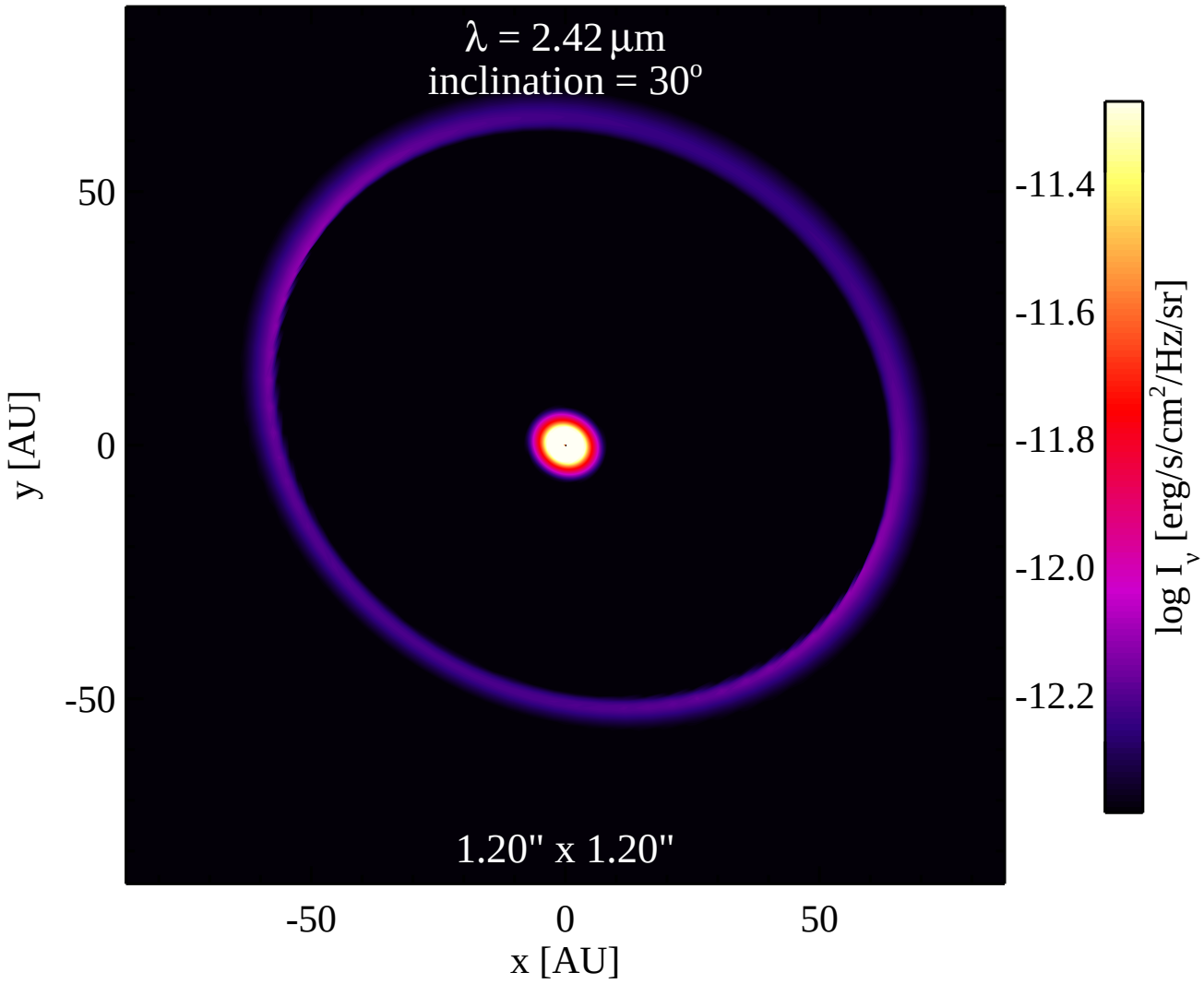

1000
100
10
1
r [AU]
85%
15%
0.1
1.0
10.0
100.0
1000.0
10000.0
λ [μm]

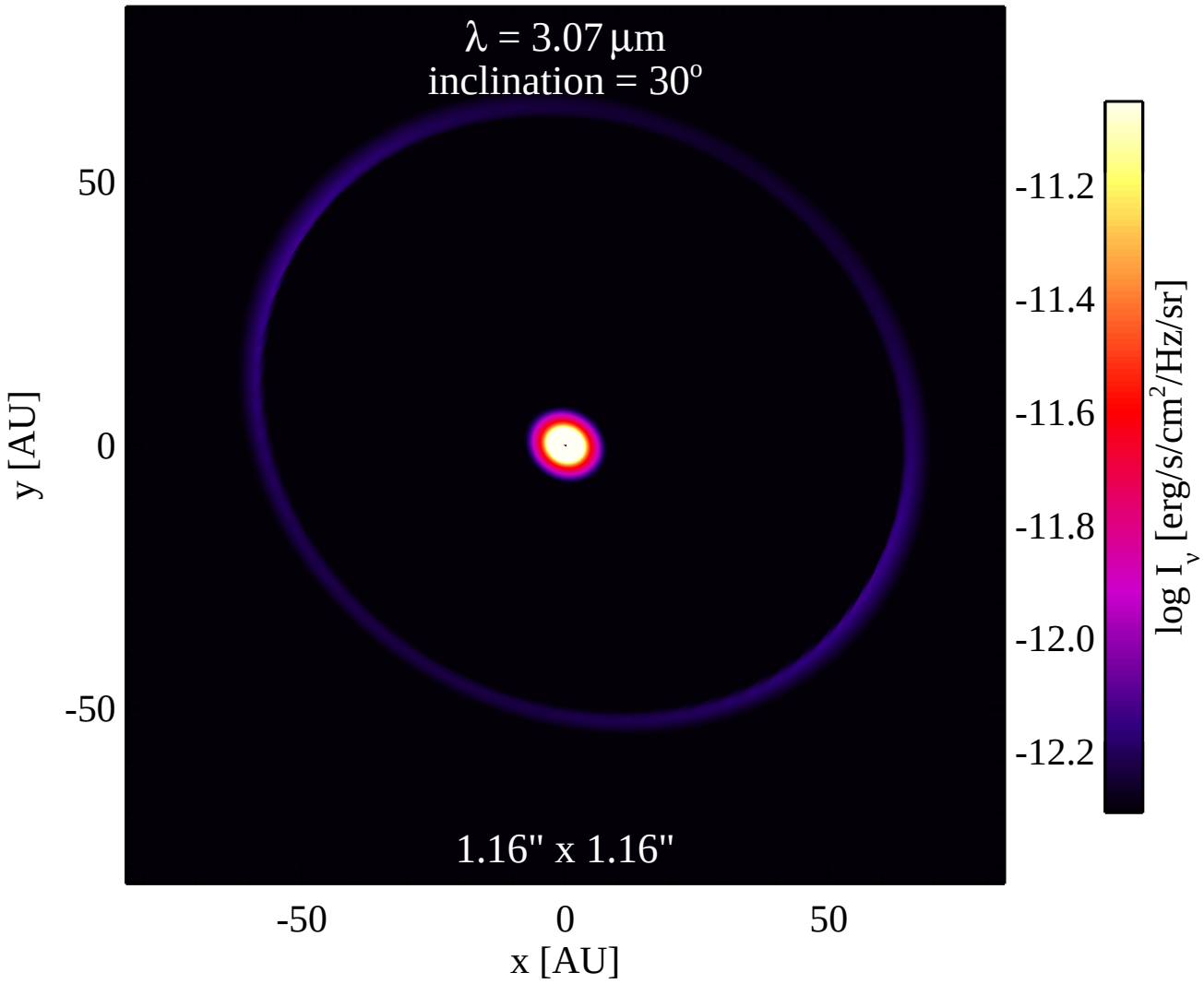

0.6
0.4
0.2
0.0
-0.2
-0.4
-0.6
z/r
1
10
100
1000
r [AU]
1µm
3µm
6µm
10µm
30µm
60µm
100µm
200µm
1000µm
AV=1
AV=10
AV=1
4
6
8
10
log n <H> [cm-3]

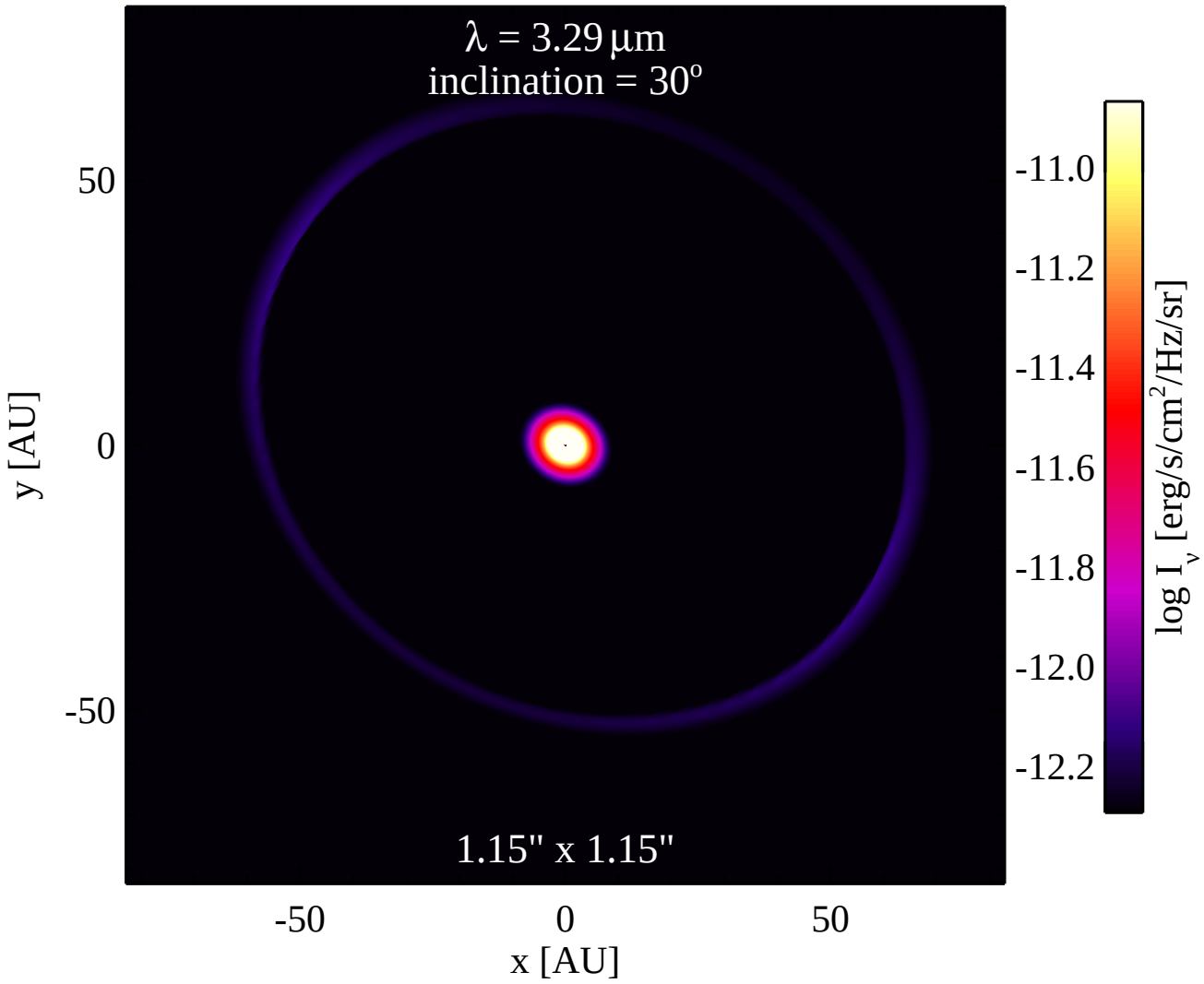

λ = 1.20 μm
inclination = 30°
1.42" x 1.42"
100
50
0
-50
-100
y [AU]
-100
-50
0
50
100
x [AU]
-12.0
-12.2
-12.4
-12.6
-12.8
-13.0
log I_ν [erg/s/cm²/Hz/sr]

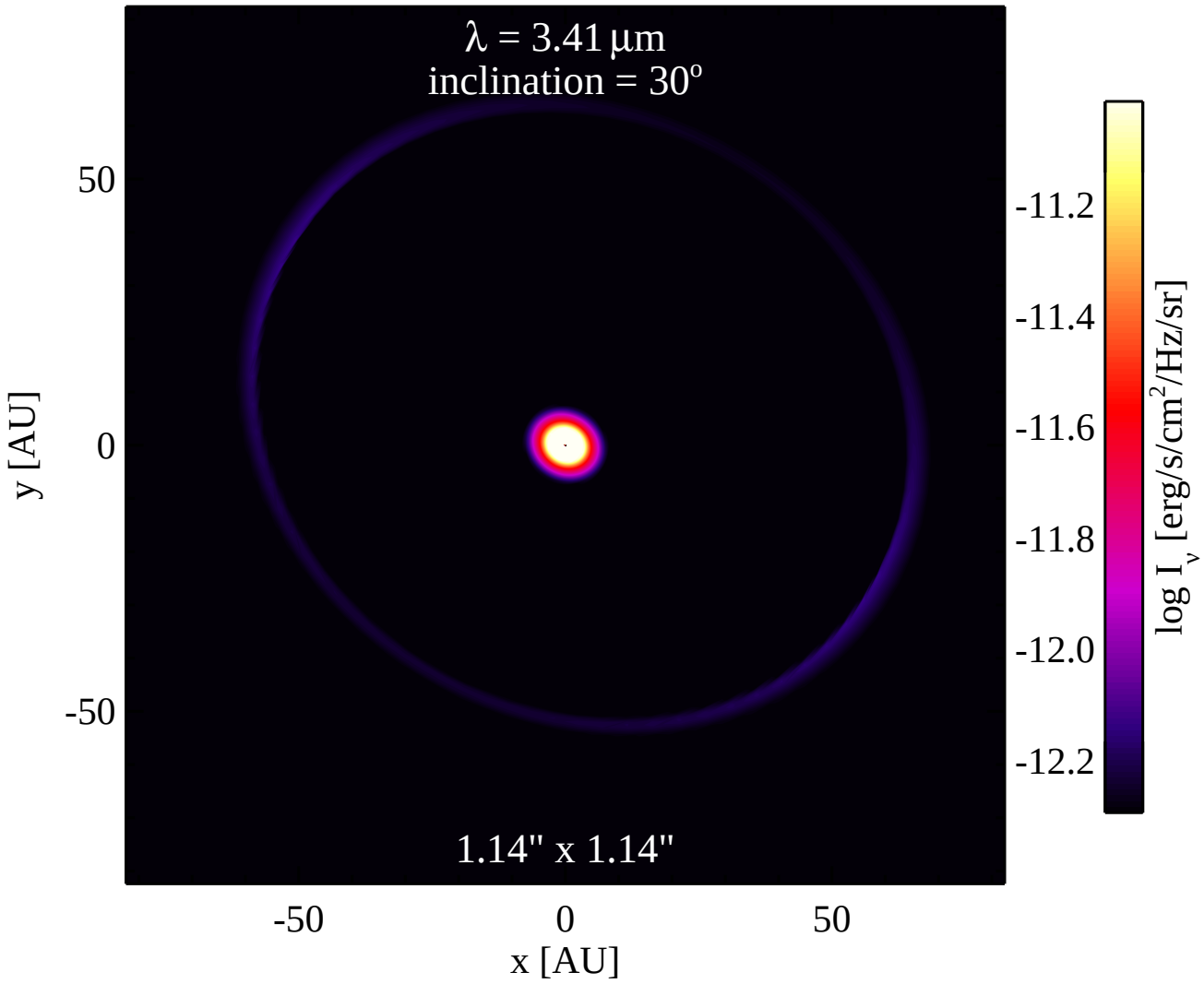

λ = 1.51 μm
inclination = 30°
1.31" x 1.31"
50
0
-50
y [AU]
-50
0
50
x [AU]
-11.6
-11.8
-12.0
-12.2
-12.4
-12.6
log I_ν [erg/s/cm²/Hz/sr]

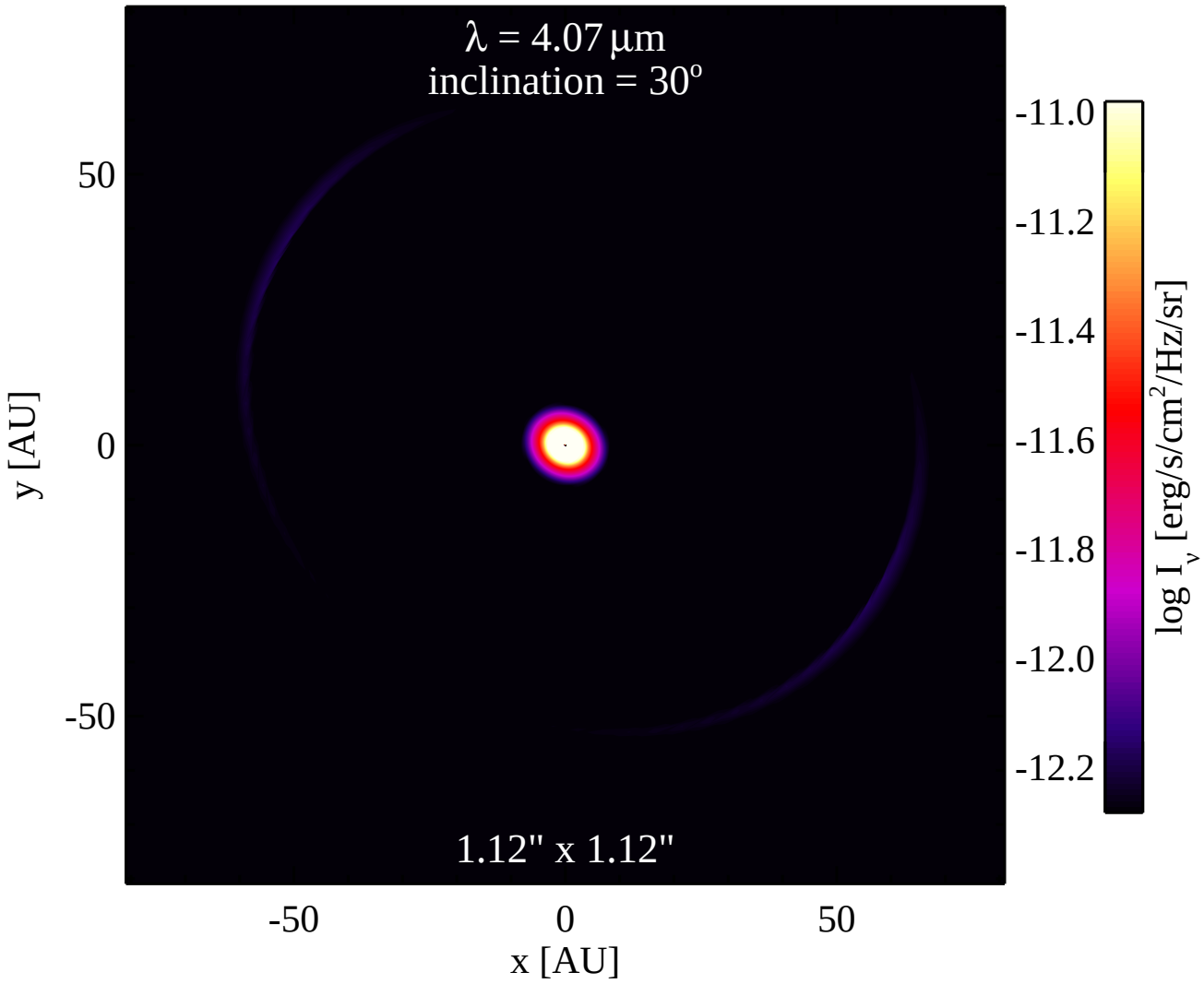

λ = 1.92 μm
inclination = 30°
1.25" x 1.25"
50
0
-50
y [AU]
-50
0
50
x [AU]
-11.6
-11.8
-12.0
-12.2
-12.4
log I_ν [erg/s/cm²/Hz/sr]

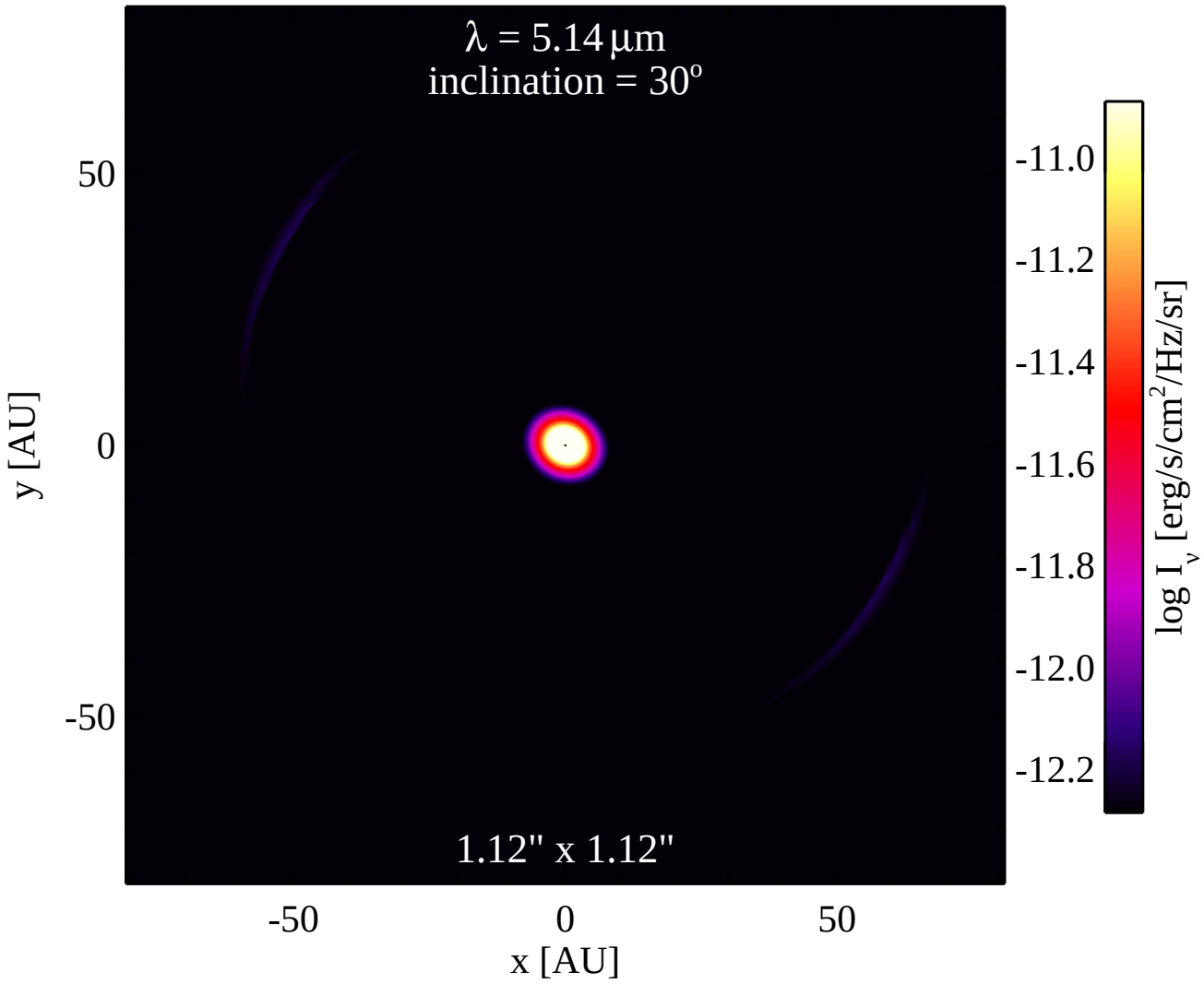

λ = 2.42 μm
inclination = 30°
1.20" x 1.20"
50
0
-50
y [AU]
-50
0
50
x [AU]
-11.4
-11.6
-11.8
-12.0
-12.2
log I_ν [erg/s/cm²/Hz/sr]

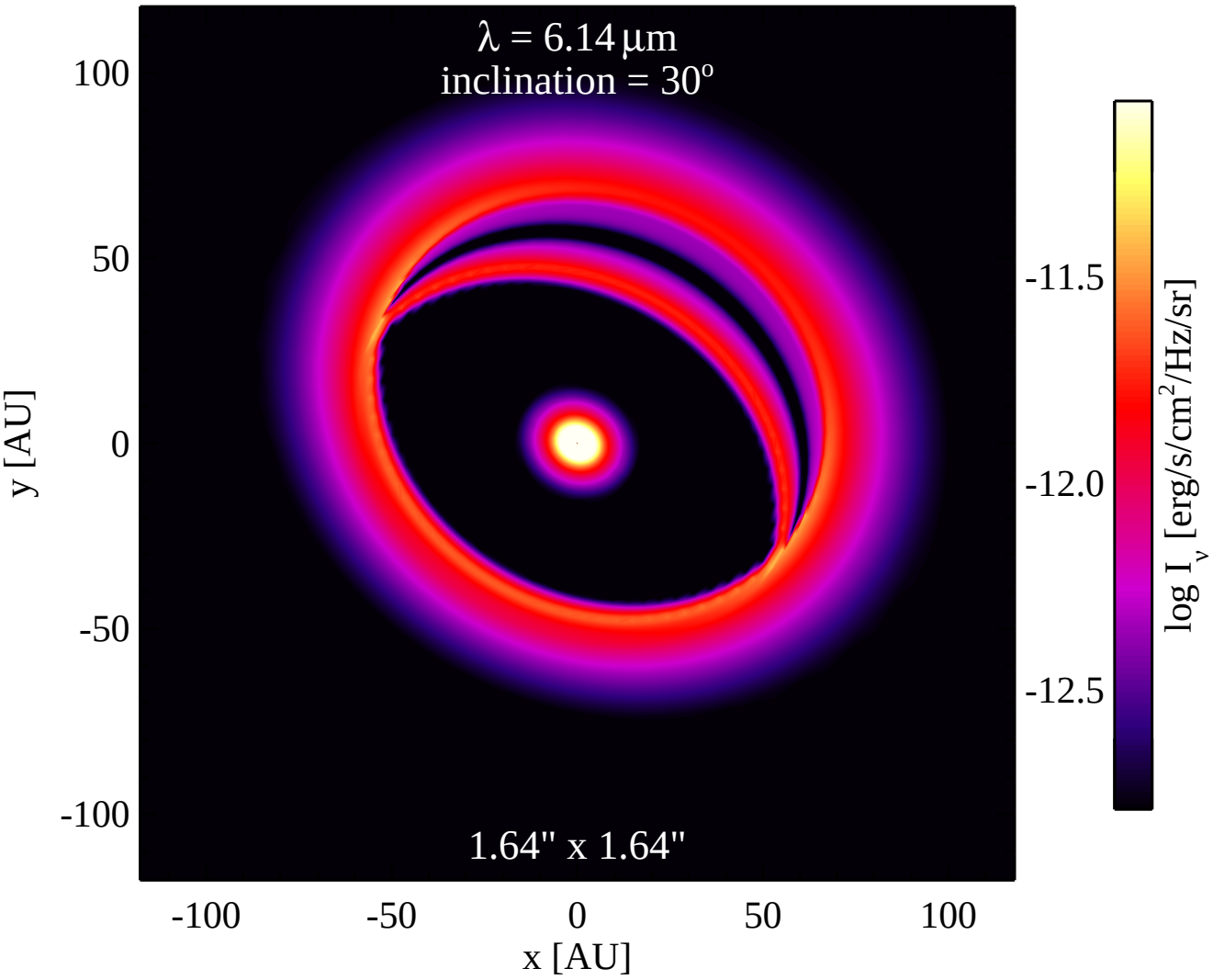

λ = 3.07 μm
inclination = 30°
1.16" x 1.16"
50
0
-50
y [AU]
-50
0
50
x [AU]
-11.2
-11.4
-11.6
-11.8
-12.0
-12.2
log I_ν [erg/s/cm²/Hz/sr]

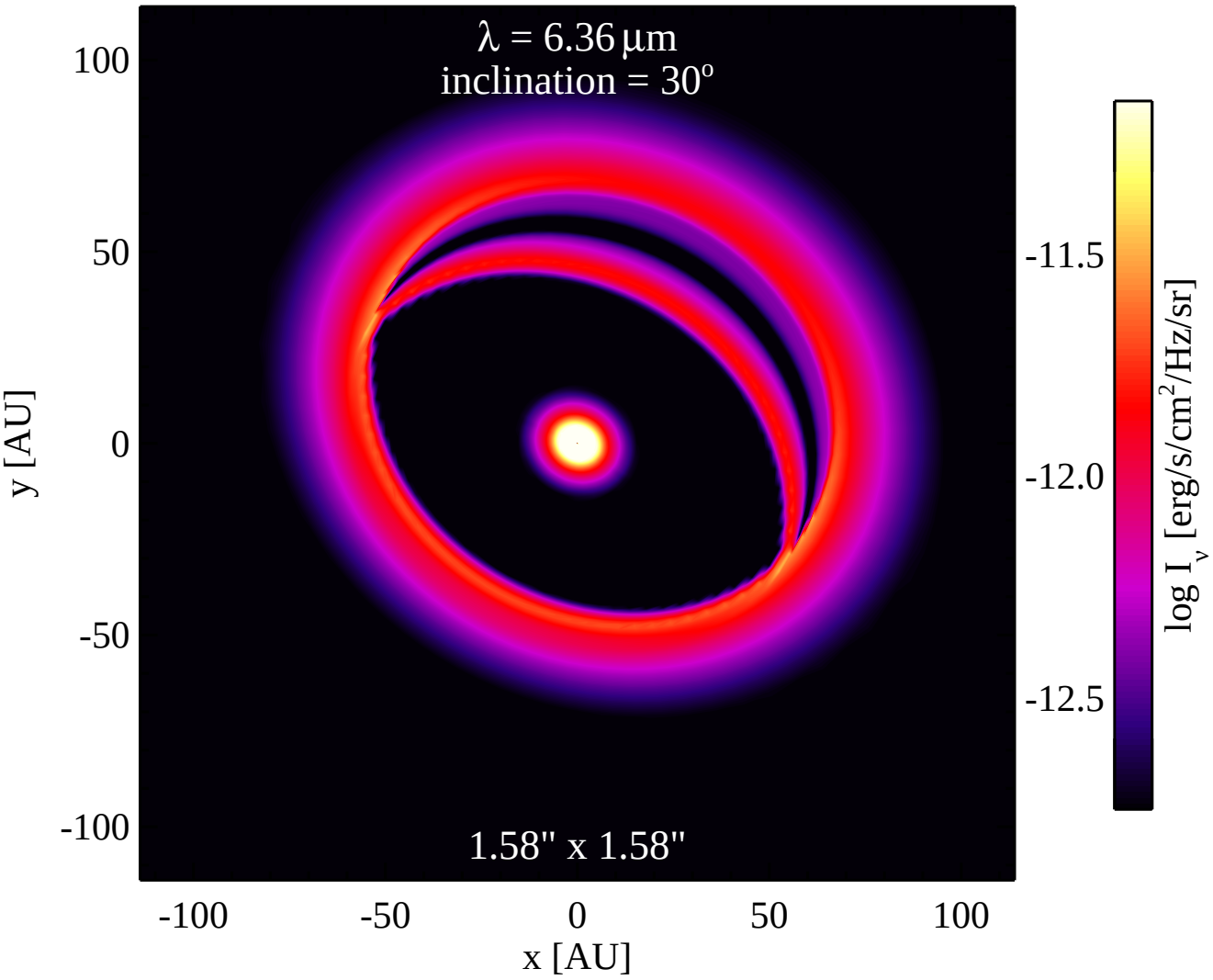

λ = 3.29 μm
inclination = 30°
1.15" x 1.15"
50
0
-50
y [AU]
-50
0
50
x [AU]
-11.0
-11.2
-11.4
-11.6
-11.8
-12.0
-12.2
log I_ν [erg/s/cm²/Hz/sr]

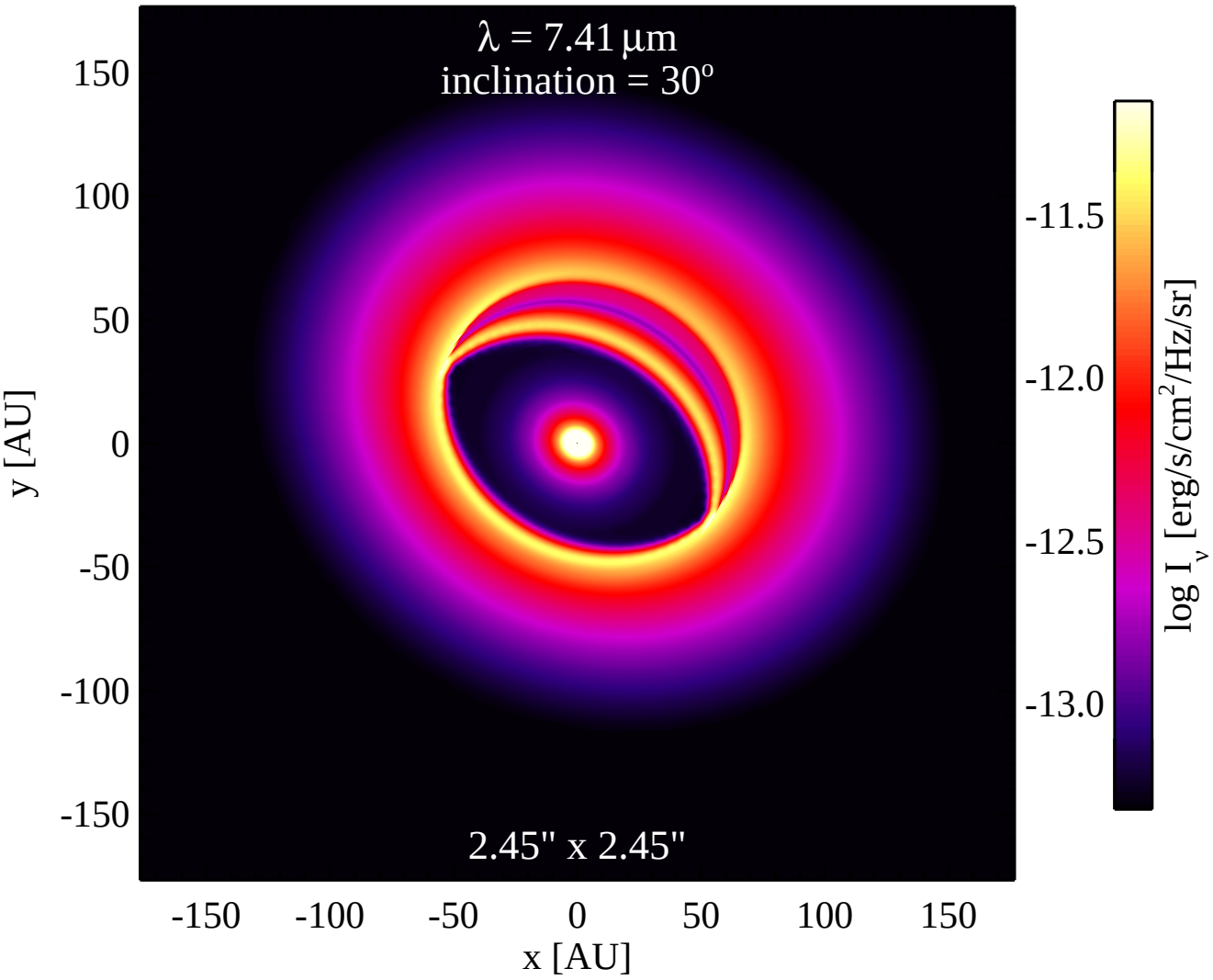

λ = 3.41 μm
inclination = 30°
1.14" x 1.14"
50
0
-50
y [AU]
-50
0
50
x [AU]
-11.2
-11.4
-11.6
-11.8
-12.0
-12.2
log I_ν [erg/s/cm²/Hz/sr]

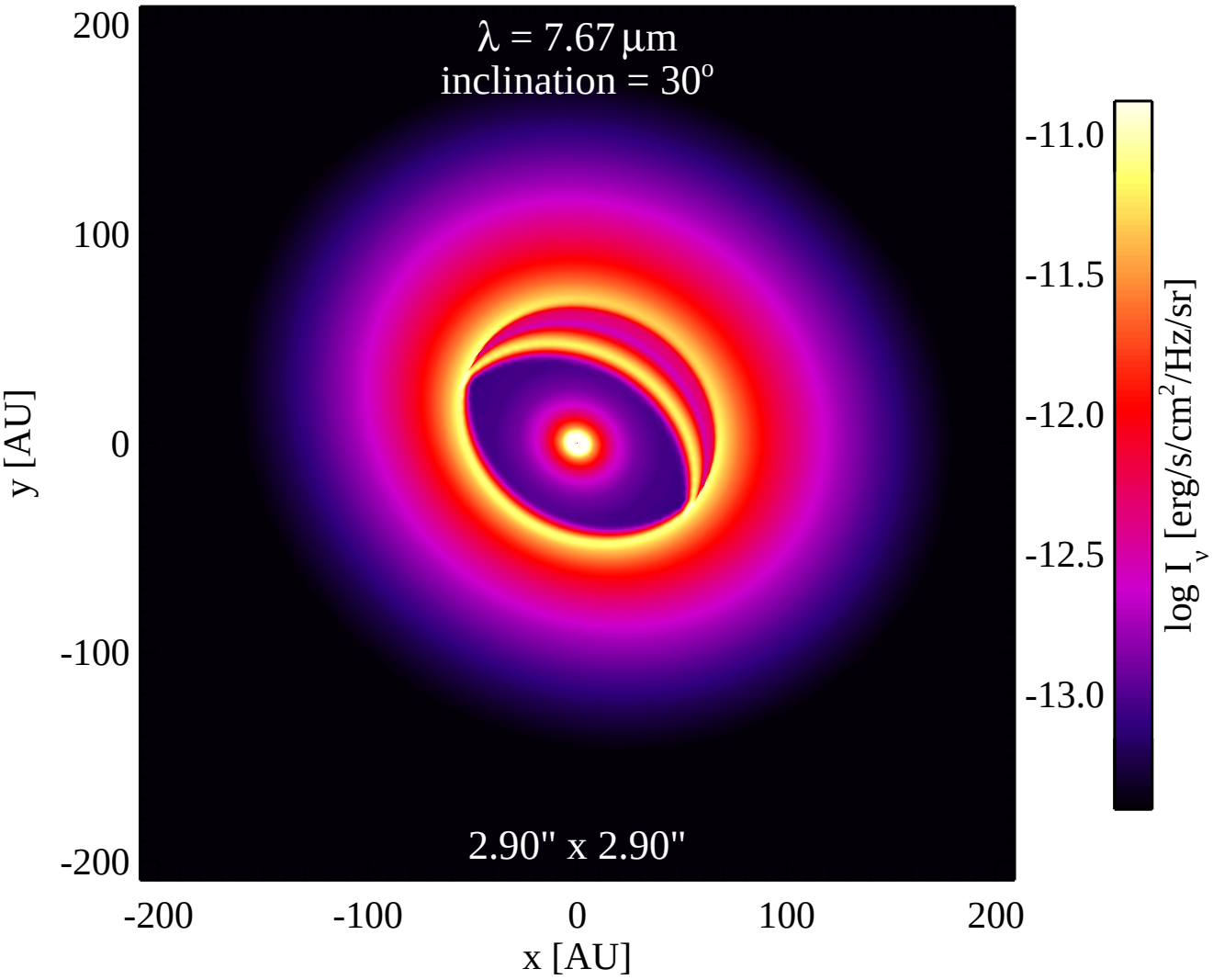

λ = 4.07 μm
inclination = 30°
1.12" x 1.12"
50
0
-50
y [AU]
-50
0
50
x [AU]
-11.0
-11.2
-11.4
-11.6
-11.8
-12.0
-12.2
log I_ν [erg/s/cm²/Hz/sr]

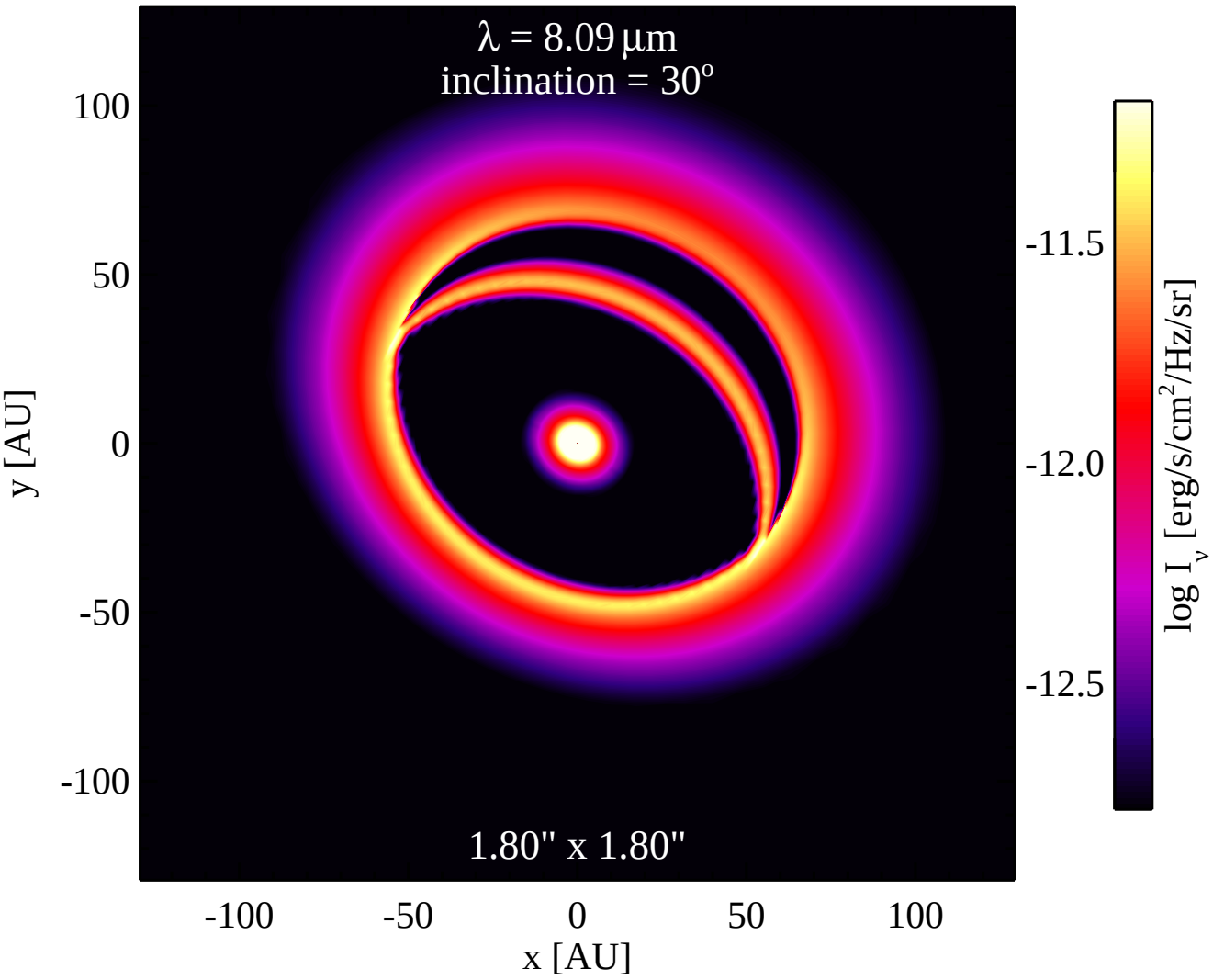

λ = 5.14 μm
inclination = 30°
1.12" x 1.12"
50
0
-50
y [AU]
-50
0
50
x [AU]
-11.0
-11.2
-11.4
-11.6
-11.8
-12.0
-12.2
log I_ν [erg/s/cm²/Hz/sr]

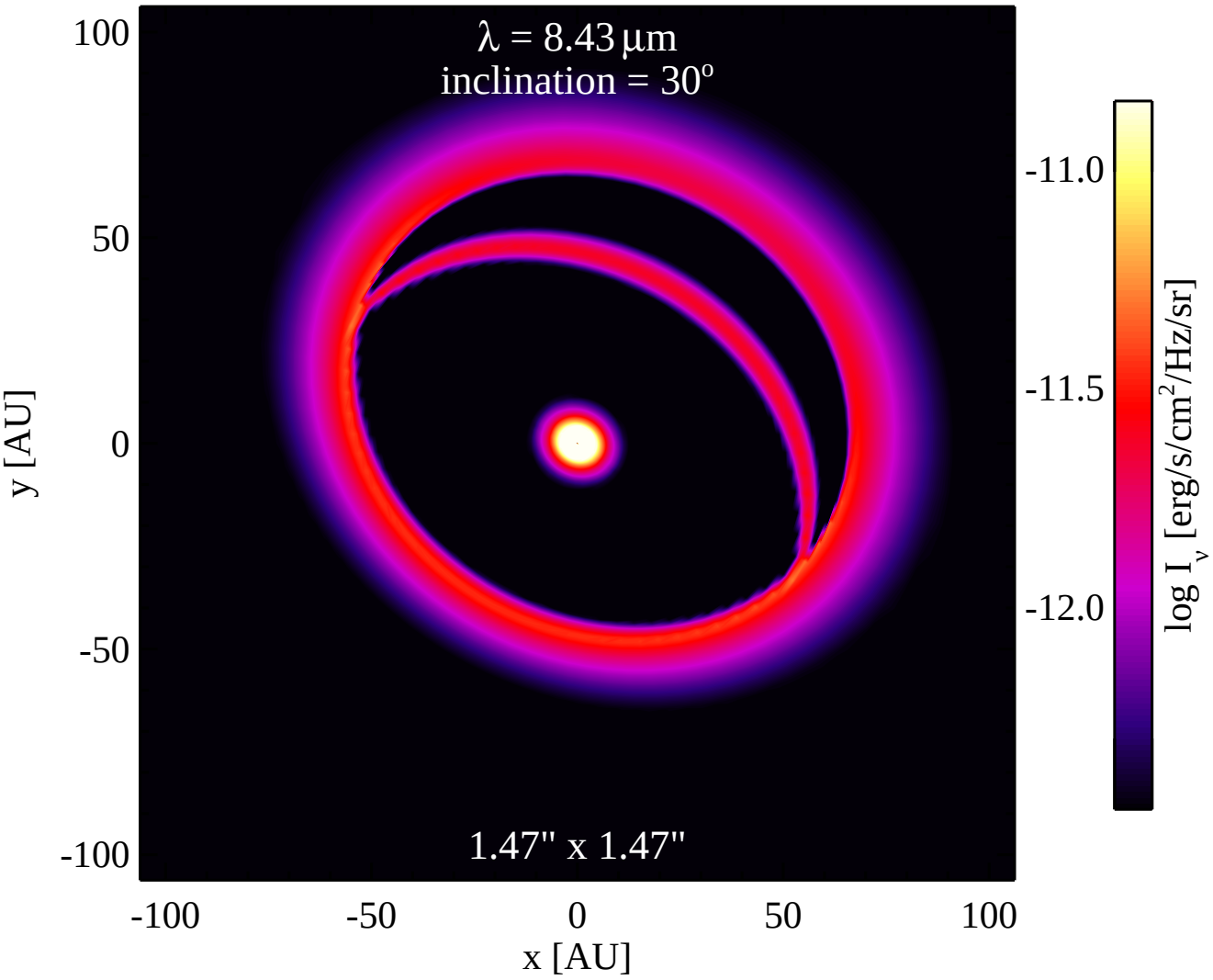

λ = 6.14 μm
inclination = 30°
1.64" x 1.64"
100
50
0
-50
-100
y [AU]
-100
-50
0
50
100
x [AU]
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

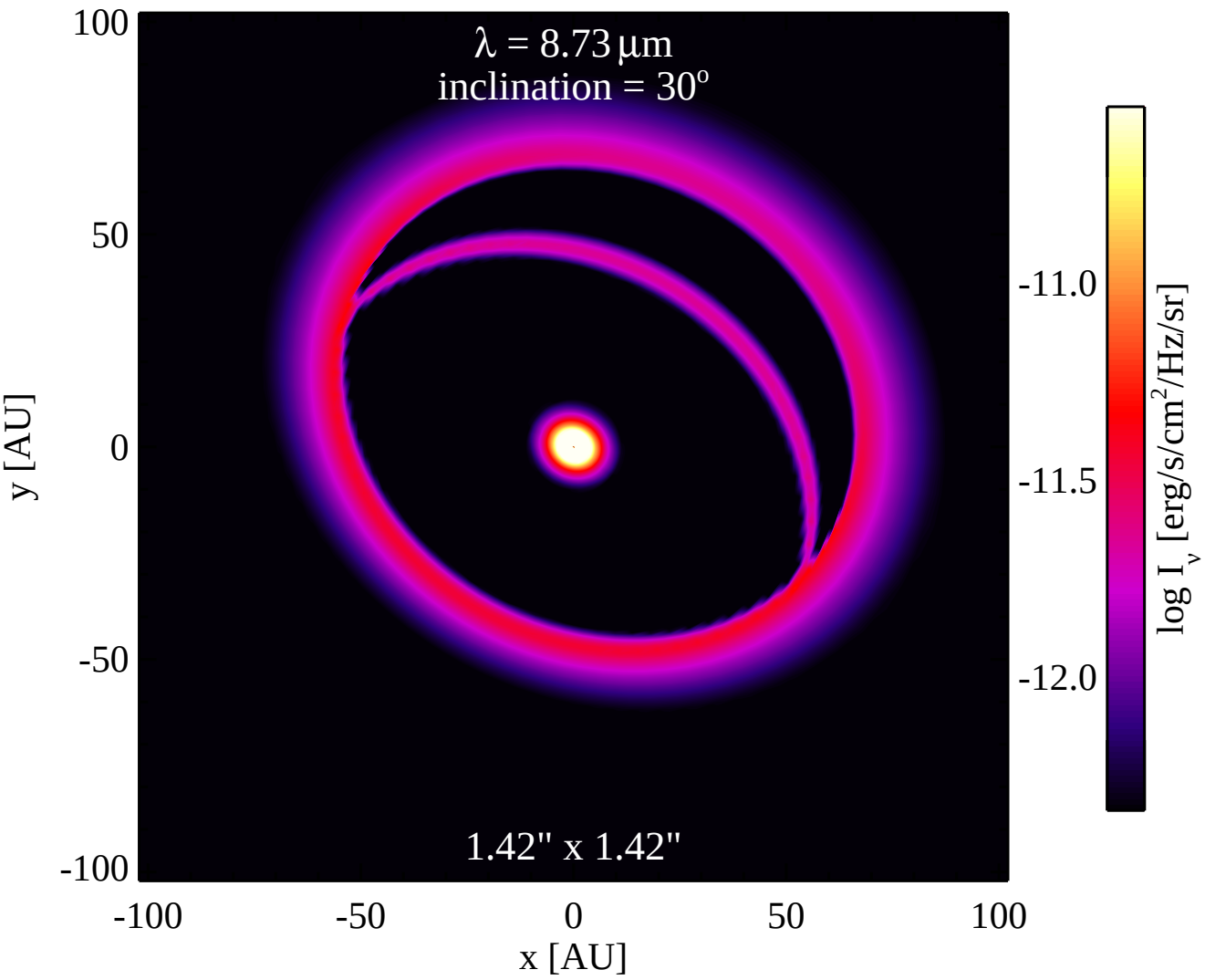

λ = 6.36 μm
inclination = 30°
1.58" x 1.58"
100
50
0
-50
-100
y [AU]
-100
-50
0
50
100
x [AU]
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

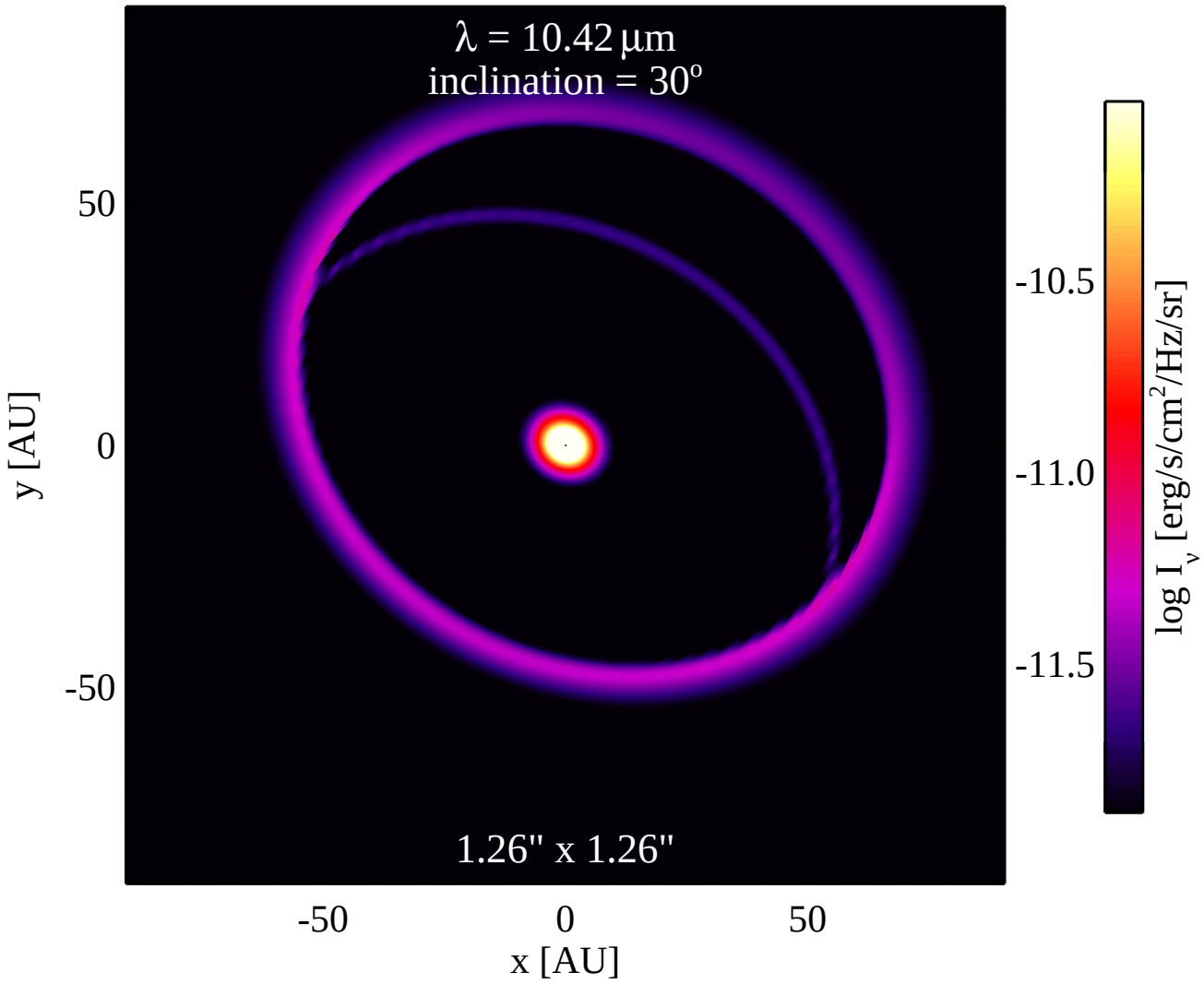

λ = 7.41 μm
inclination = 30°
2.45" x 2.45"
150
100
50
0
-50
-100
-150
y [AU]
-150
-100
-50
0
50
100
150
x [AU]
-11.5
-12.0
-12.5
-13.0
log I_ν [erg/s/cm²/Hz/sr]

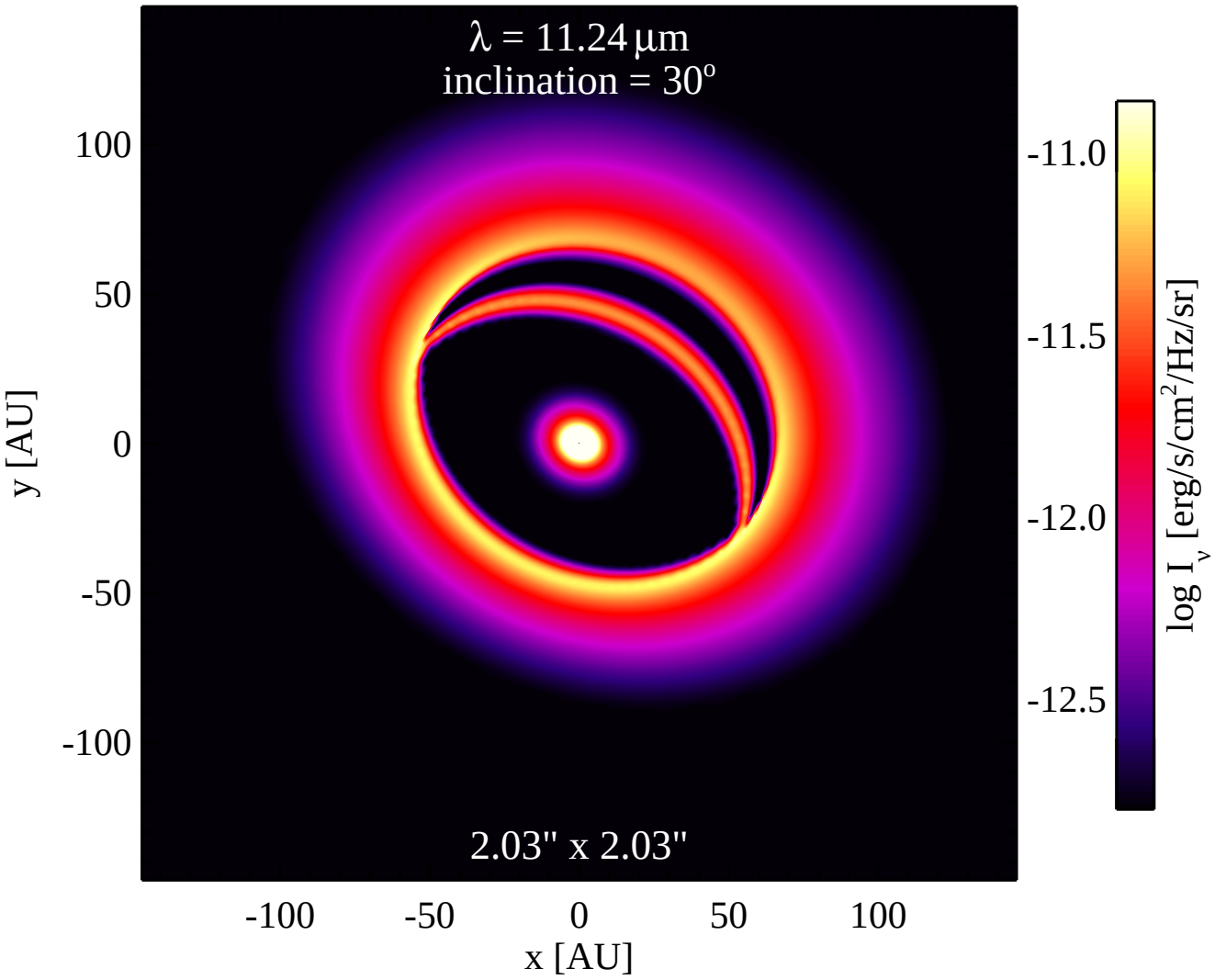

λ = 7.67 μm
inclination = 30°
2.90" x 2.90"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-11.0
-11.5
-12.0
-12.5
-13.0
log I_ν [erg/s/cm²/Hz/sr]

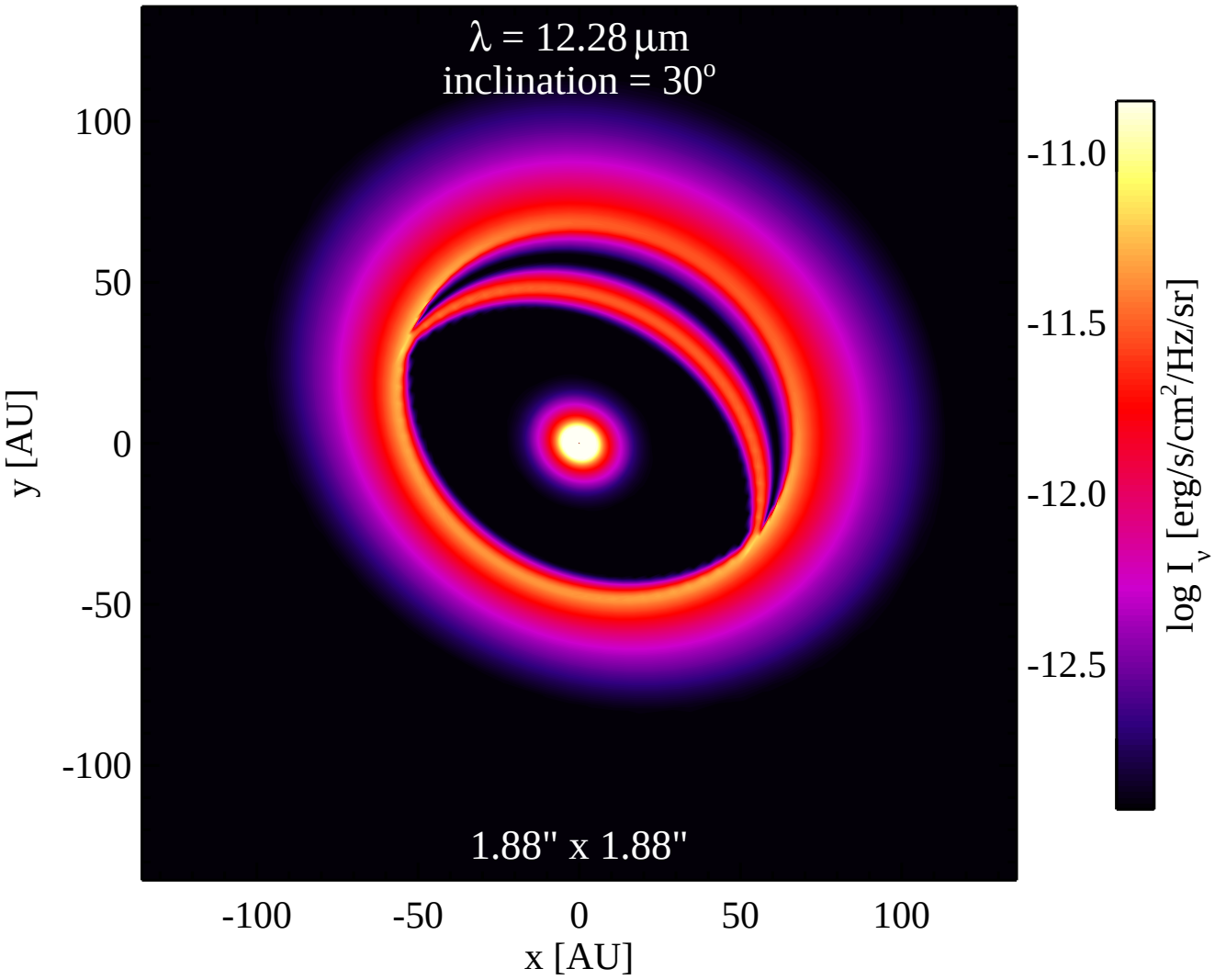

λ = 8.09 μm
inclination = 30°
1.80" x 1.80"
100
50
0
-50
-100
y [AU]
-100
-50
0
50
100
x [AU]
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

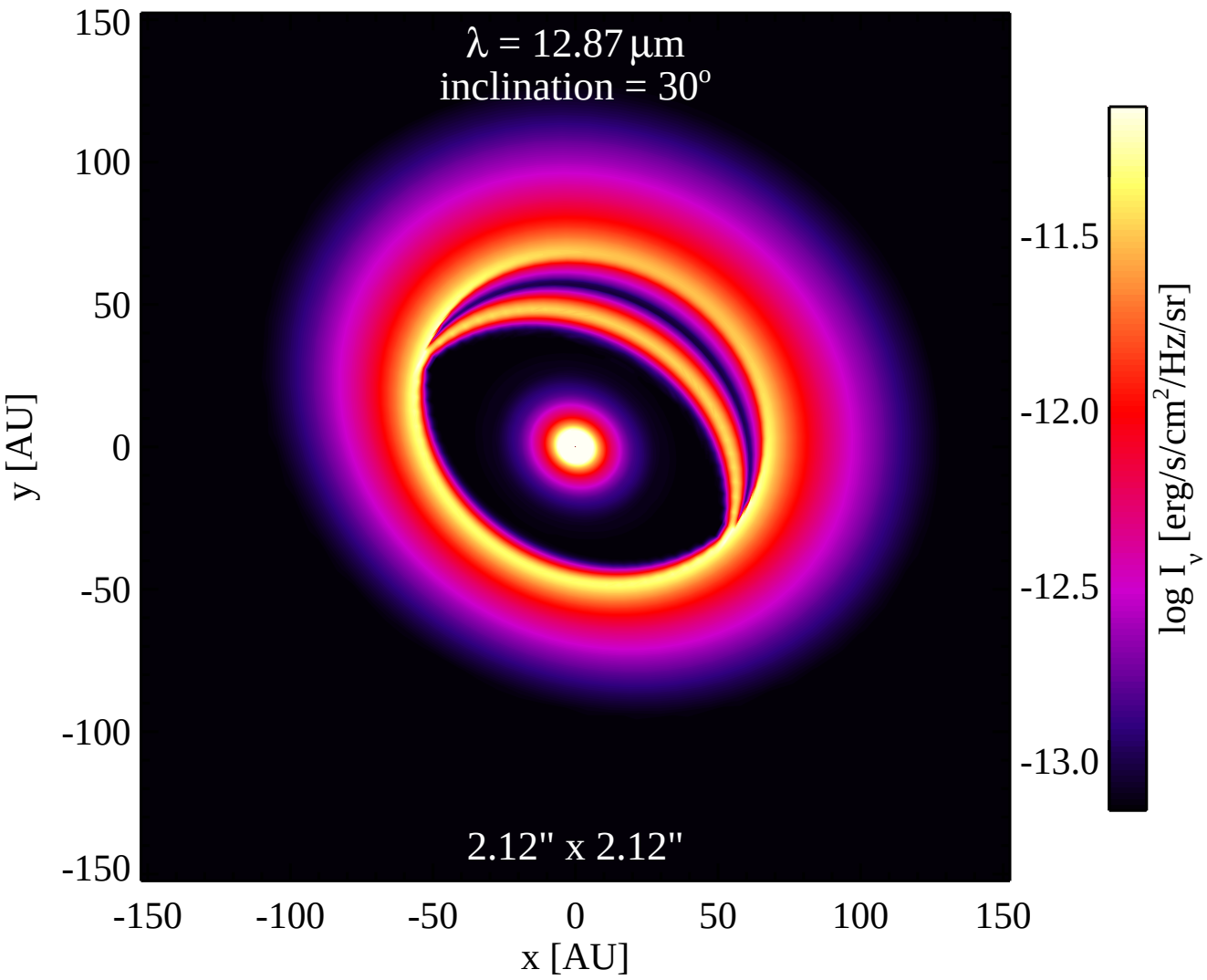

λ = 8.43 μm
inclination = 30°
1.47" x 1.47"
100
50
0
-50
-100
y [AU]
-100
-50
0
50
100
x [AU]
-11.0
-11.5
-12.0
log I_ν [erg/s/cm²/Hz/sr]

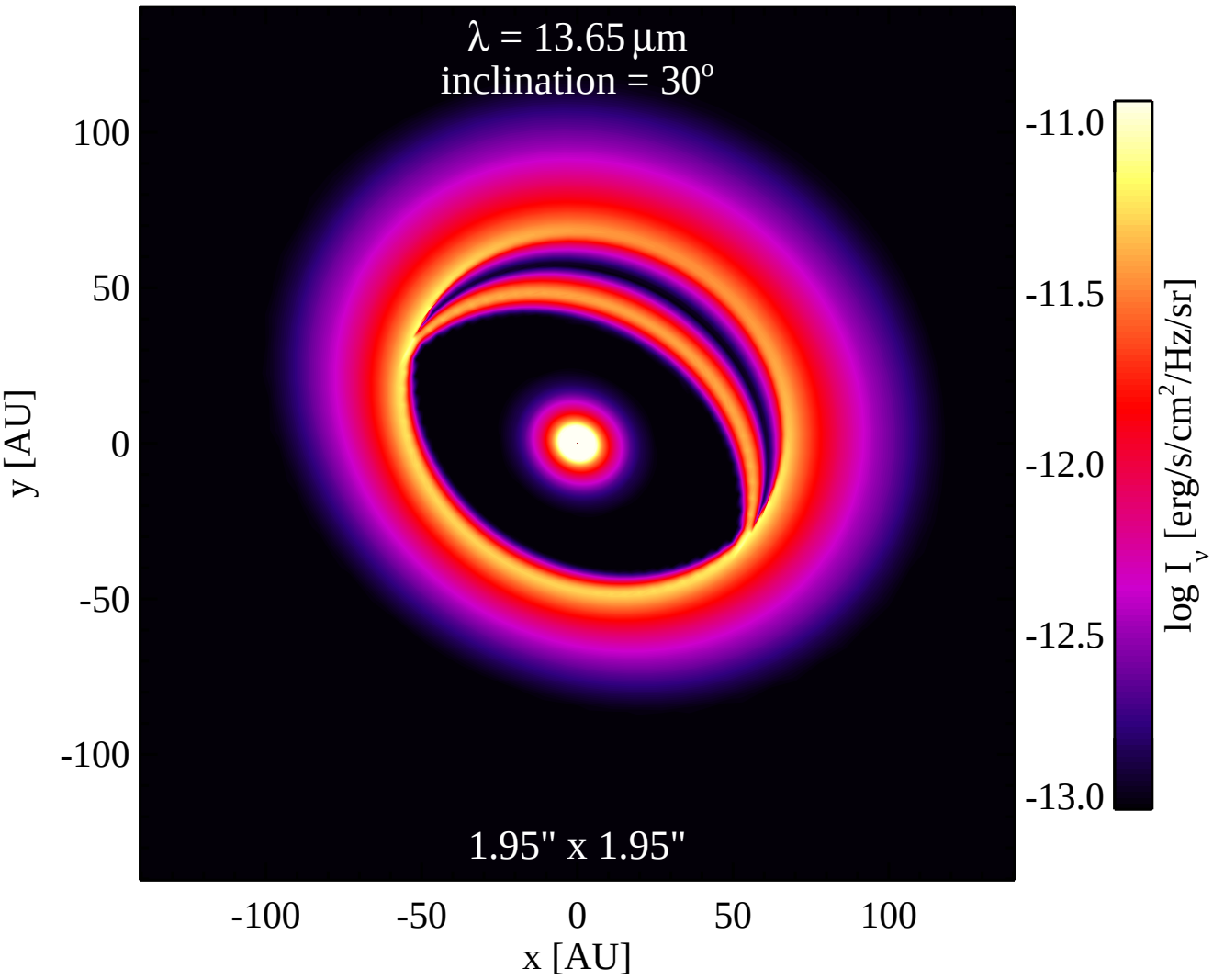

λ = 8.73 μm
inclination = 30°
1.42" x 1.42"
100
50
0
-50
-100
y [AU]
-100
-50
0
50
100
x [AU]
-11.0
-11.5
-12.0
log I_ν [erg/s/cm²/Hz/sr]

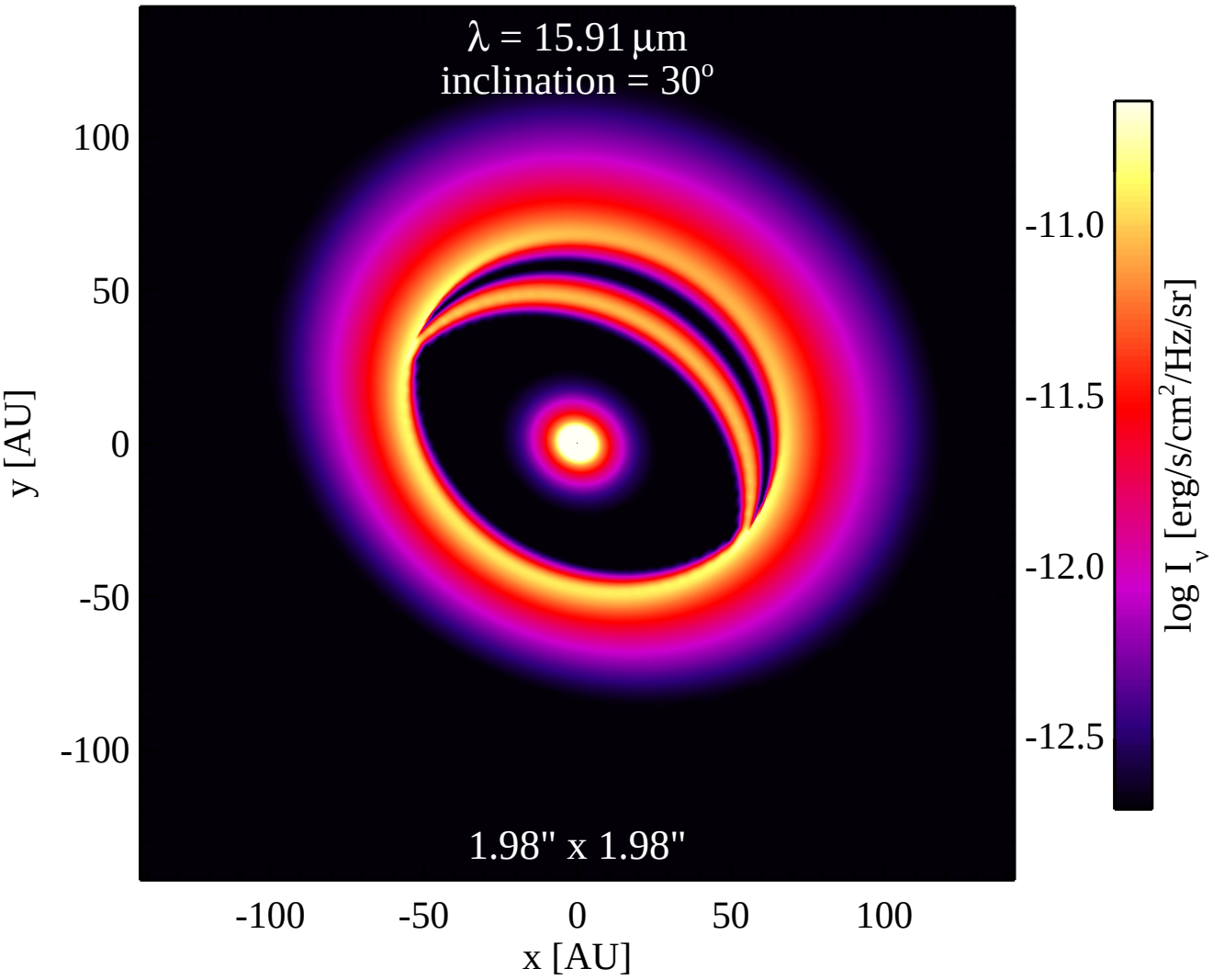

λ = 10.42 μm
inclination = 30°
1.26" x 1.26"
50
0
-50
y [AU]
-50
0
50
x [AU]
-10.5
-11.0
-11.5
log I_ν [erg/s/cm²/Hz/sr]

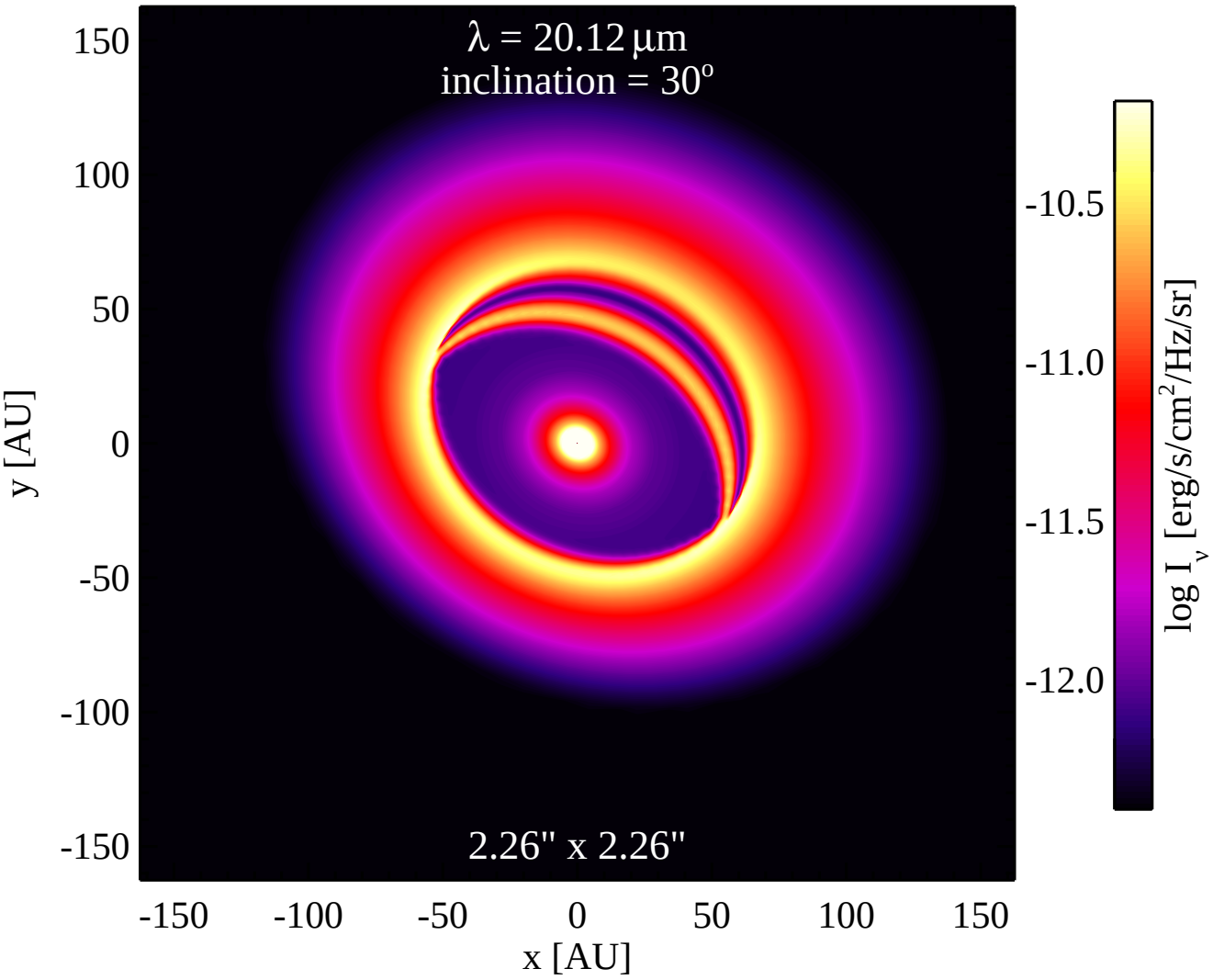

λ = 11.24 μm
inclination = 30°
2.03" x 2.03"
100
50
0
-50
-100
y [AU]
-100
-50
0
50
100
x [AU]
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

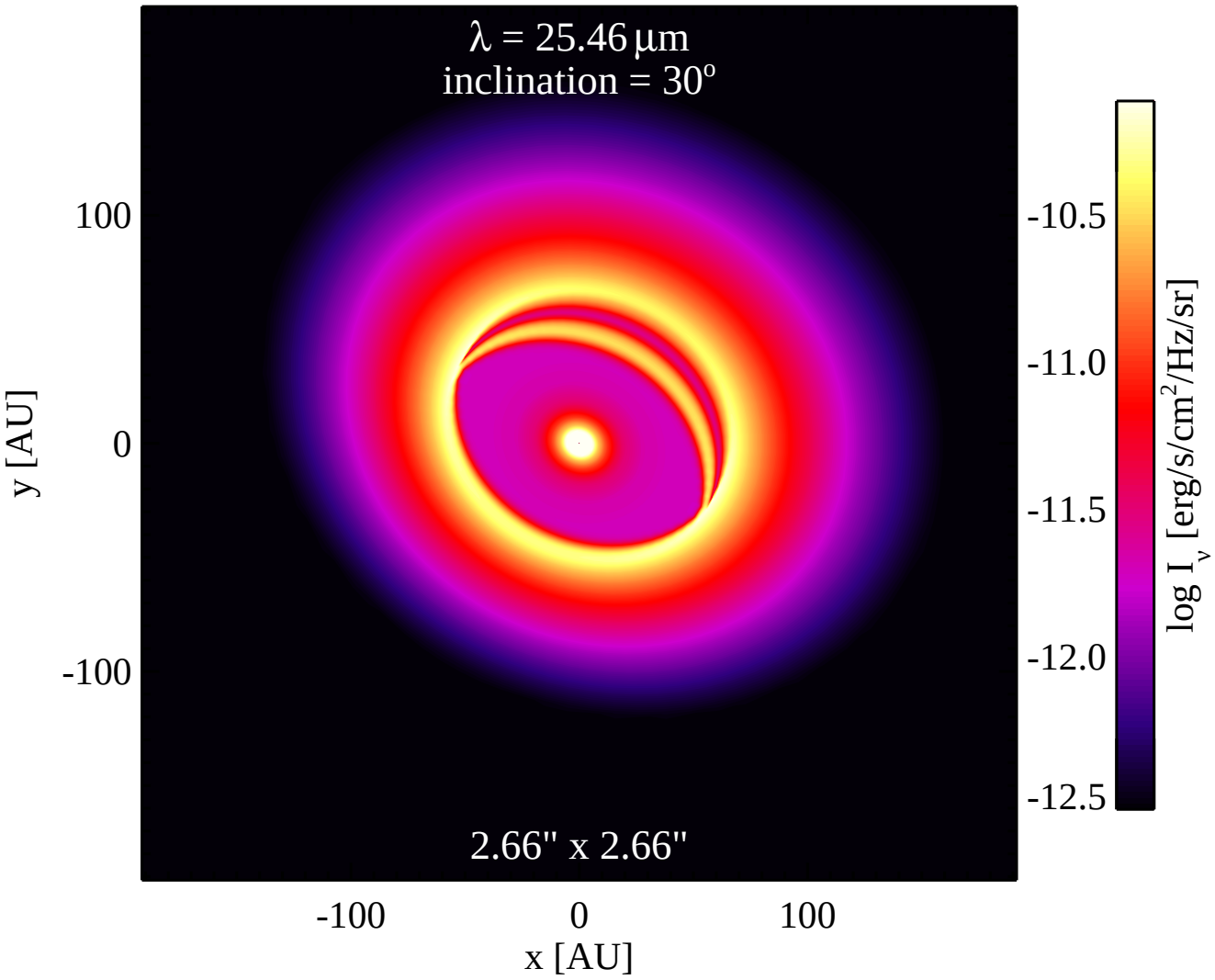

λ = 12.28 μm
inclination = 30°
1.88" x 1.88"
100
50
0
-50
-100
y [AU]
-100
-50
0
50
100
x [AU]
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

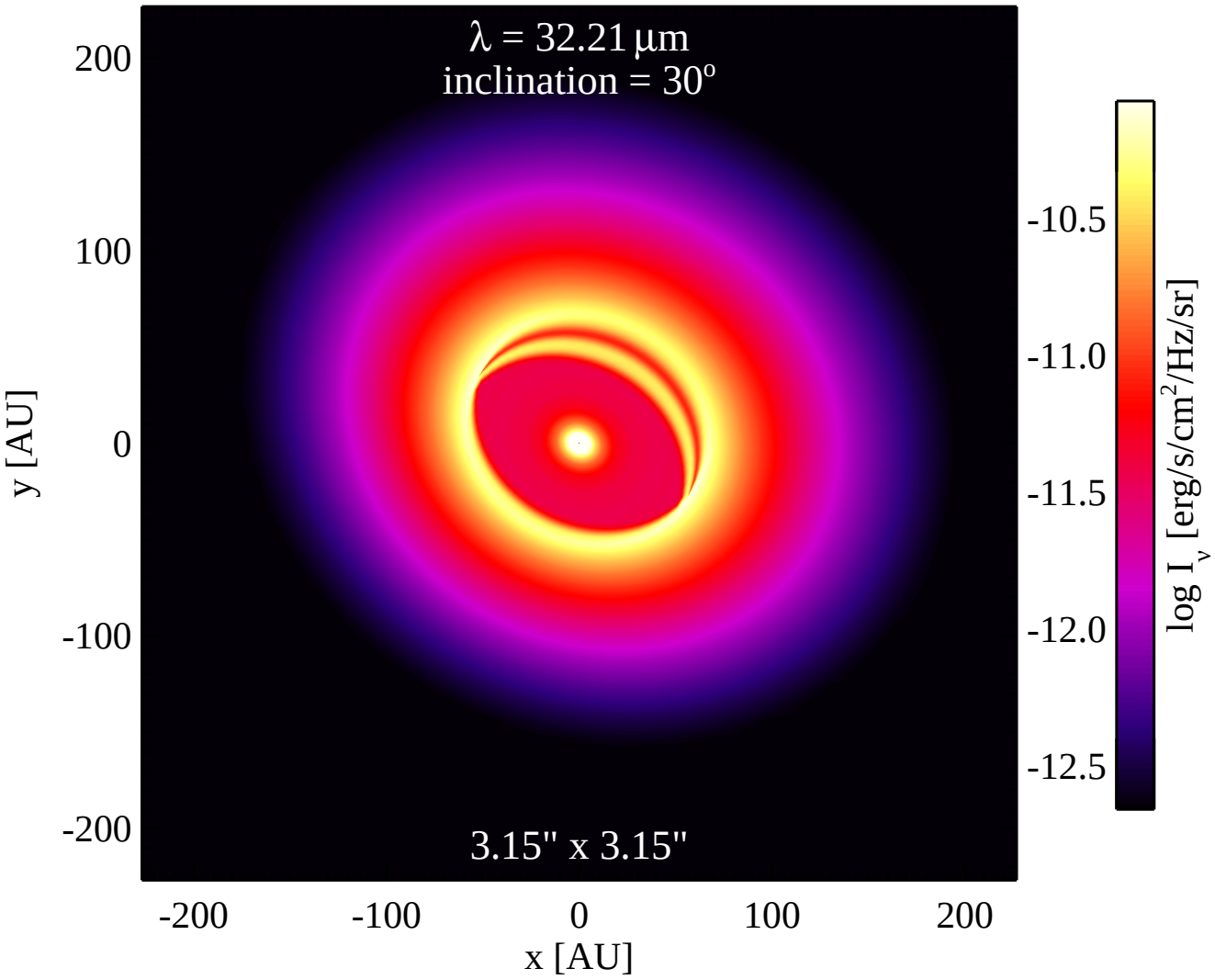

λ = 12.87 μm
inclination = 30°
2.12" x 2.12"
150
100
50
0
-50
-100
-150
y [AU]
-150
-100
-50
0
50
100
150
x [AU]
-11.5
-12.0
-12.5
-13.0
log I_ν [erg/s/cm²/Hz/sr]

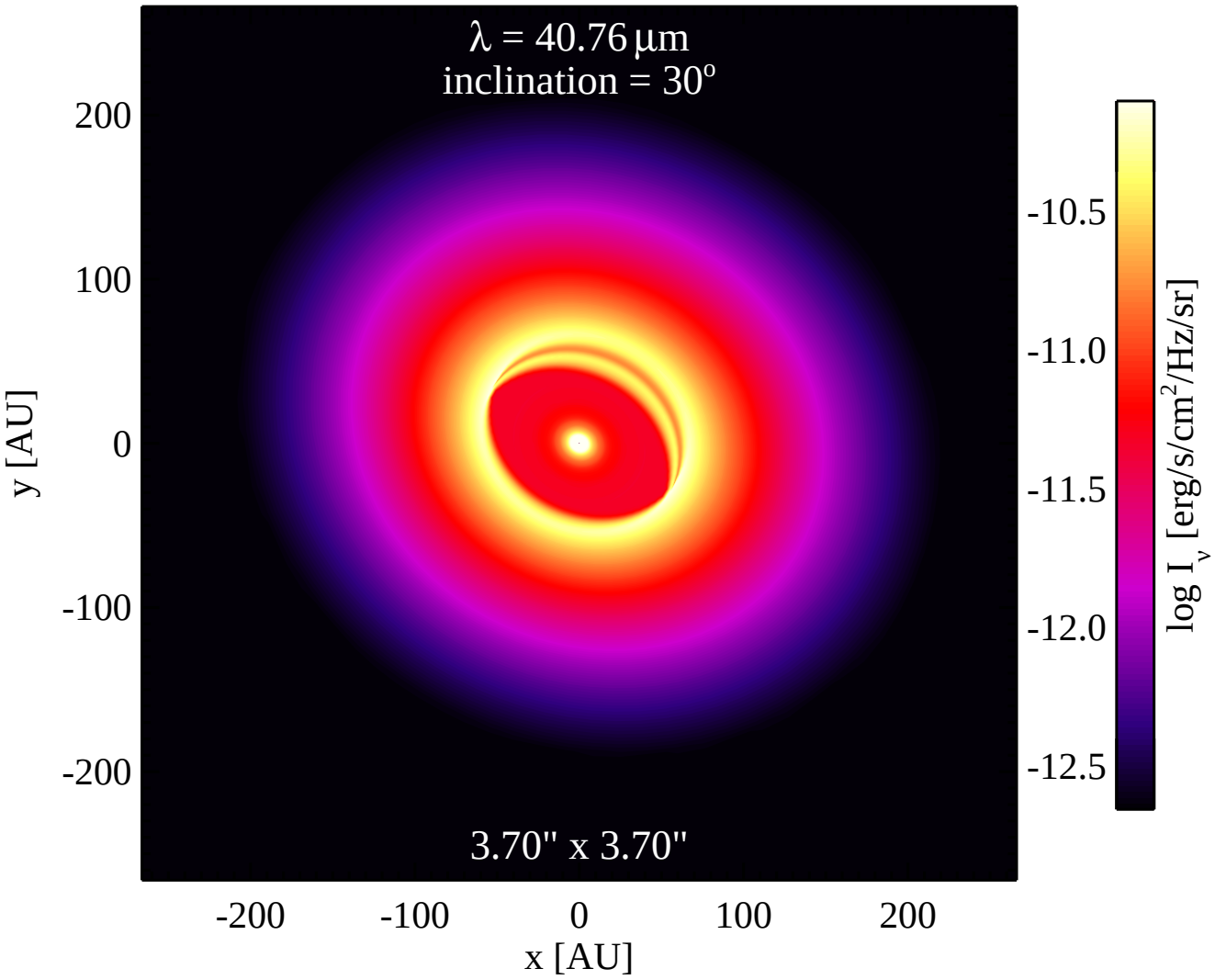

λ = 13.65 μm
inclination = 30°
1.95" x 1.95"
100
50
0
-50
-100
y [AU]
-100
-50
0
50
100
x [AU]
-11.0
-11.5
-12.0
-12.5
-13.0
log I_ν [erg/s/cm²/Hz/sr]

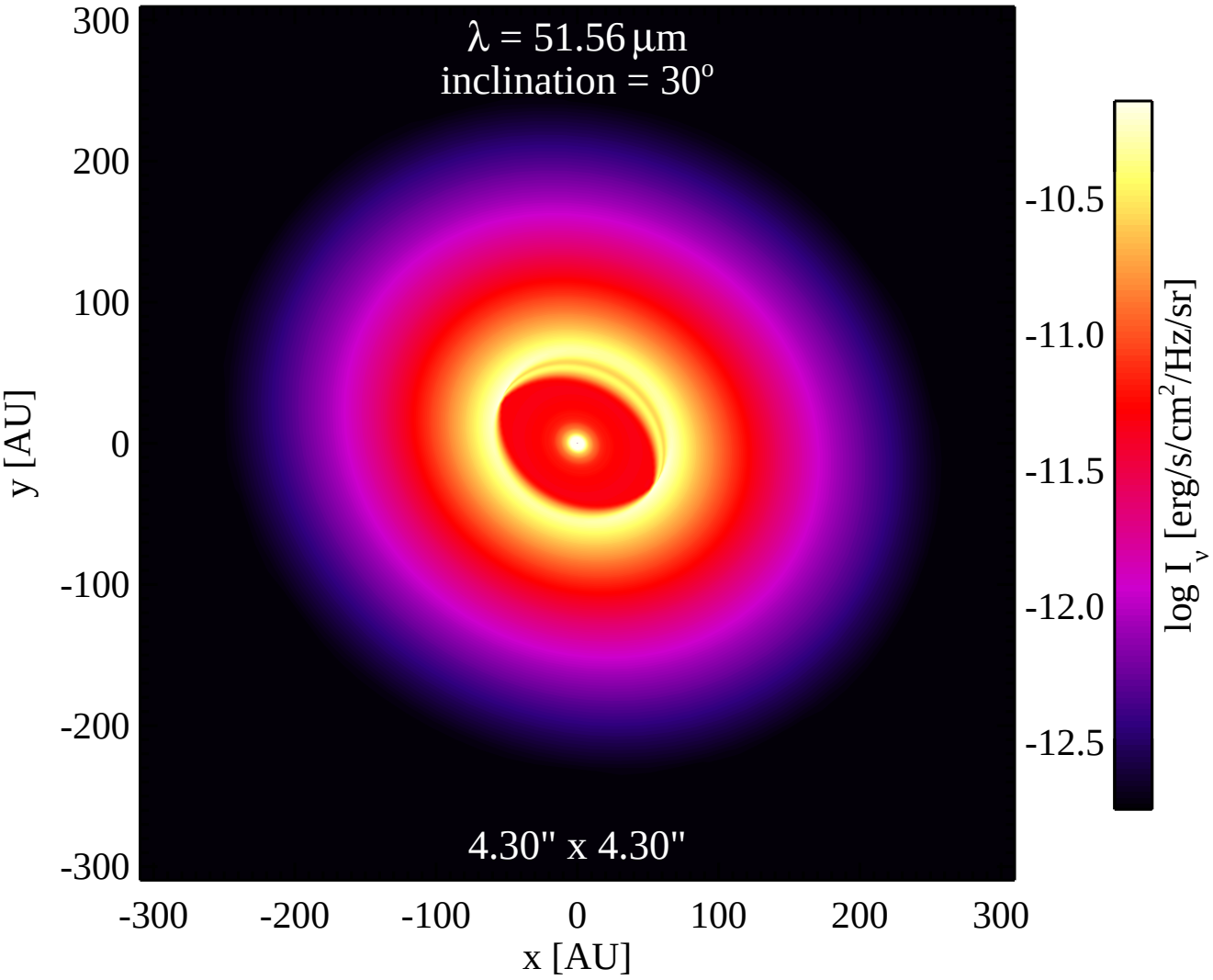

λ = 15.91 μm
inclination = 30°
1.98" x 1.98"
100
50
0
-50
-100
y [AU]
-100
-50
0
50
100
x [AU]
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

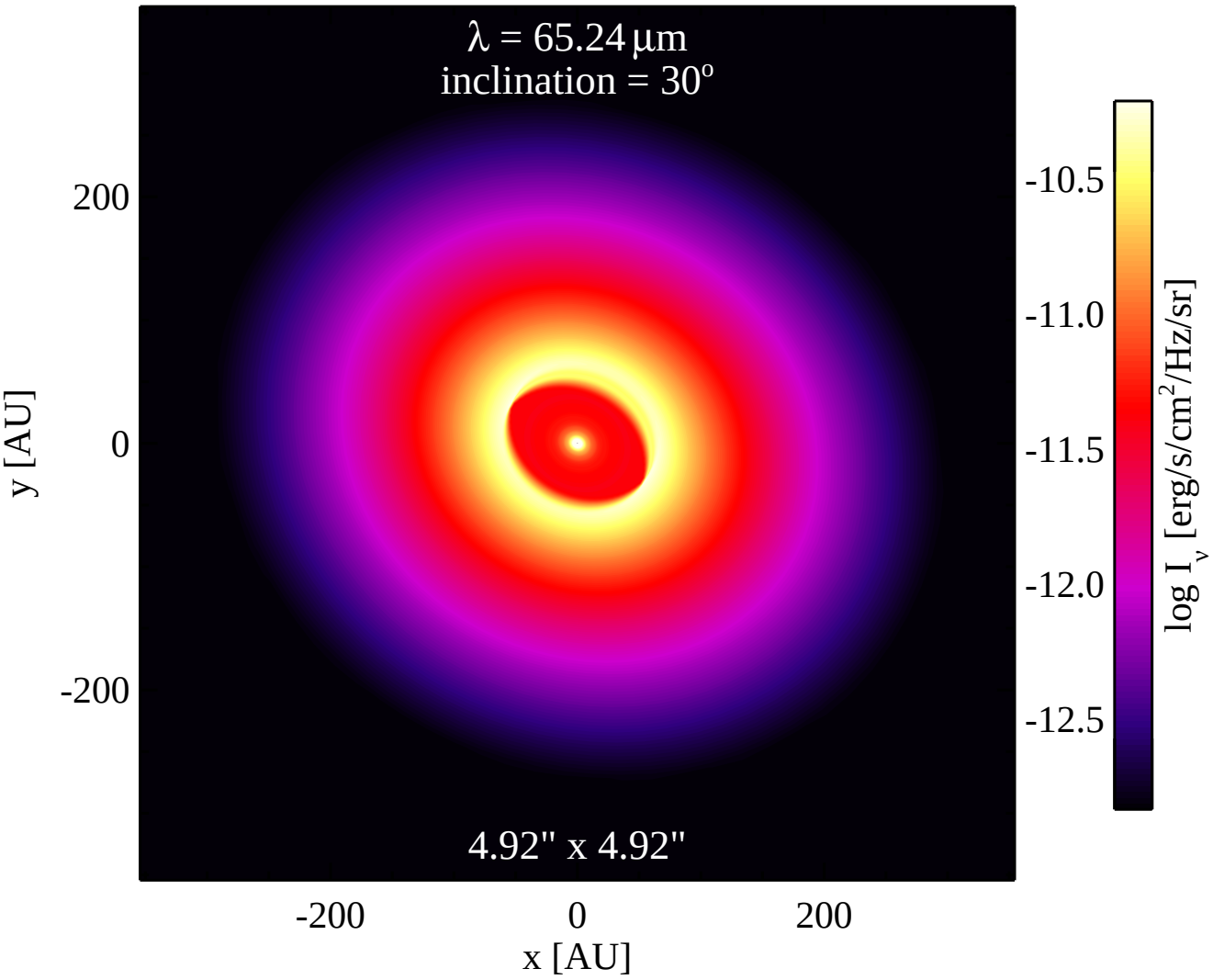

λ = 20.12 μm
inclination = 30°
2.26" x 2.26"
150
100
50
0
-50
-100
-150
y [AU]
-150
-100
-50
0
50
100
150
x [AU]
-10.5
-11.0
-11.5
-12.0
log I_ν [erg/s/cm²/Hz/sr]

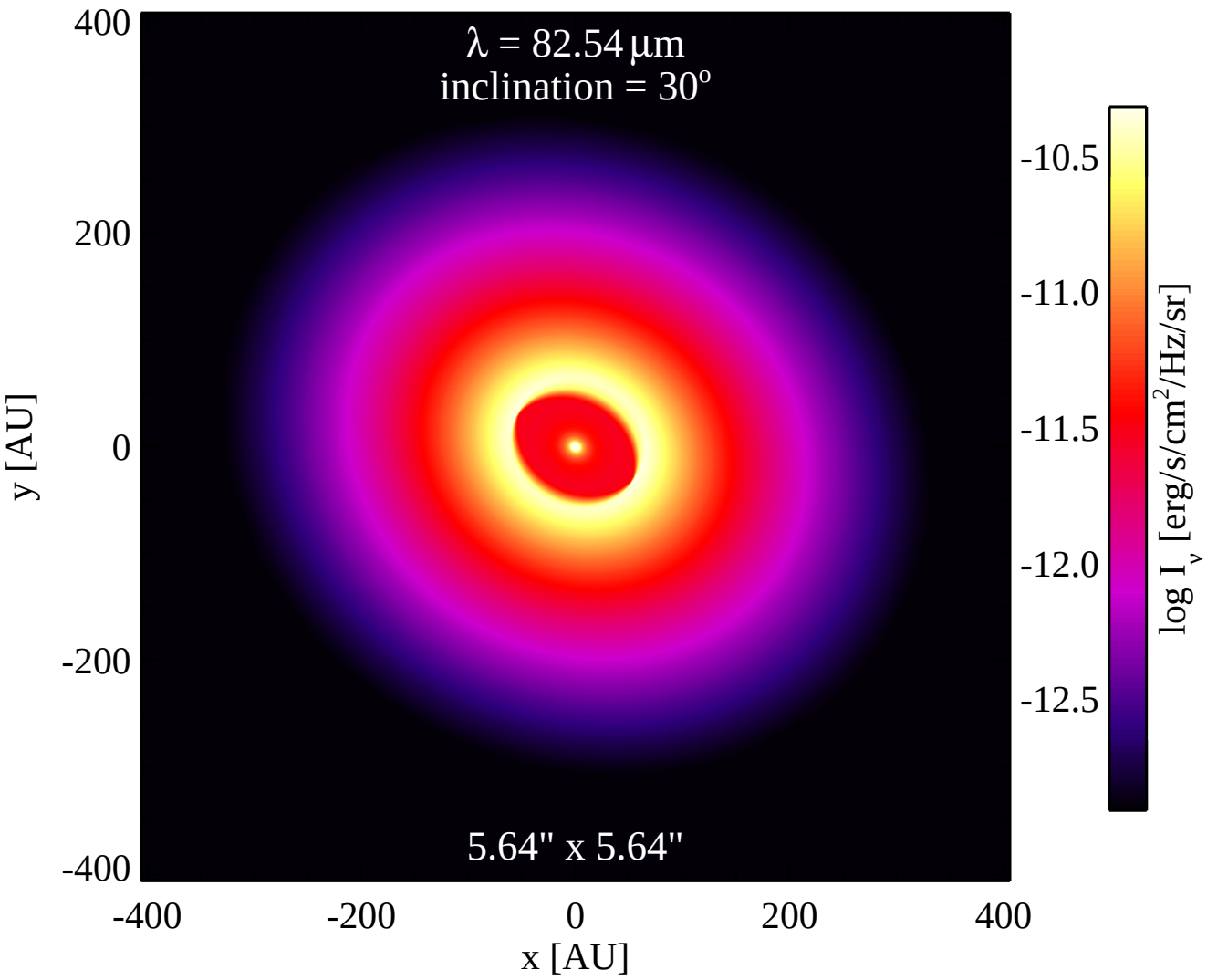

λ = 25.46 μm
inclination = 30°
2.66" x 2.66"
100
0
-100
y [AU]
-100
0
100
x [AU]
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

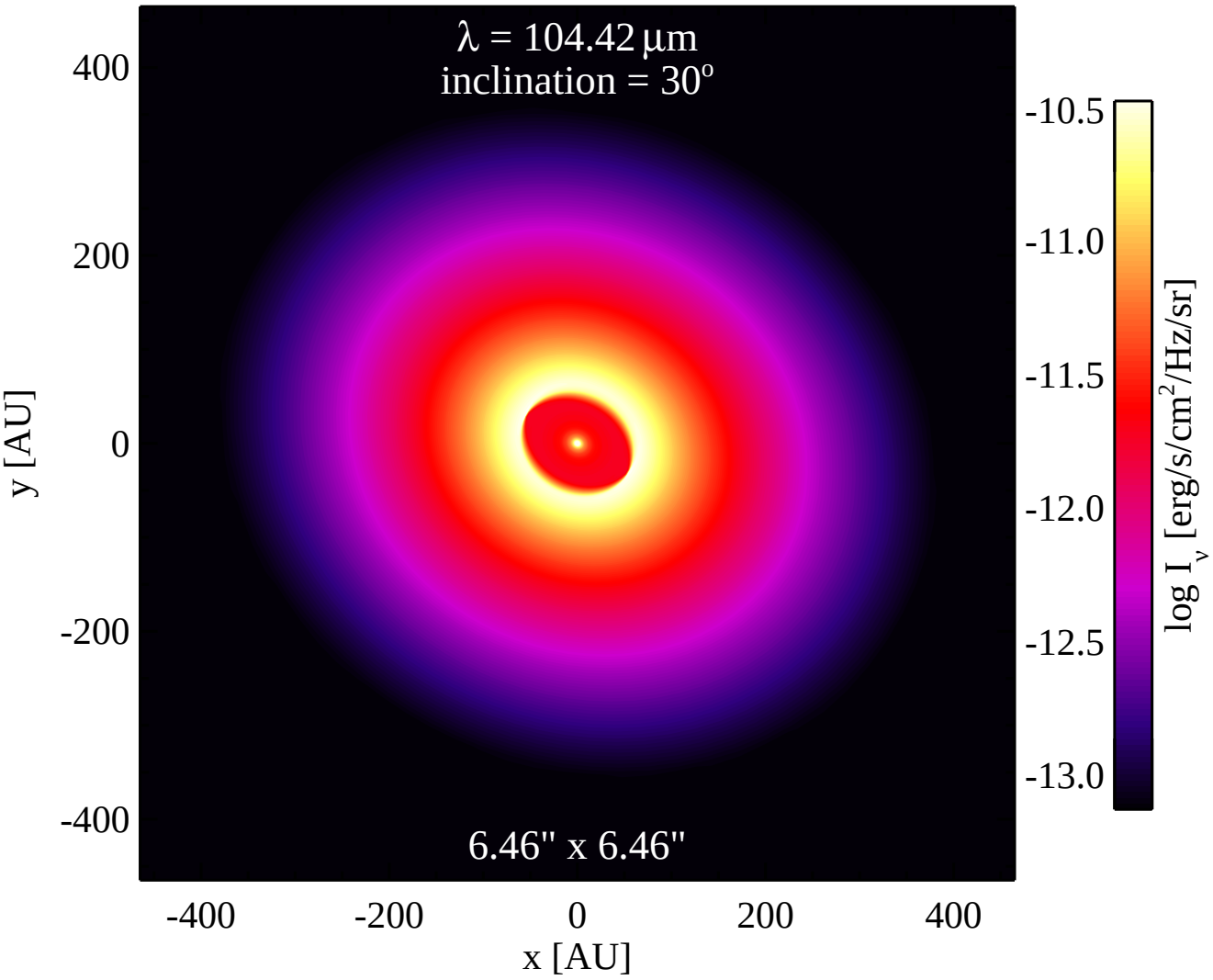

λ = 32.21 μm
inclination = 30°
3.15" x 3.15"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

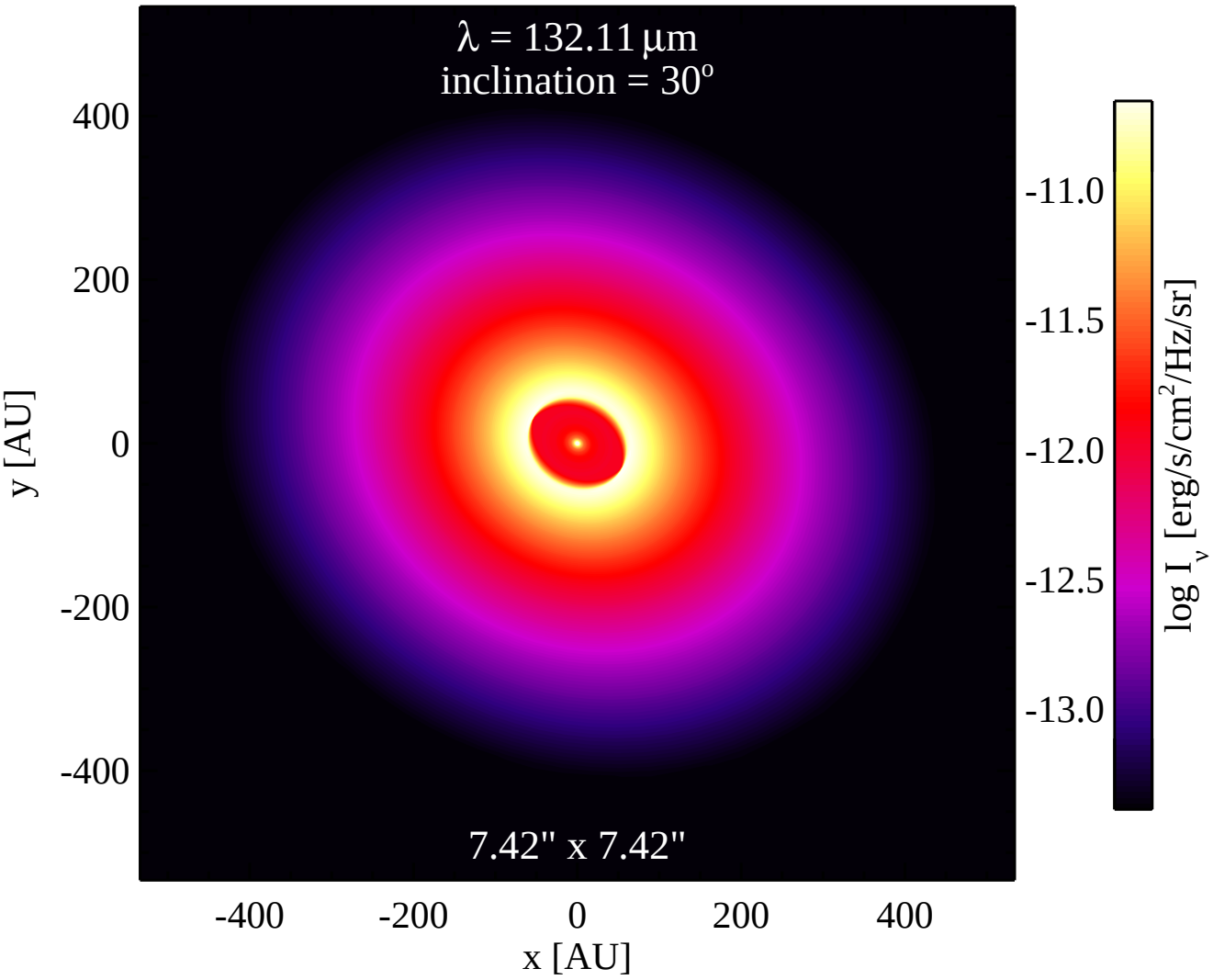

λ = 40.76 μm
inclination = 30°
3.70" x 3.70"
200
100
0
-100
-200
y [AU]
-200
-100
0
100
200
x [AU]
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

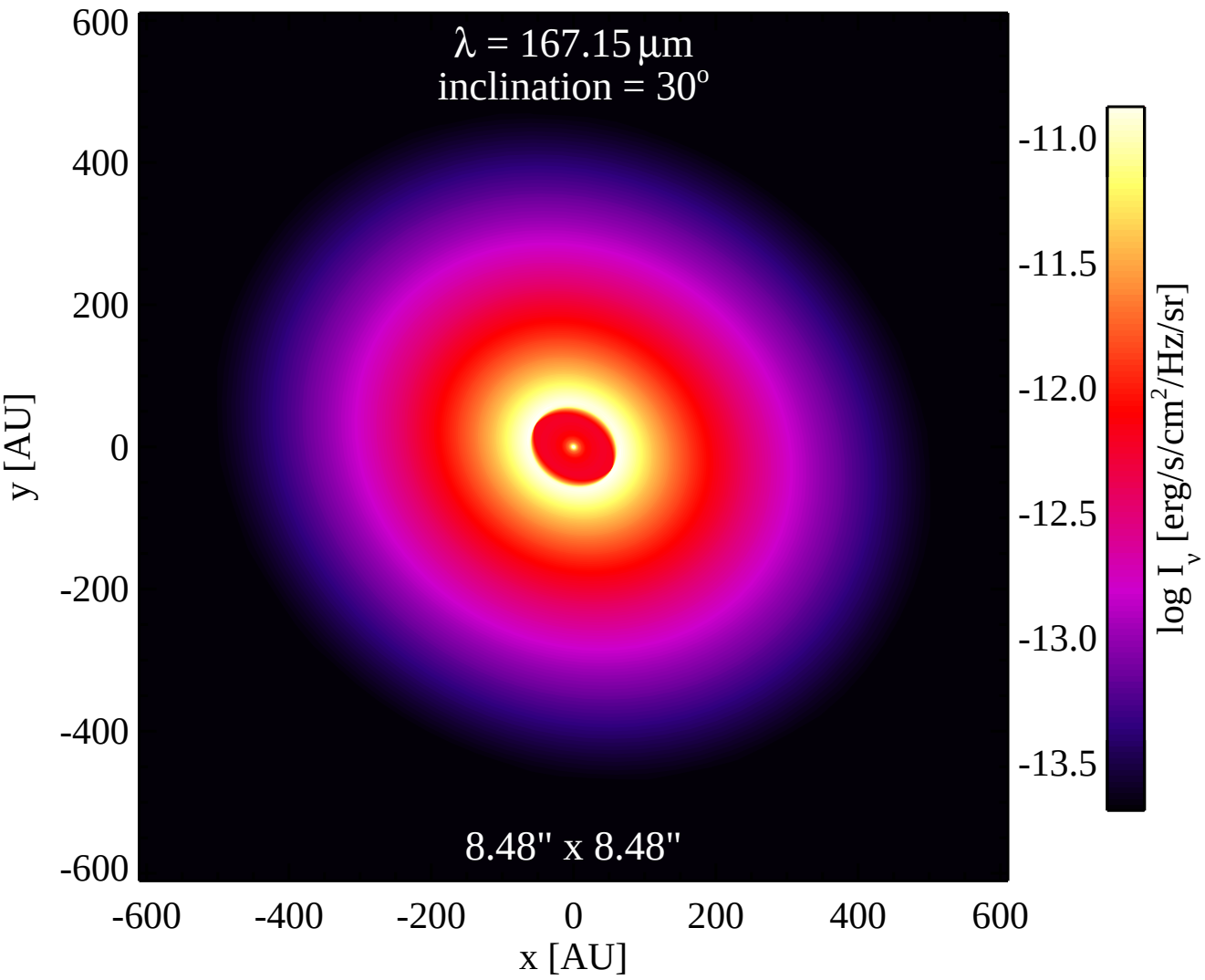

λ = 51.56 μm
inclination = 30°
4.30" x 4.30"
300
200
100
0
-100
-200
-300
y [AU]
-300
-200
-100
0
100
200
300
x [AU]
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

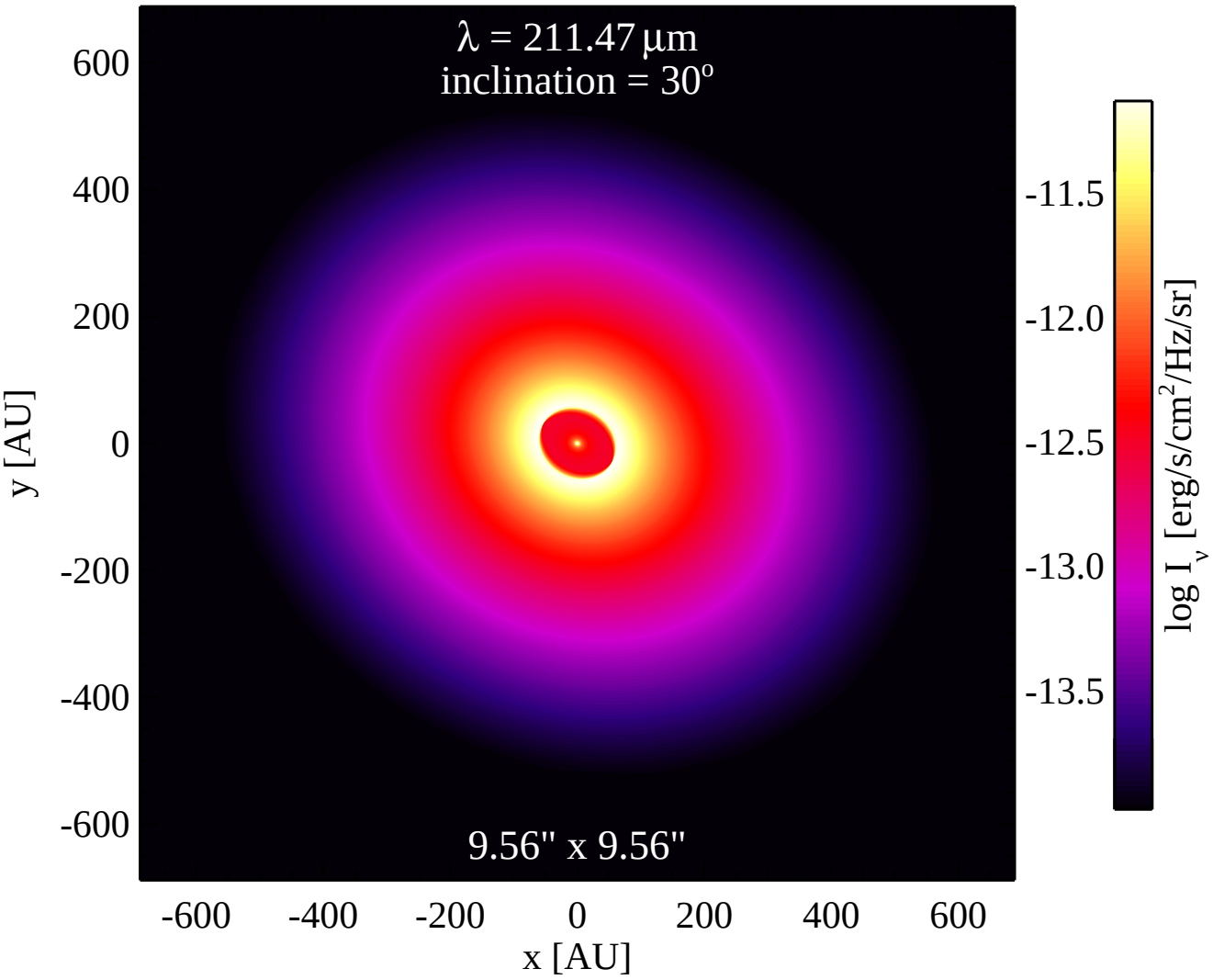

λ = 65.24 μm
inclination = 30°
4.92" x 4.92"
200
0
-200
y [AU]
-200
0
200
x [AU]
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

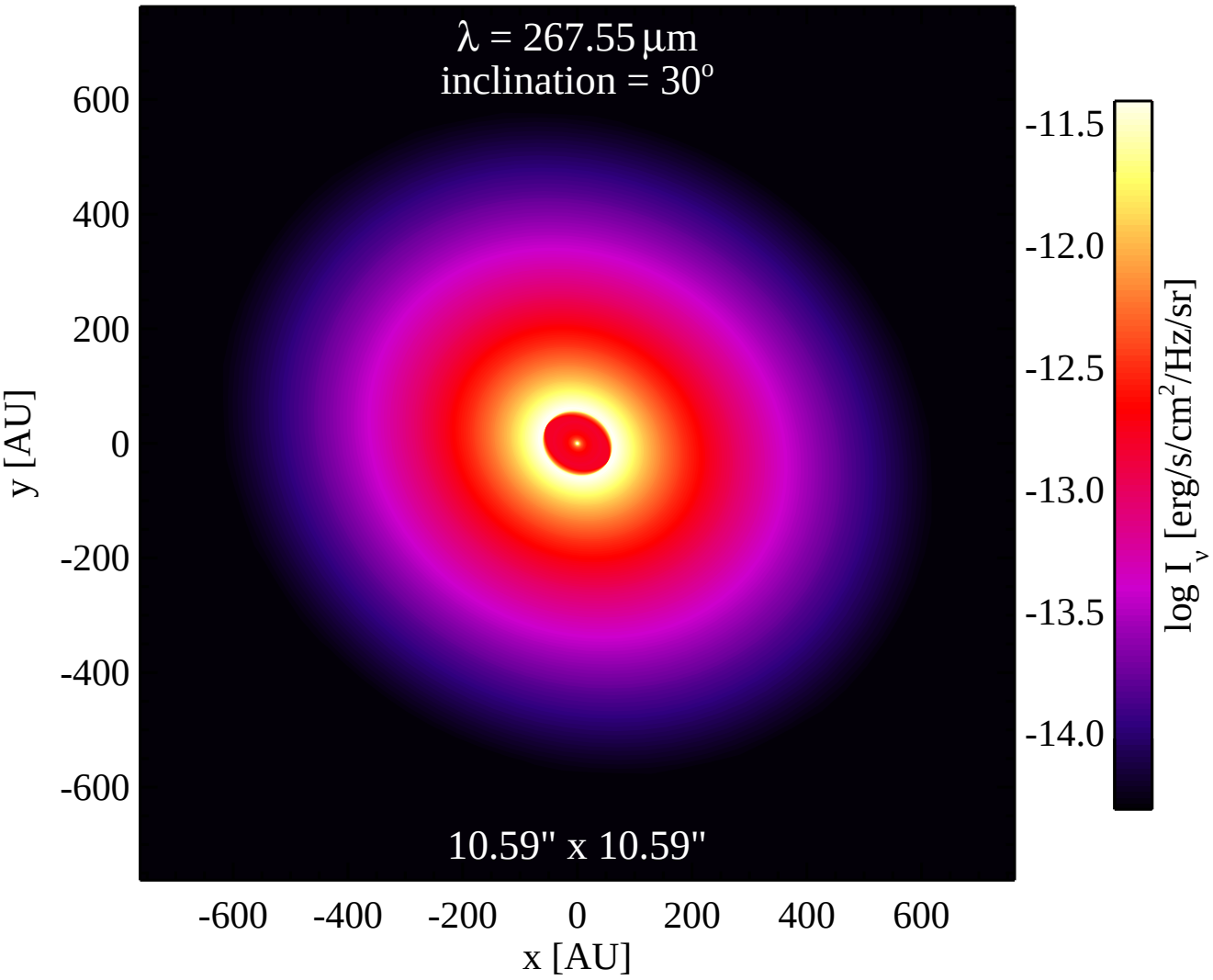

λ = 82.54 μm
inclination = 30°
5.64" x 5.64"
400
200
0
-200
-400
y [AU]
-400
-200
0
200
400
x [AU]
-10.5
-11.0
-11.5
-12.0
-12.5
log I_ν [erg/s/cm²/Hz/sr]

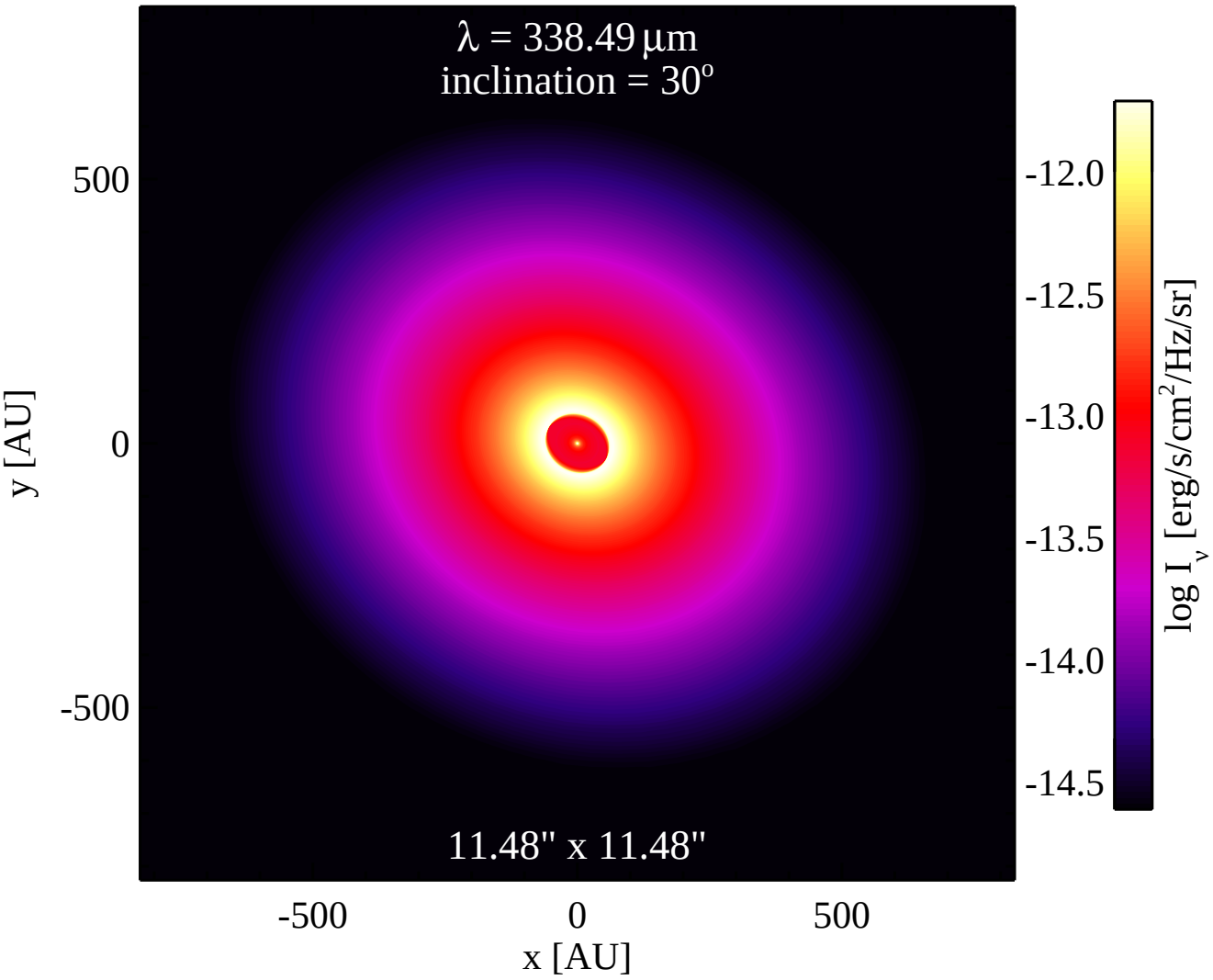

λ = 104.42 μm
inclination = 30°
6.46" x 6.46"
400
200
0
-200
-400
y [AU]
-400
-200
0
200
400
x [AU]
-10.5
-11.0
-11.5
-12.0
-12.5
-13.0
log I_ν [erg/s/cm²/Hz/sr]

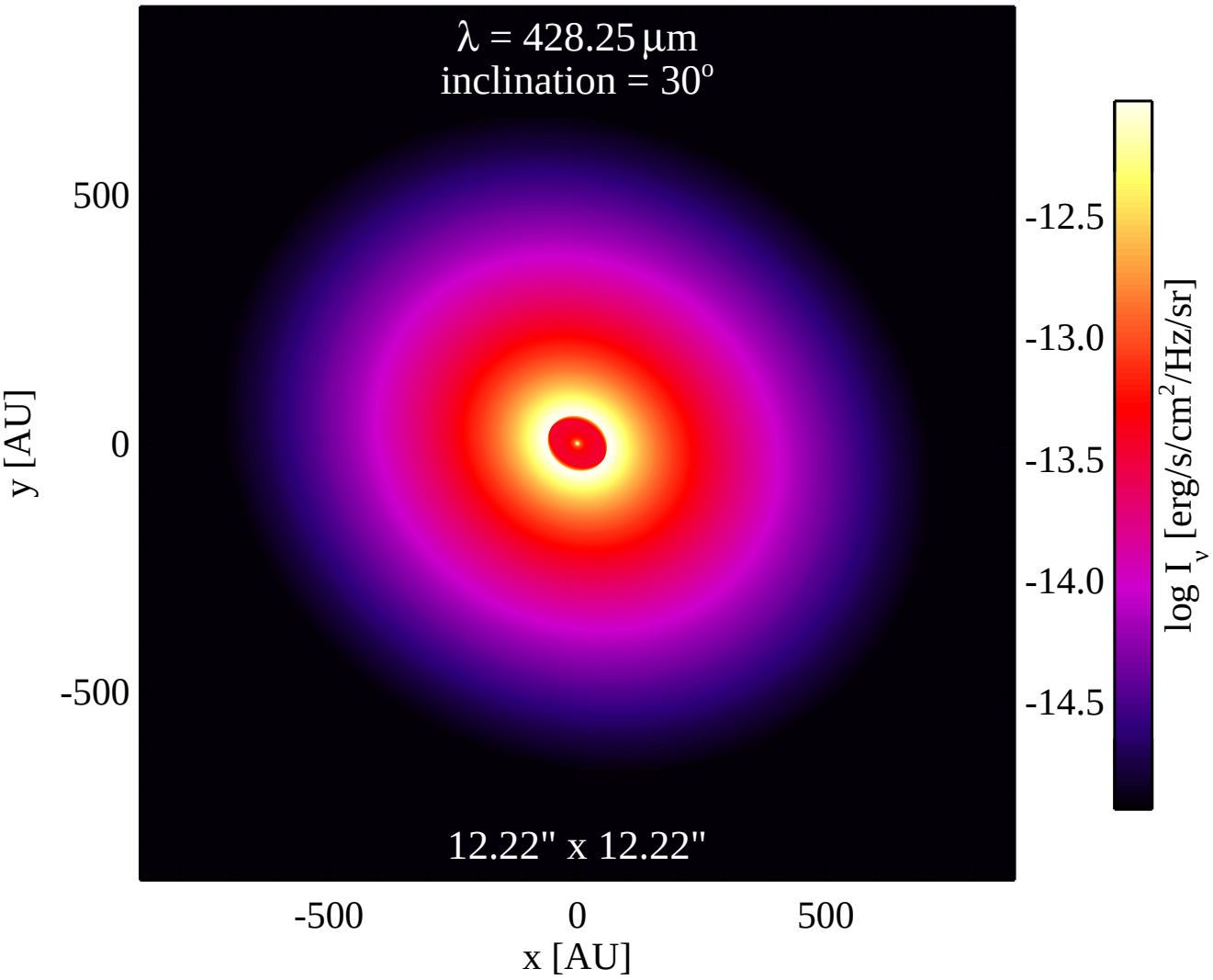

λ = 132.11 μm
inclination = 30°
7.42" x 7.42"
400
200
0
-200
-400
y [AU]
-400
-200
0
200
400
x [AU]
-11.0
-11.5
-12.0
-12.5
-13.0
log I_ν [erg/s/cm²/Hz/sr]

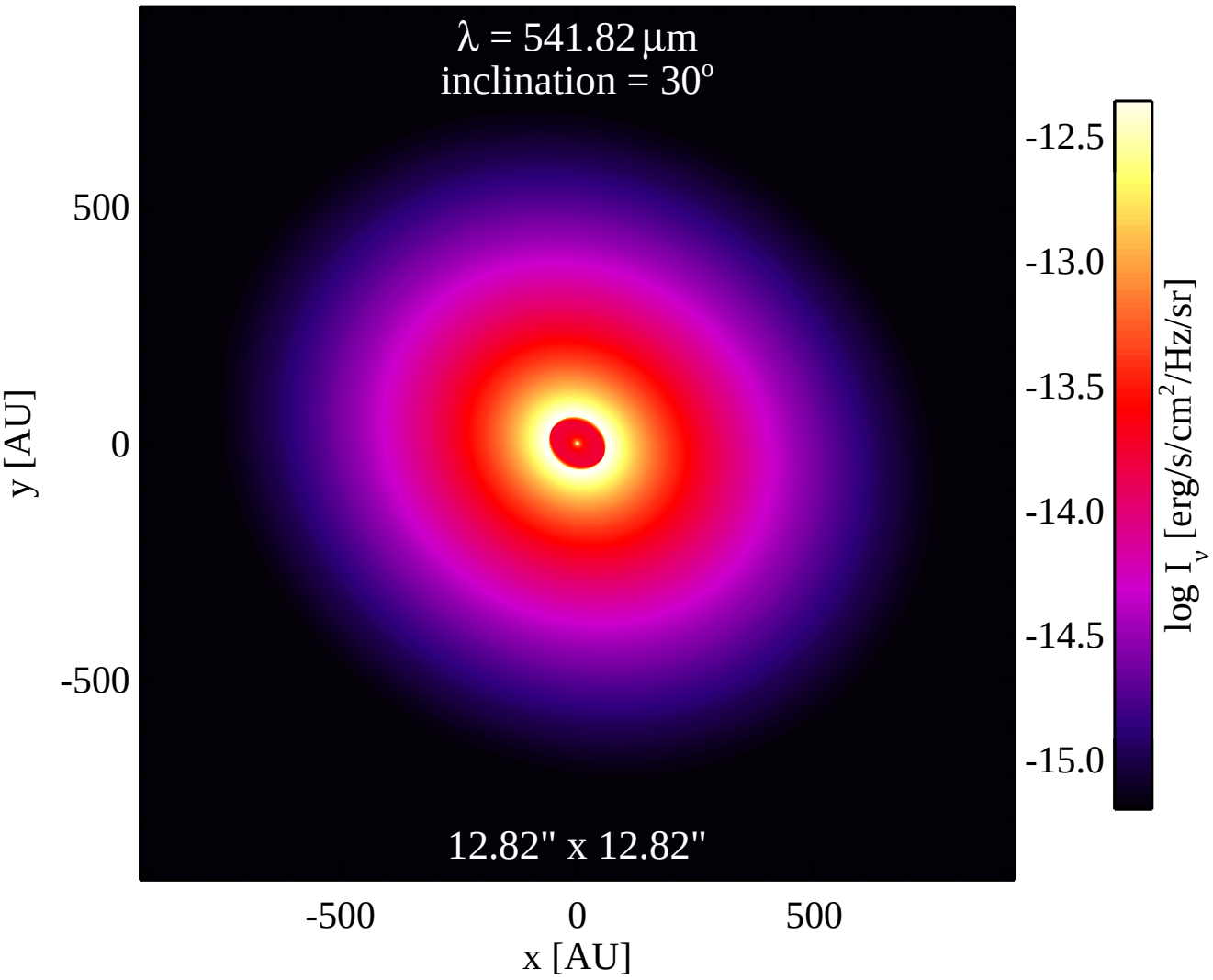

λ = 167.15 μm
inclination = 30°
8.48" x 8.48"
600
400
200
0
-200
-400
-600
y [AU]
-600
-400
-200
0
200
400
600
x [AU]
-11.0
-11.5
-12.0
-12.5
-13.0
-13.5
log I_ν [erg/s/cm²/Hz/sr]

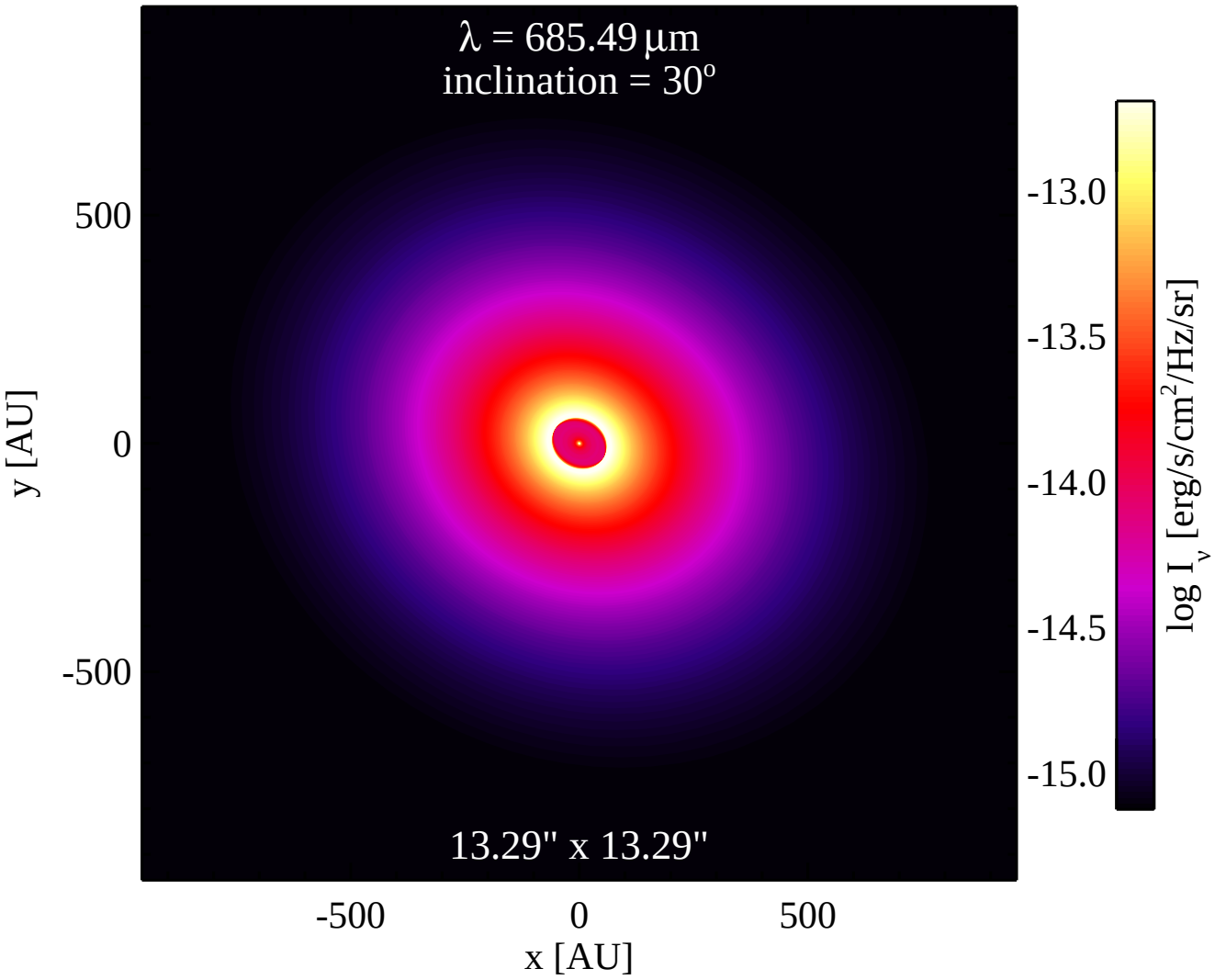

λ = 211.47 μm
inclination = 30°
9.56" x 9.56"
600
400
200
0
-200
-400
-600
y [AU]
-600
-400
-200
0
200
400
600
x [AU]
-11.5
-12.0
-12.5
-13.0
-13.5
log I_ν [erg/s/cm²/Hz/sr]

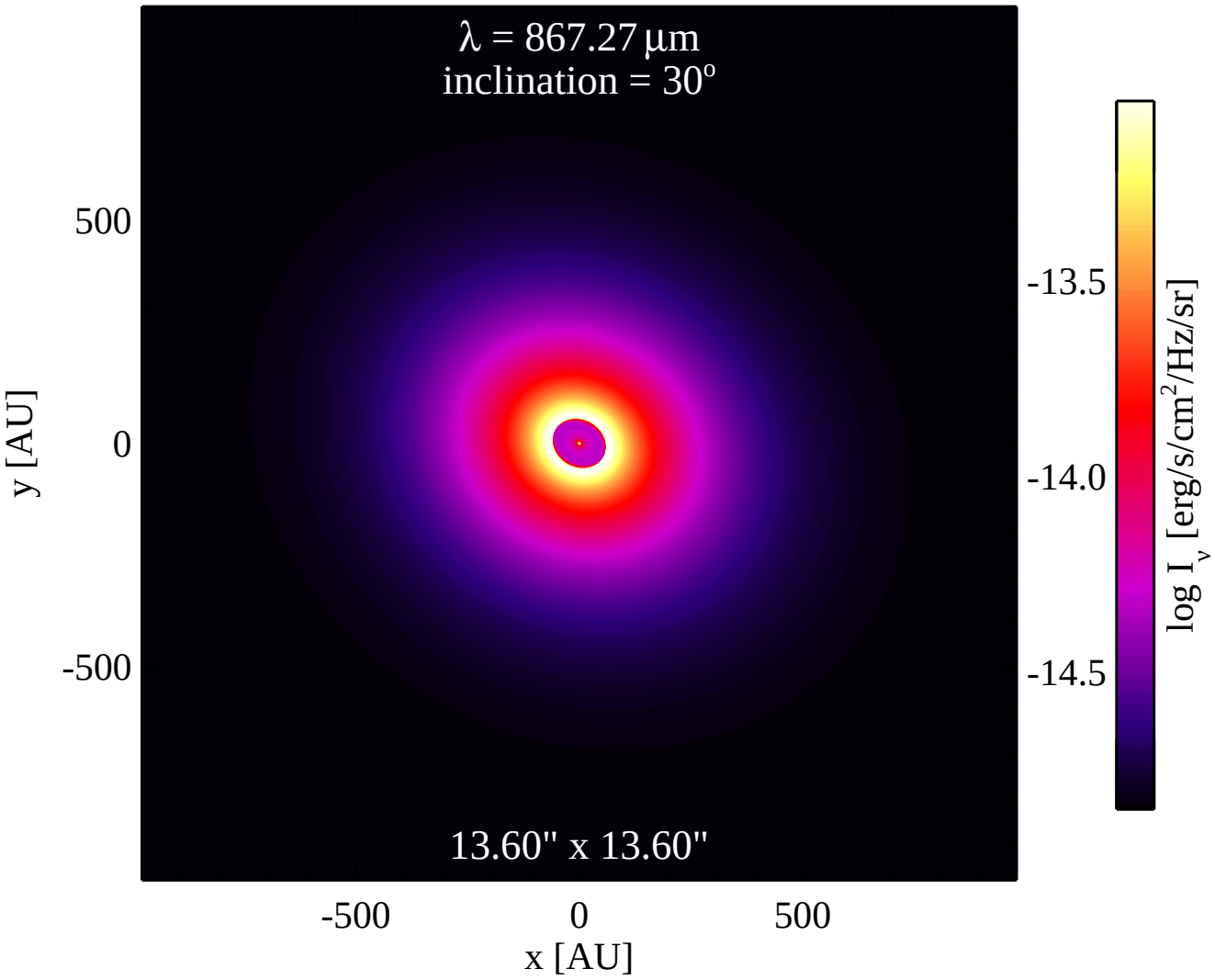

λ = 267.55 μm
inclination = 30°
10.59" x 10.59"
600
400
200
0
-200
-400
-600
y [AU]
-600
-400
-200
0
200
400
600
x [AU]
-11.5
-12.0
-12.5
-13.0
-13.5
-14.0
log I_ν [erg/s/cm²/Hz/sr]

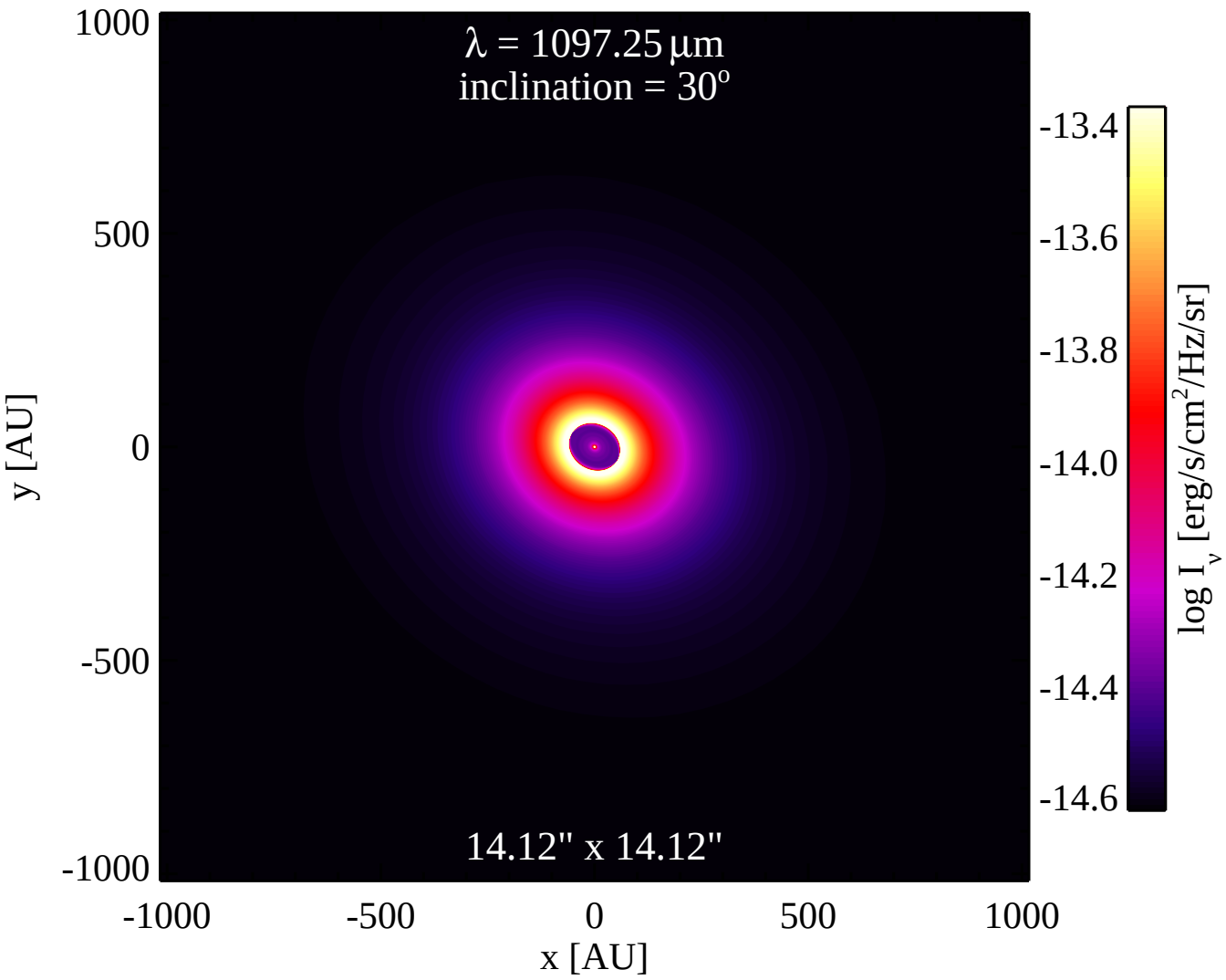

λ = 338.49 μm
inclination = 30°
11.48" x 11.48"
500
0
-500
y [AU]
-500
0
500
x [AU]
-12.0
-12.5
-13.0
-13.5
-14.0
-14.5
log I_ν [erg/s/cm²/Hz/sr]

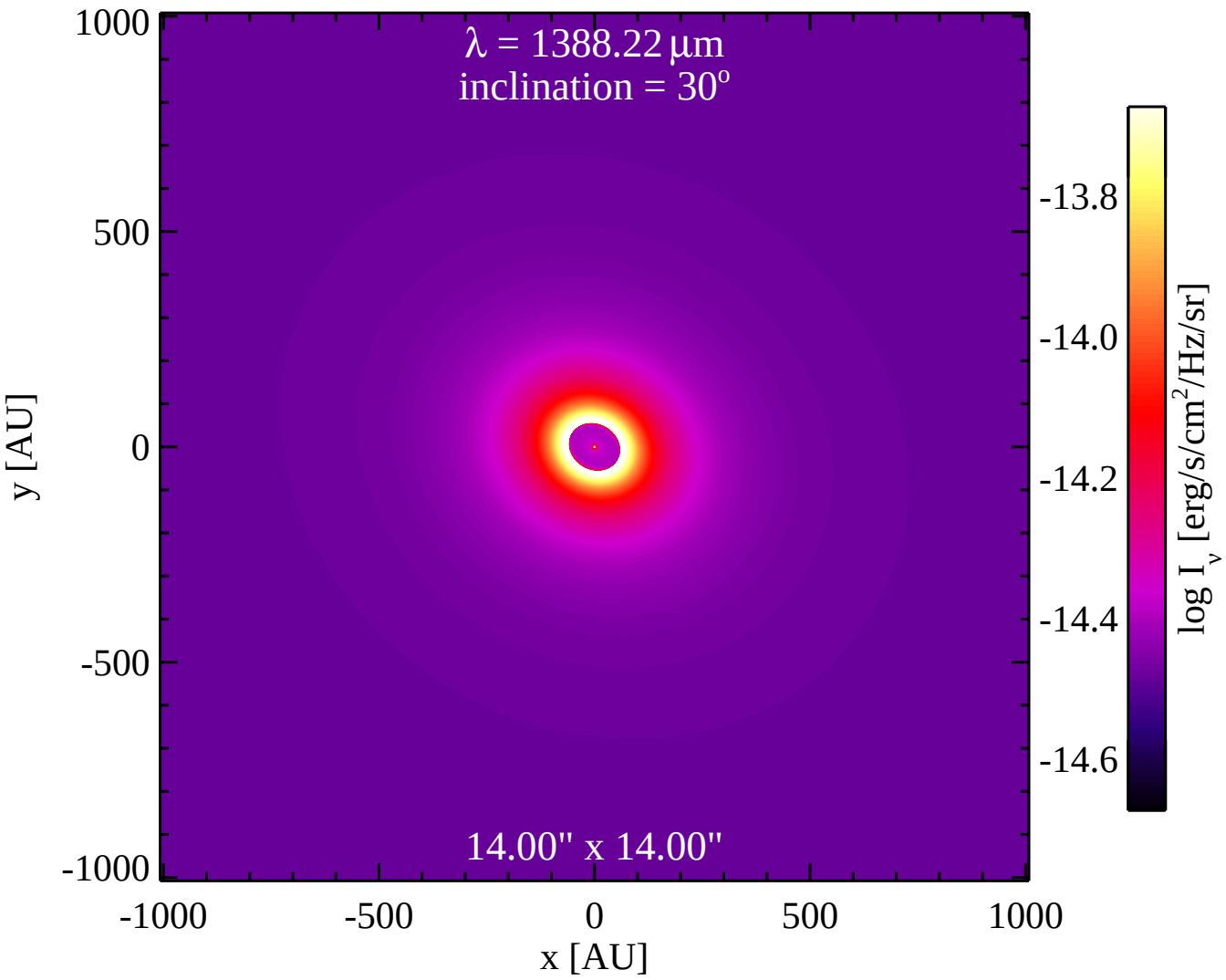

λ = 428.25 μm
inclination = 30°
12.22" x 12.22"
500
0
-500
y [AU]
-500
0
500
x [AU]
-12.5
-13.0
-13.5
-14.0
-14.5
log I_ν [erg/s/cm²/Hz/sr]

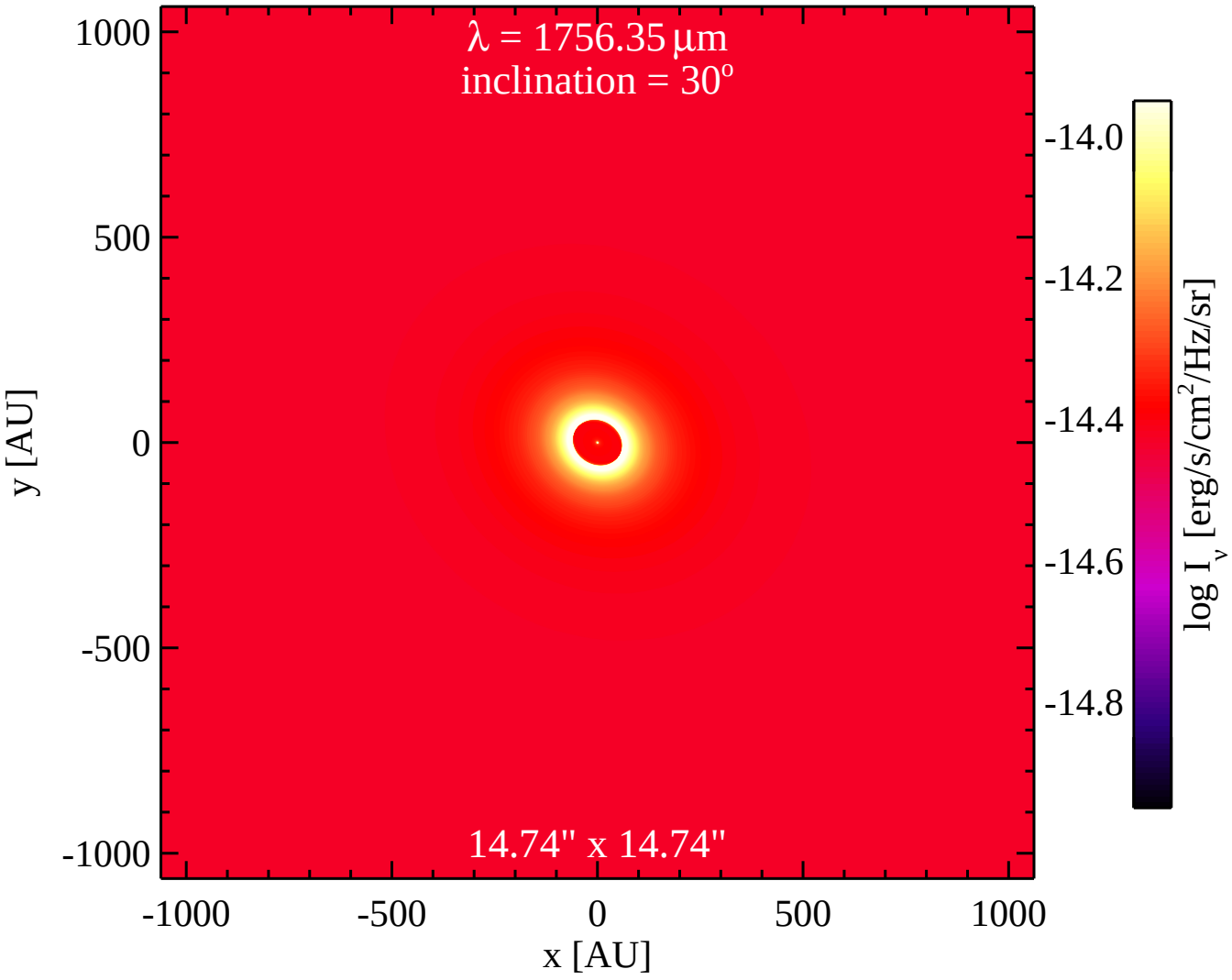

λ = 541.82 μm
inclination = 30°
12.82" x 12.82"
500
0
-500
y [AU]
-500
0
500
x [AU]
-12.5
-13.0
-13.5
-14.0
-14.5
-15.0
log I_ν [erg/s/cm²/Hz/sr]

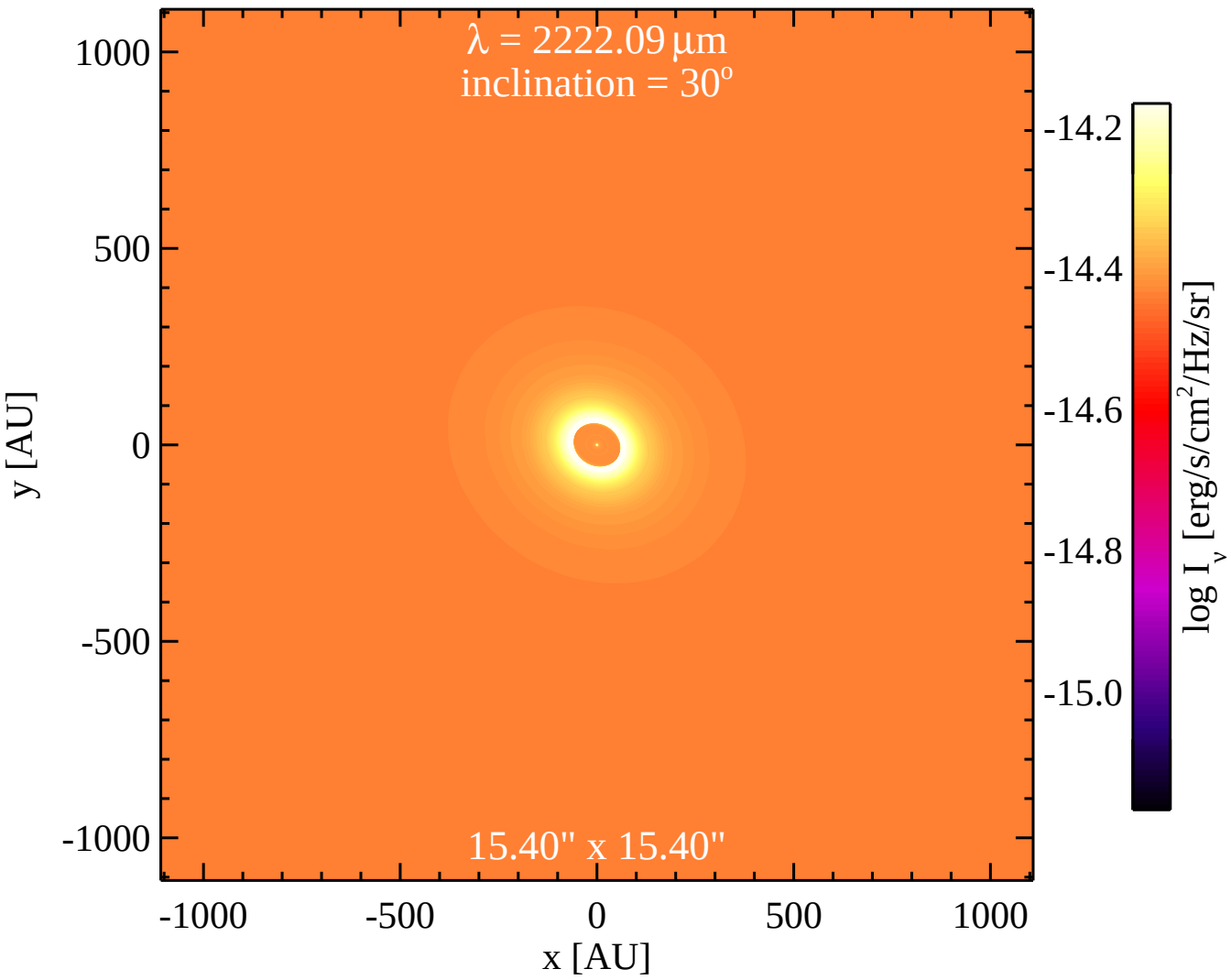

λ = 685.49 μm
inclination = 30°
13.29" x 13.29"
500
0
-500
y [AU]
-500
0
500
x [AU]
-13.0
-13.5
-14.0
-14.5
-15.0
log I_ν [erg/s/cm²/Hz/sr]

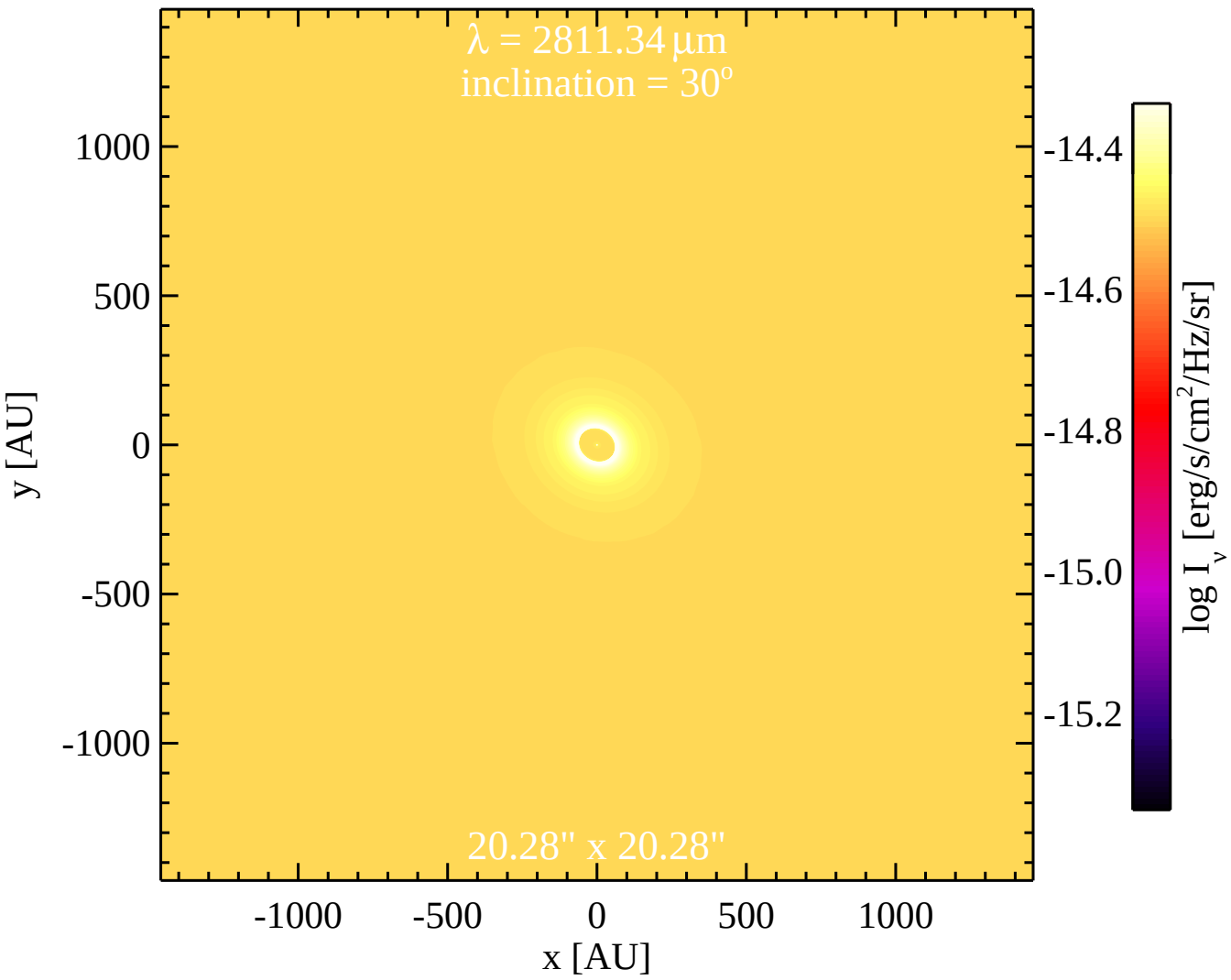

λ = 867.27 μm
inclination = 30°
13.60" x 13.60"
500
0
-500
y [AU]
-500
0
500
x [AU]
-13.5
-14.0
-14.5
log I_ν [erg/s/cm²/Hz/sr]

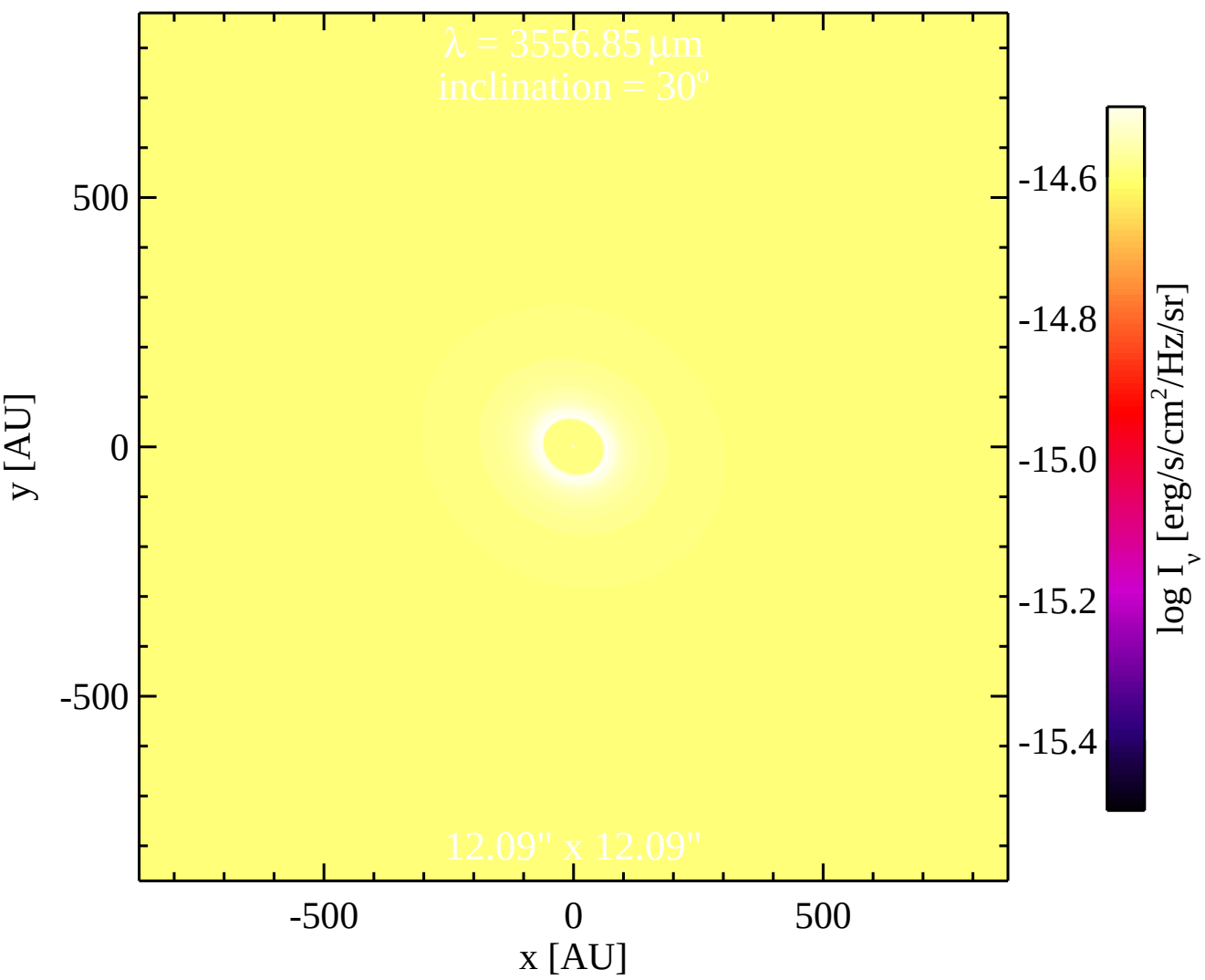

λ = 1097.25 μm
inclination = 30°
14.12" x 14.12"
1000
500
0
-500
-1000
y [AU]
-1000
-500
0
500
1000
x [AU]
-13.4
-13.6
-13.8
-14.0
-14.2
-14.4
-14.6
log I_ν [erg/s/cm²/Hz/sr]

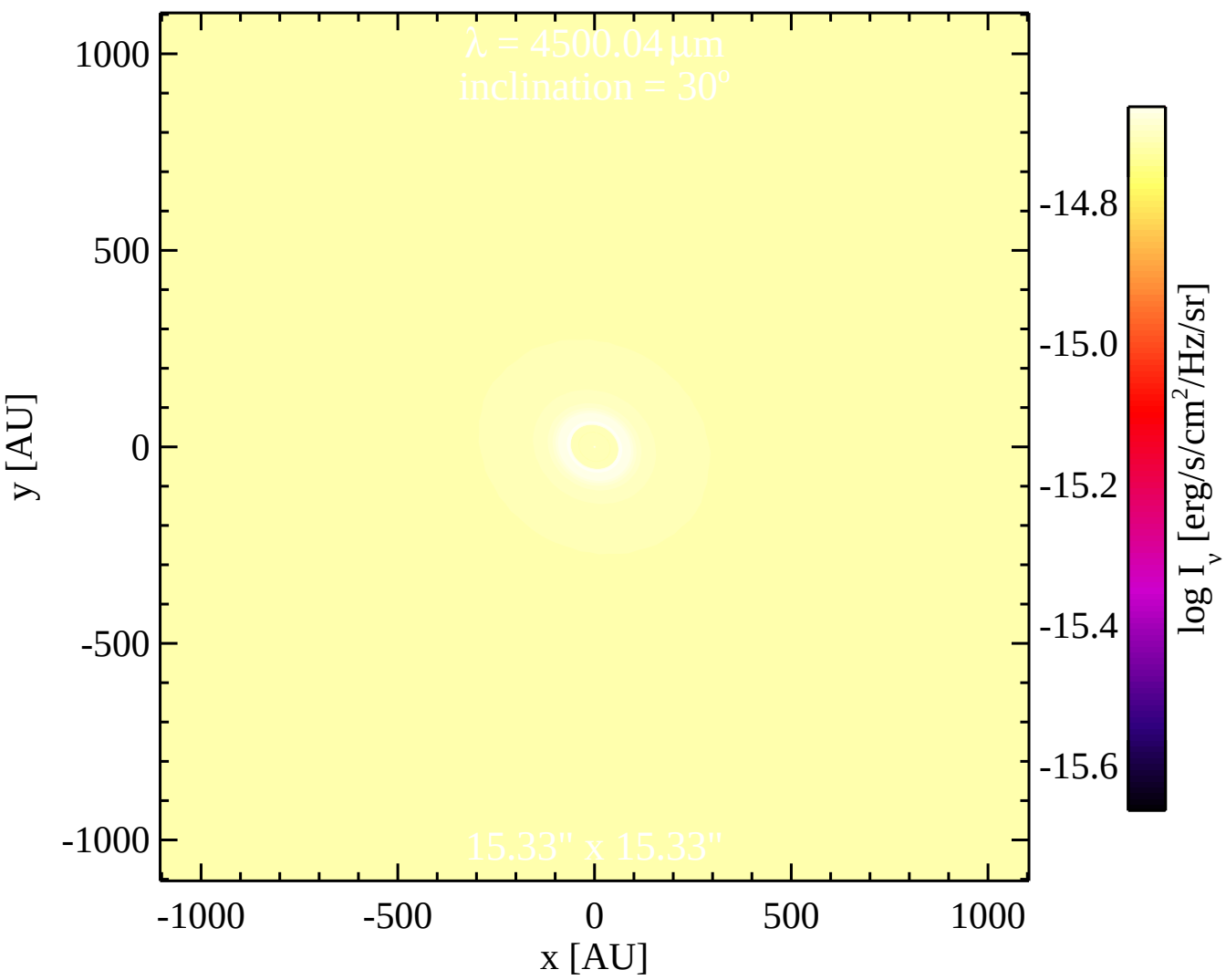

λ = 1388.22 μm
inclination = 30°
14.00" x 14.00"
1000
500
0
-500
-1000
y [AU]
-1000
-500
0
500
1000
x [AU]
-13.8
-14.0
-14.2
-14.4
-14.6
log I_ν [erg/s/cm²/Hz/sr]

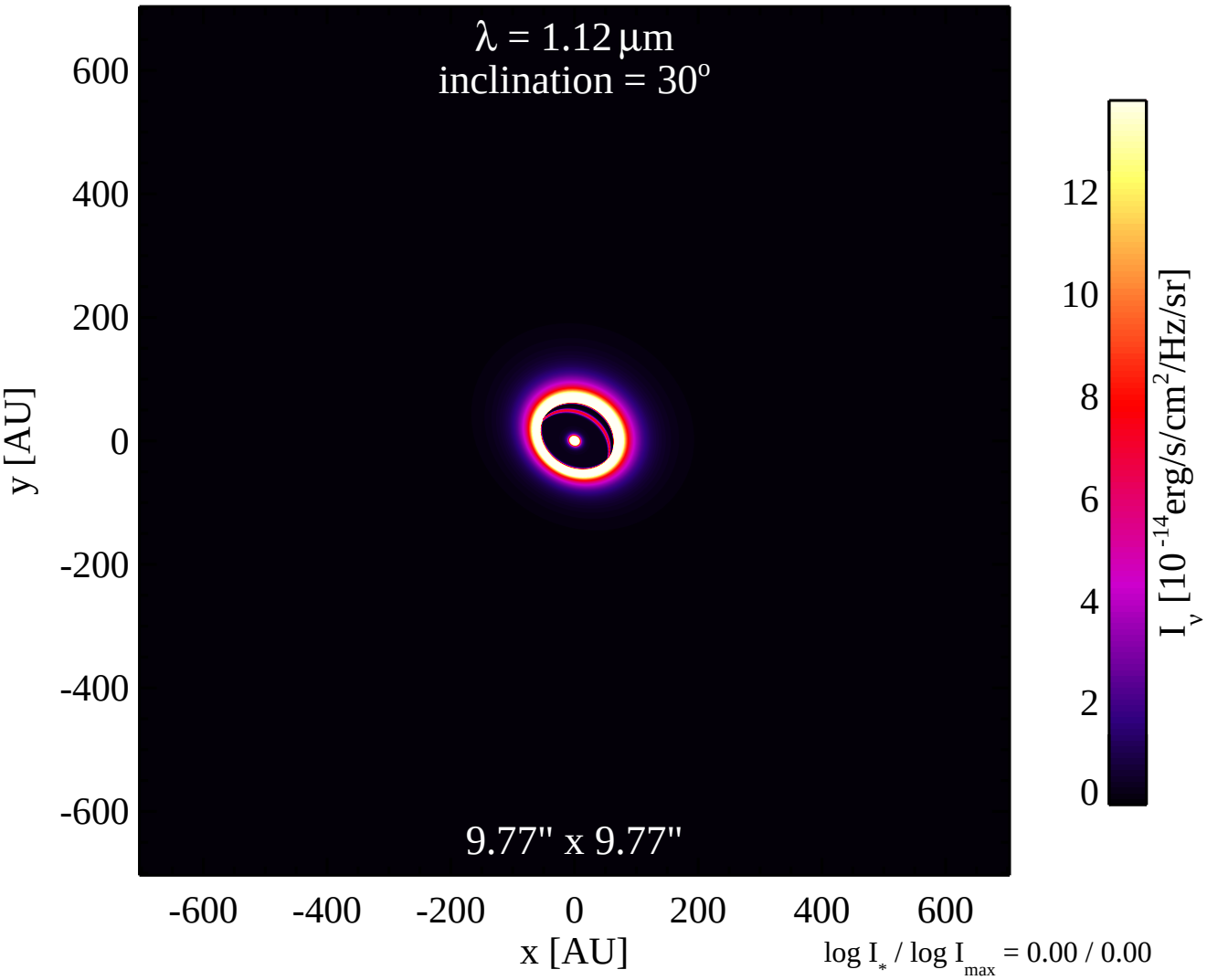

λ = 1756.35 μm
inclination = 30°
14.74" x 14.74"
1000
500
0
-500
-1000
y [AU]
-1000
-500
0
500
1000
x [AU]
-14.0
-14.2
-14.4
-14.6
-14.8
log I_ν [erg/s/cm²/Hz/sr]

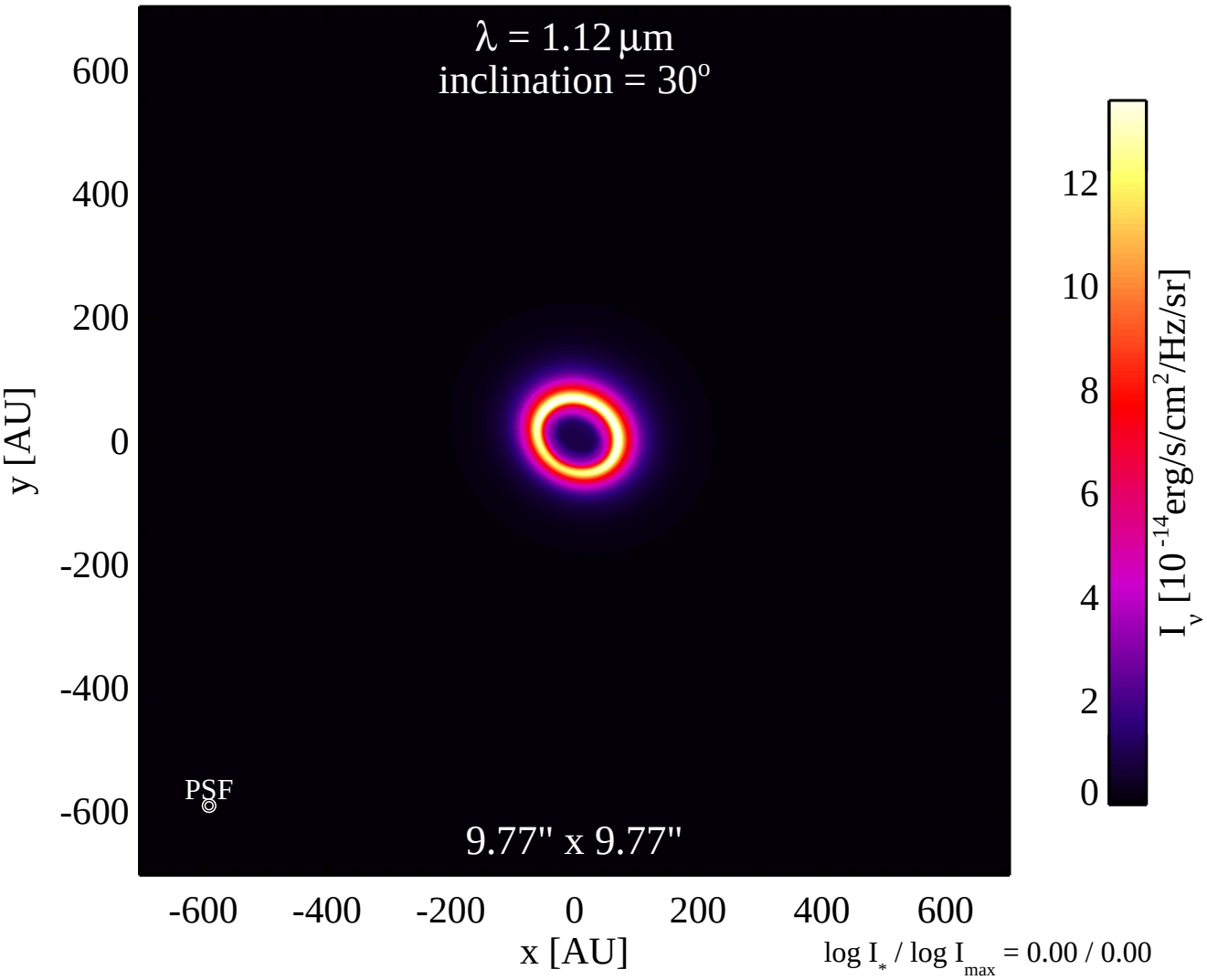

λ = 2222.09 μm
inclination = 30°
15.40" x 15.40"
1000
500
0
-500
-1000
y [AU]
-1000
-500
0
500
1000
x [AU]
-14.2
-14.4
-14.6
-14.8
-15.0
log I_ν [erg/s/cm²/Hz/sr]

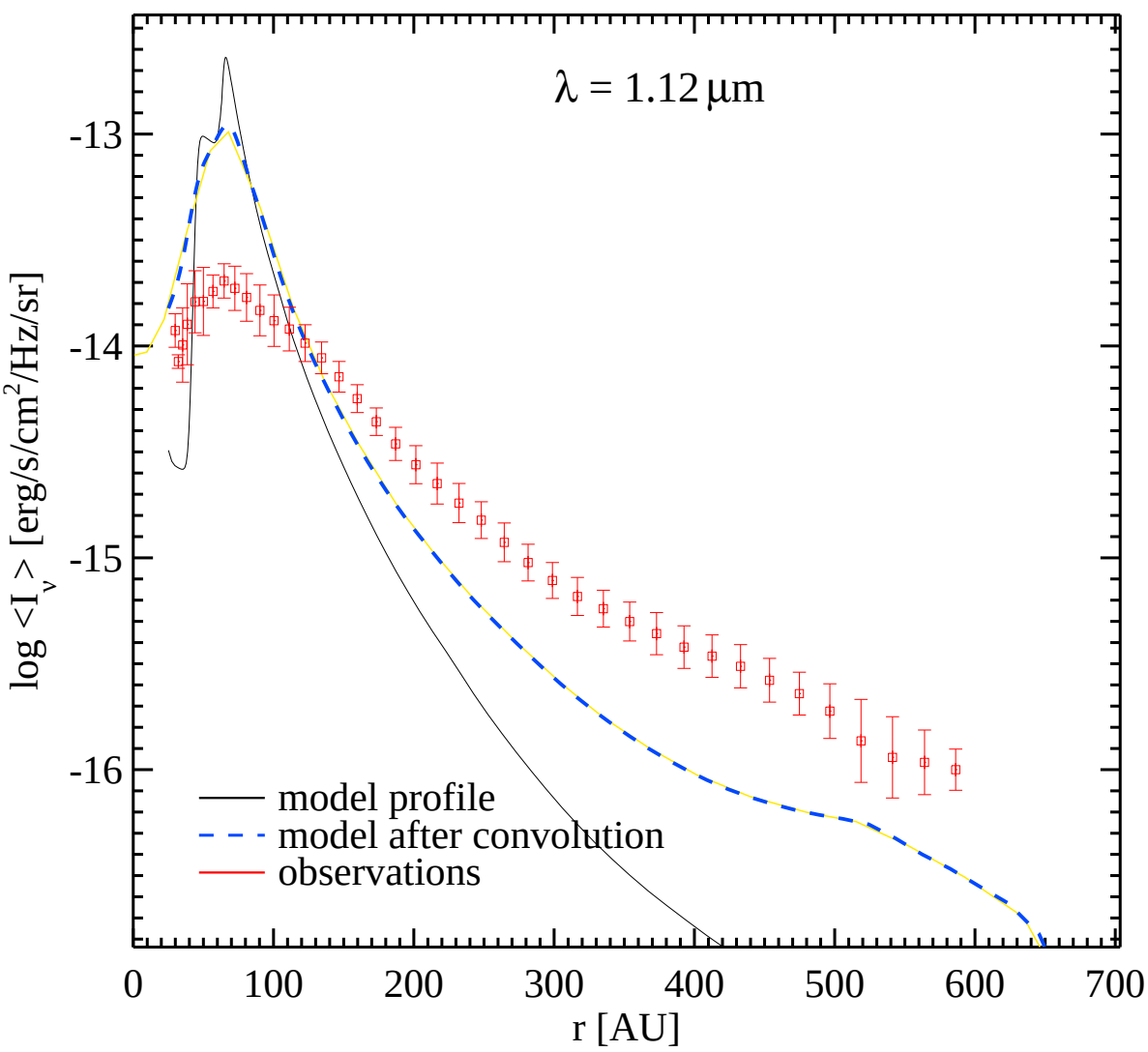

λ = 2811.34 μm
inclination = 30°
20.28" x 20.28"
1000
500
0
-500
-1000
y [AU]
-1000
-500
0
500
1000
x [AU]
-14.4
-14.6
-14.8
-15.0
-15.2
log I_ν [erg/s/cm²/Hz/sr]

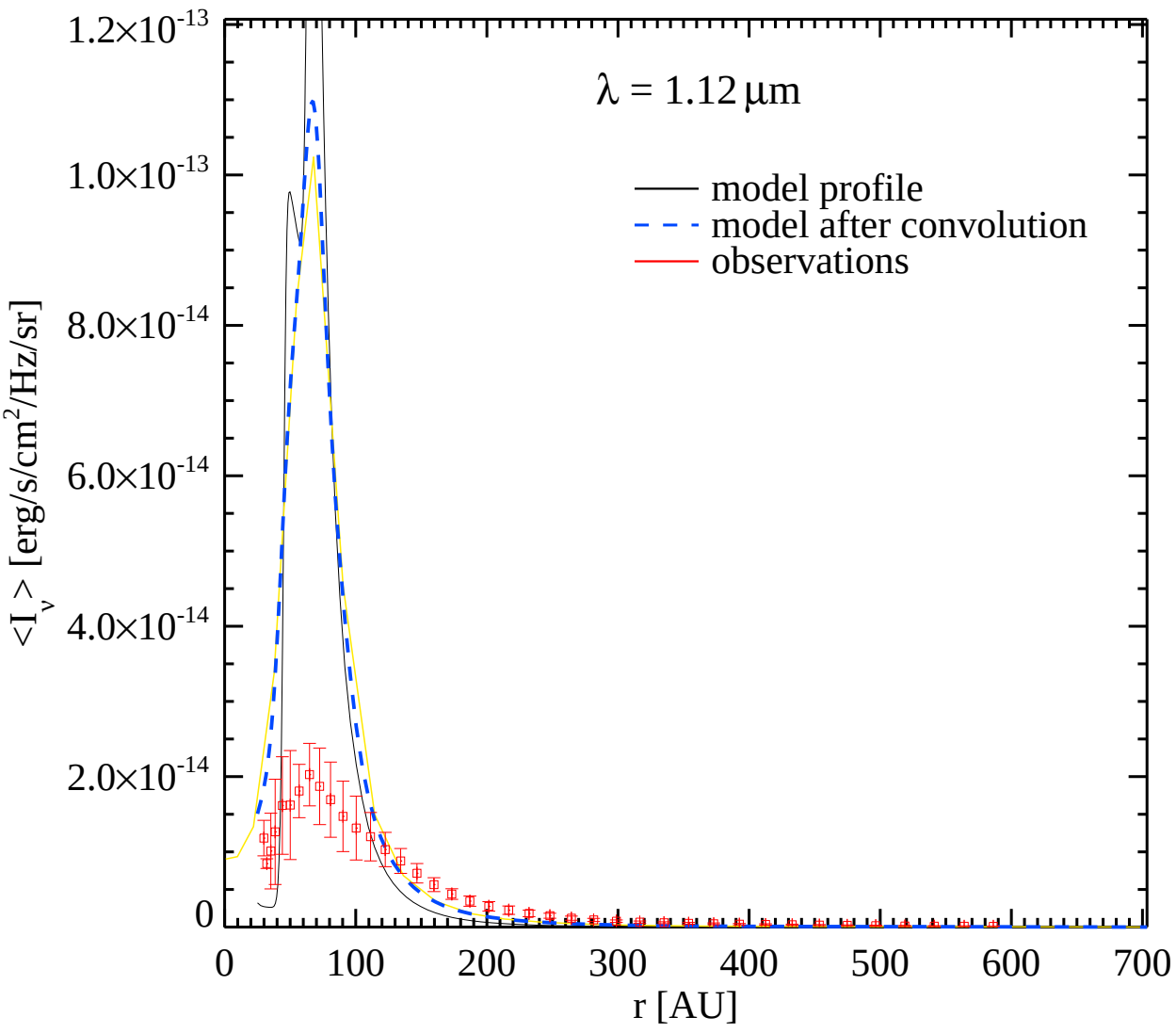

λ = 3556.85 μm
inclination = 30°
12.09" x 12.09"
500
0
-500
y [AU]
-500
0
500
x [AU]
-14.6
-14.8
-15.0
-15.2
-15.4
log I_ν [erg/s/cm²/Hz/sr]

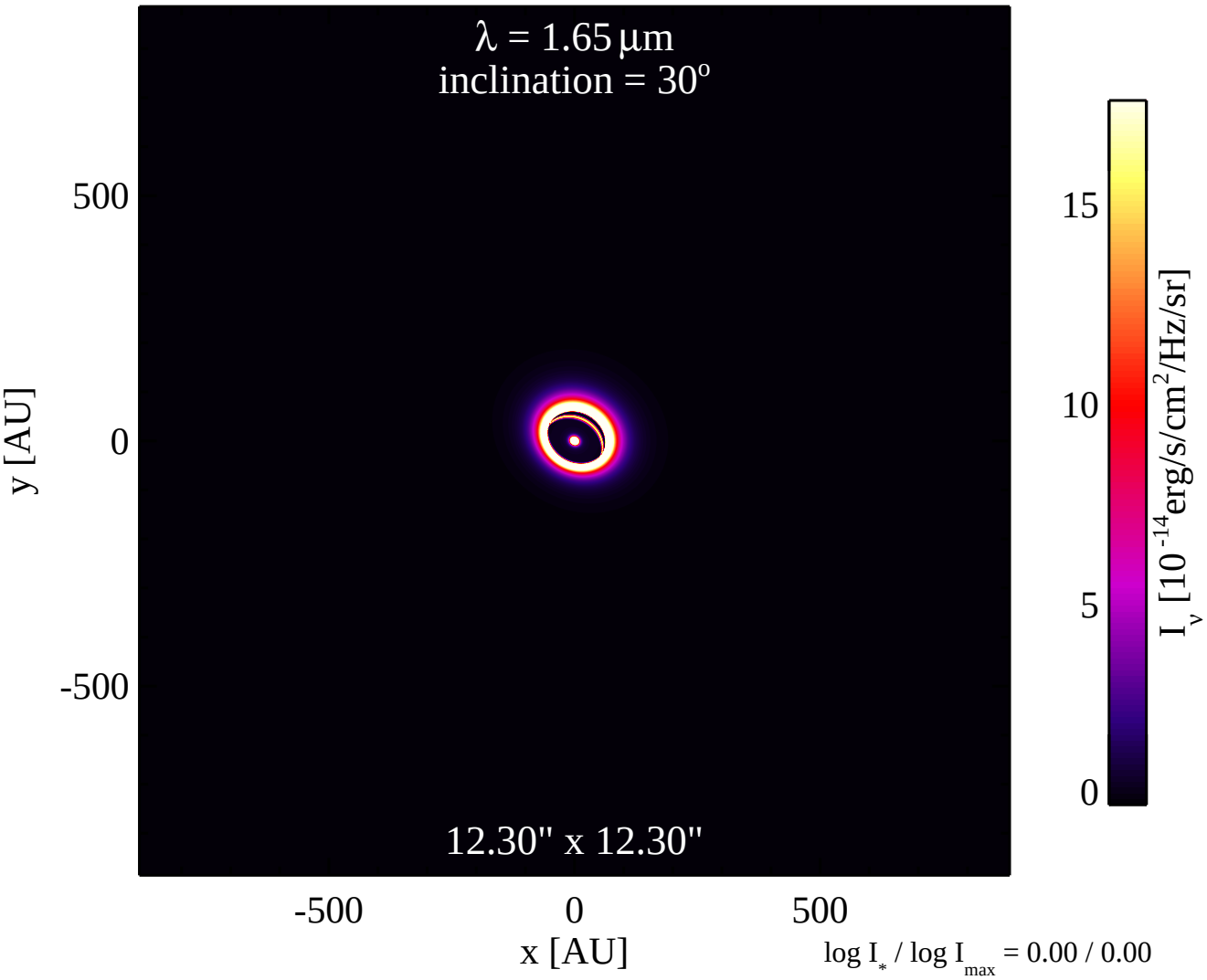

λ = 4500.04 μm
inclination = 30°
15.33" x 15.33"
1000
500
0
-500
-1000
y [AU]
-1000
-500
0
500
1000
x [AU]
-14.8
-15.0
-15.2
-15.4
-15.6
log I_ν [erg/s/cm²/Hz/sr]

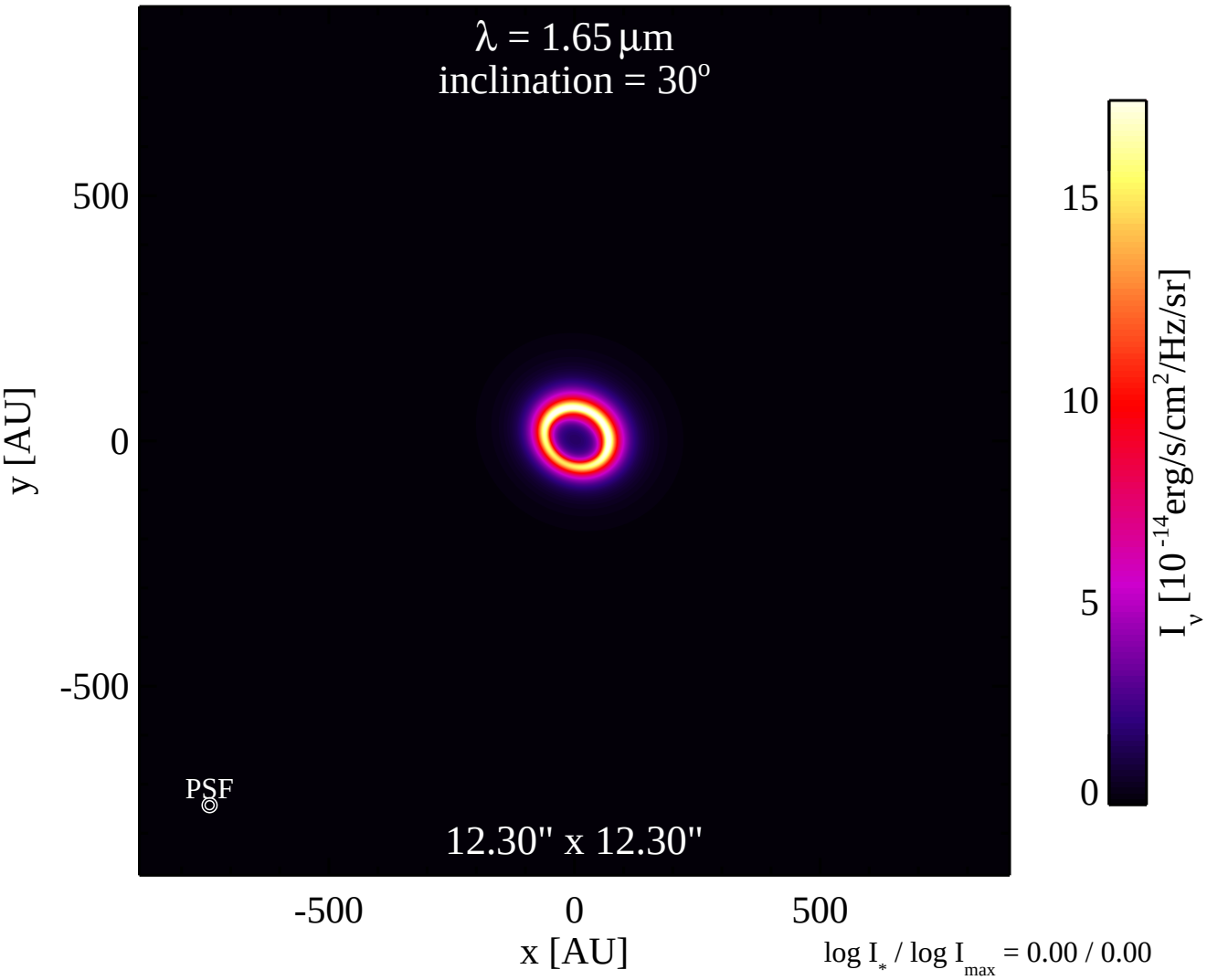

λ = 1.12 μm
inclination = 30°
9.77" x 9.77"
600
400
200
0
-200
-400
-600
y [AU]
-600
-400
-200
0
200
400
600
x [AU]
12
10
8
6
4
2
0
I_ν [10^-14 erg/s/cm^2/Hz/sr]
log I_* / log I_max = 0.00 / 0.00

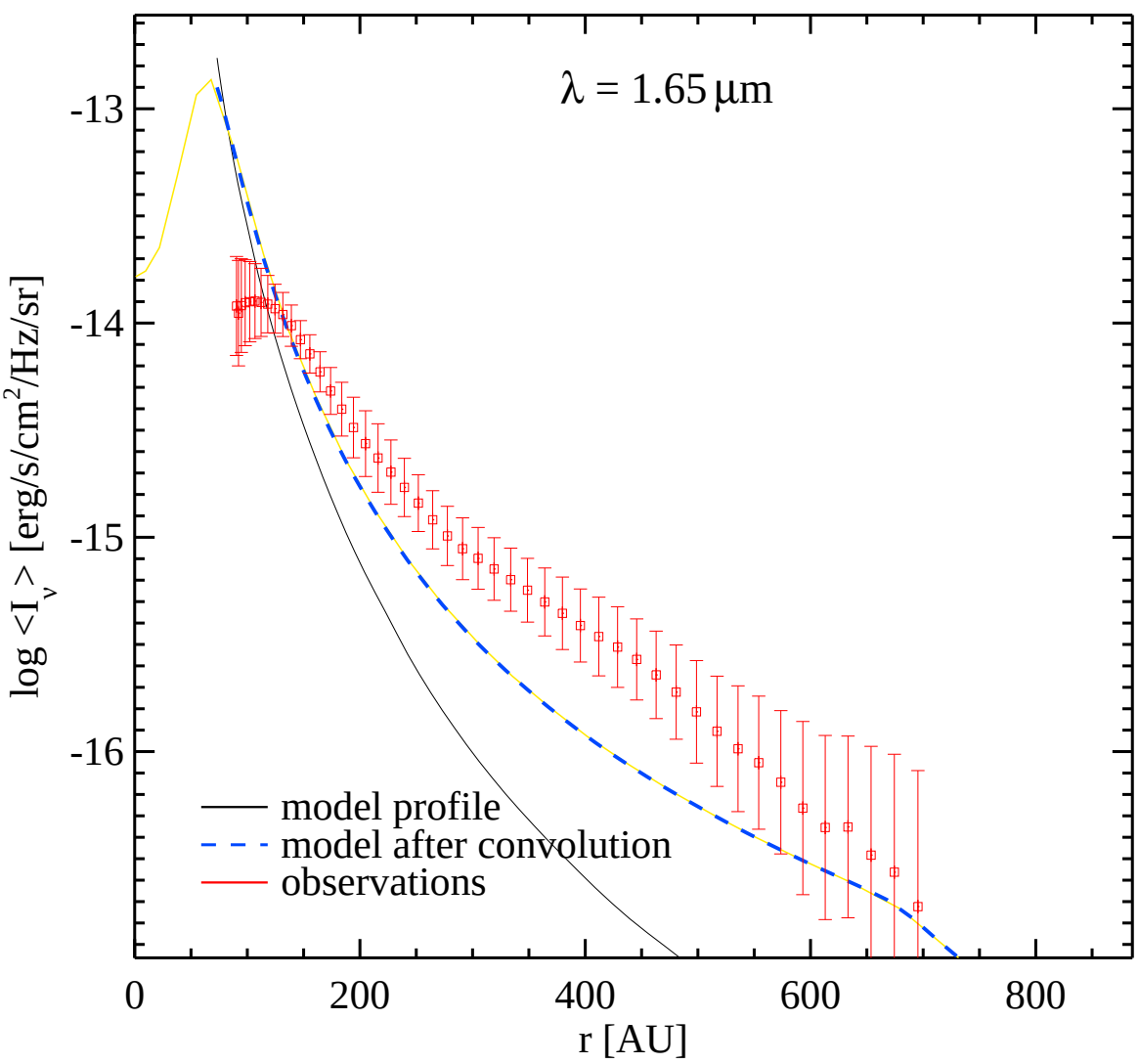

λ = 1.12 μm
inclination = 30°
PSF ©
9.77" x 9.77"
600
400
200
0
-200
-400
-600
y [AU]
-600
-400
-200
0
200
400
600
x [AU]
12
10
8
6
4
2
0
I_ν [10^-14 erg/s/cm^2/Hz/sr]
log I_* / log I_max = 0.00 / 0.00

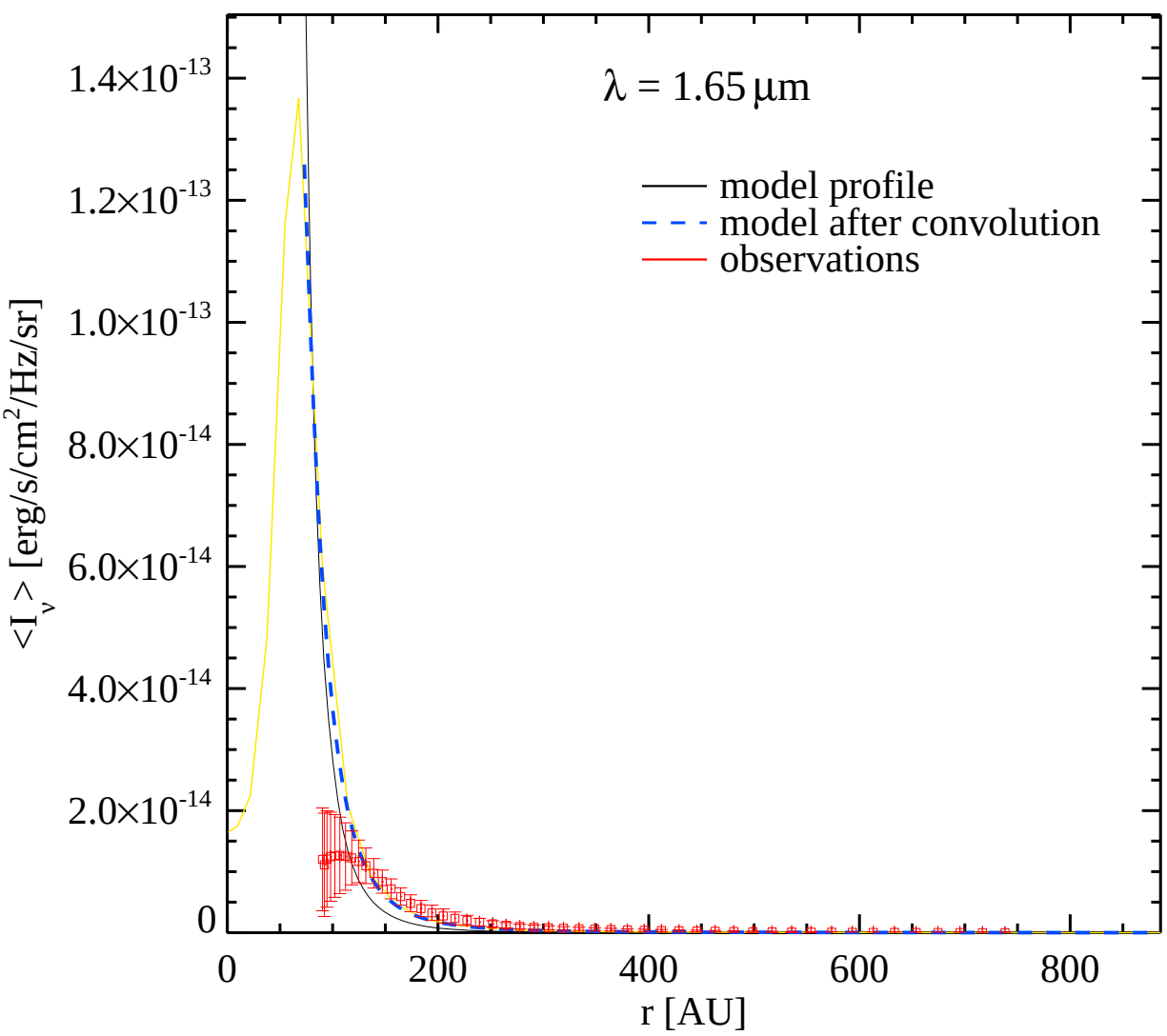

λ = 1.12 μm
-13
-14
-15
-16
log <I_ν> [erg/s/cm²/Hz/sr]
0
100
200
300
400
500
600
700
r [AU]
model profile
model after convolution
observations

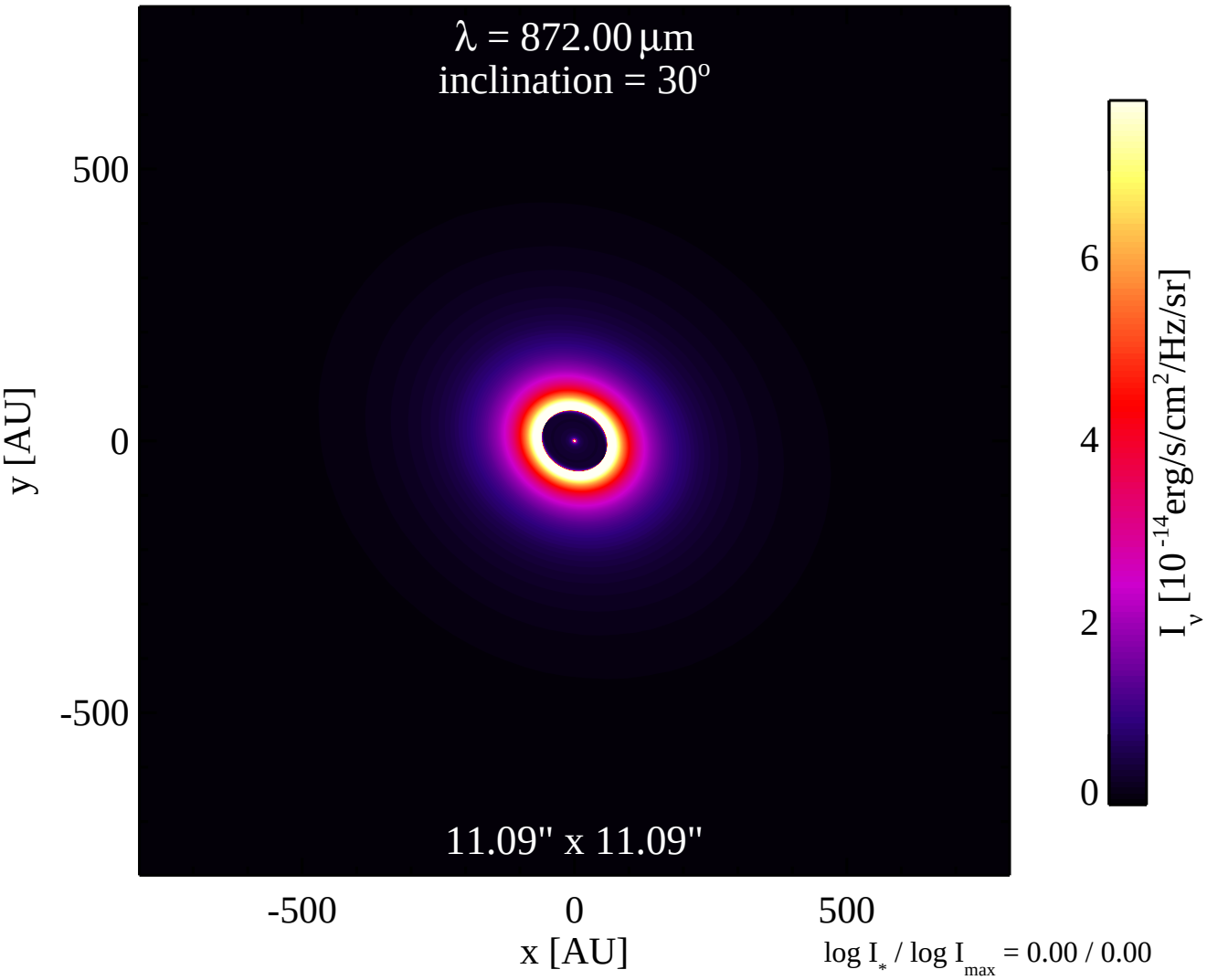

λ = 1.12 μm
model profile
model after convolution
observations
<I_ν> [erg/s/cm²/Hz/sr]
r [AU]
1.2×10-13
1.0×10-13
8.0×10-14
6.0×10-14
4.0×10-14
2.0×10-14
0
0
100
200
300
400
500
600
700

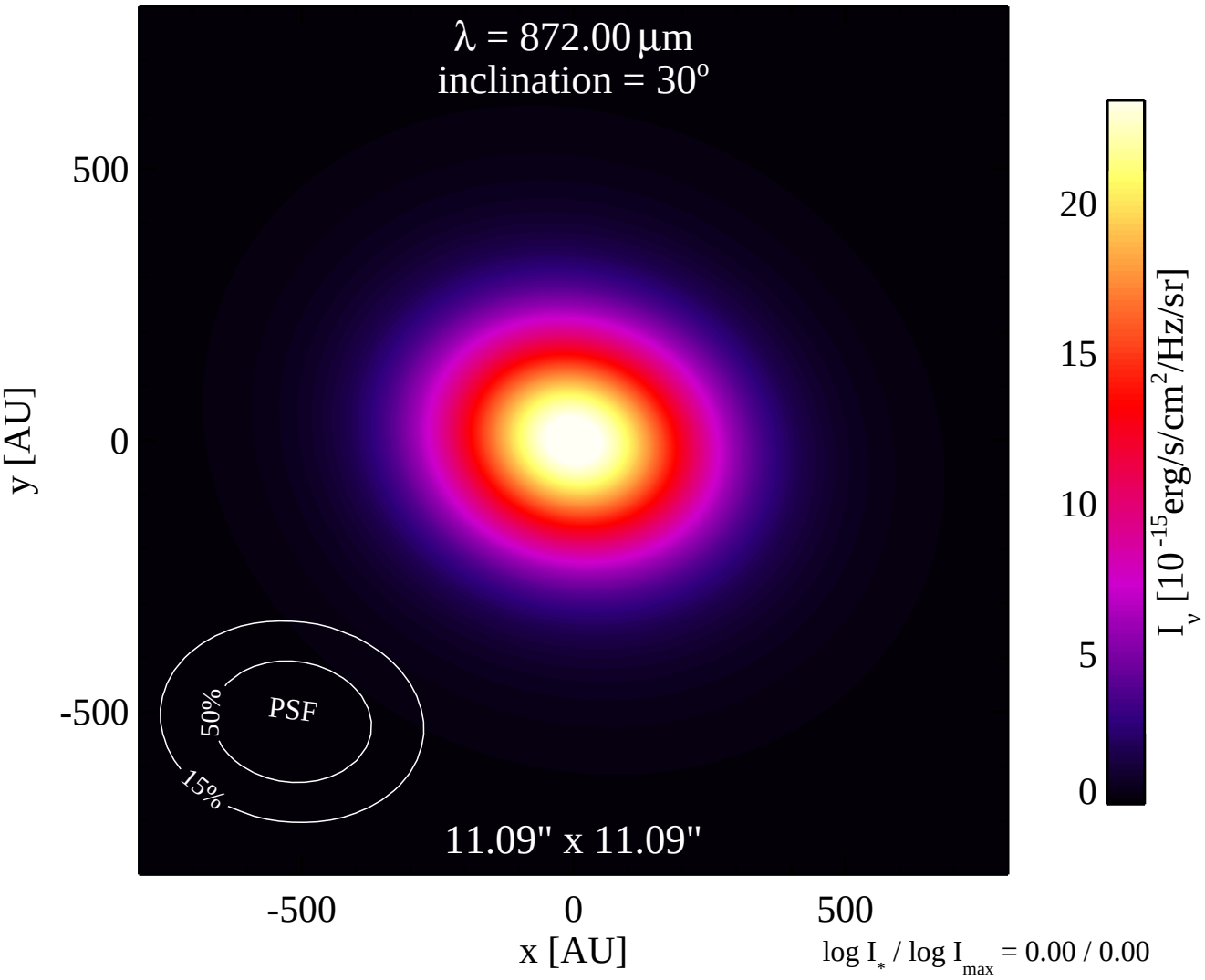

λ = 1.65 μm
inclination = 30°
12.30" x 12.30"
500
0
-500
y [AU]
-500
0
500
x [AU]
15
10
5
0
I_ν [10^-14 erg/s/cm^2/Hz/sr]
log I_* / log I_max = 0.00 / 0.00

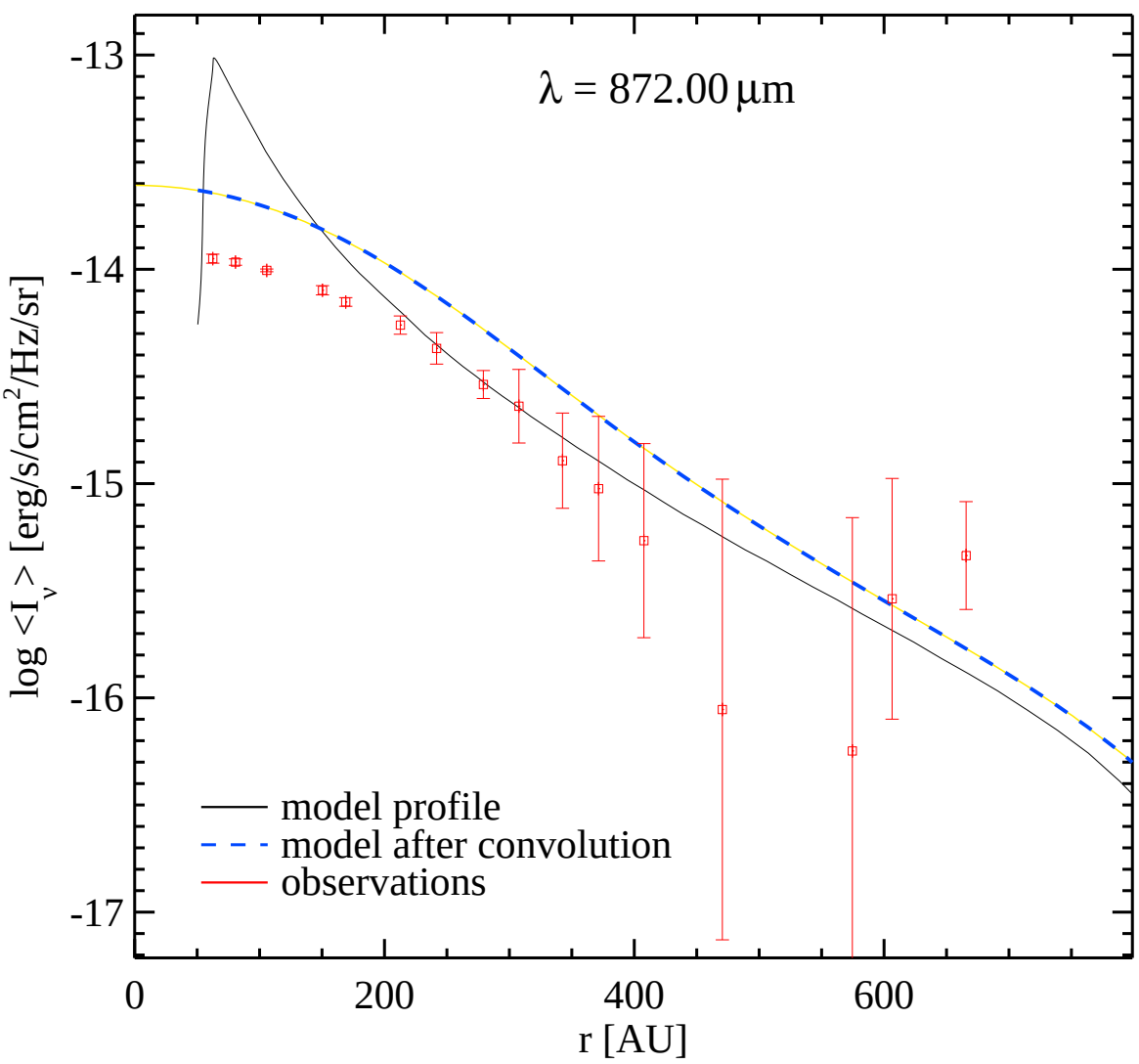

λ = 1.65 μm
inclination = 30°
500
0
-500
y [AU]
PSF
12.30" x 12.30"
-500
0
500
x [AU]
15
10
5
0
I_ν [10^-14 erg/s/cm^2/Hz/sr]
log I_* / log I_max = 0.00 / 0.00

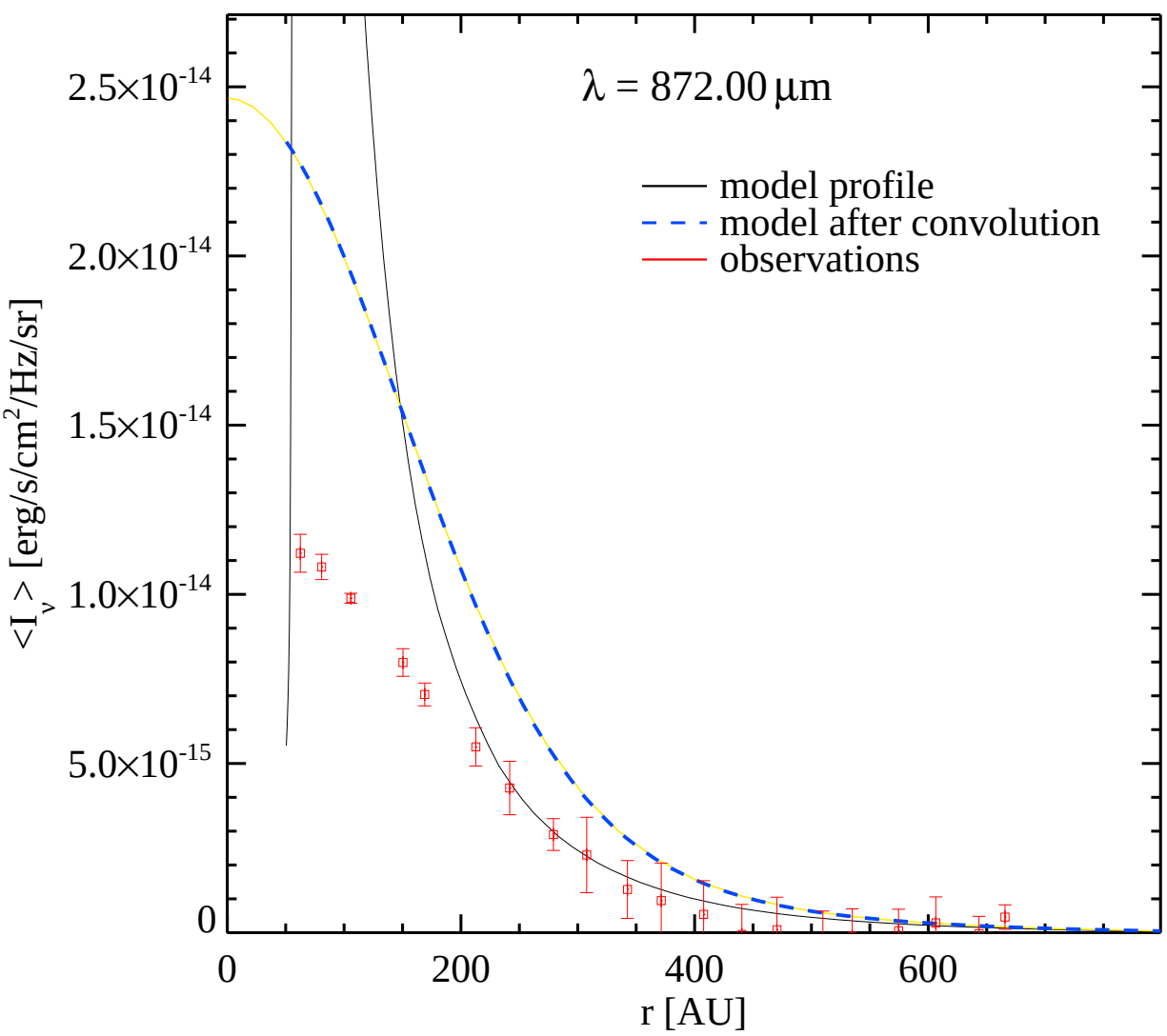

λ = 1.65 μm
-13
-14
-15
-16
log <I_ν> [erg/s/cm²/Hz/sr]
0
200
400
600
800
r [AU]
model profile
model after convolution
observations

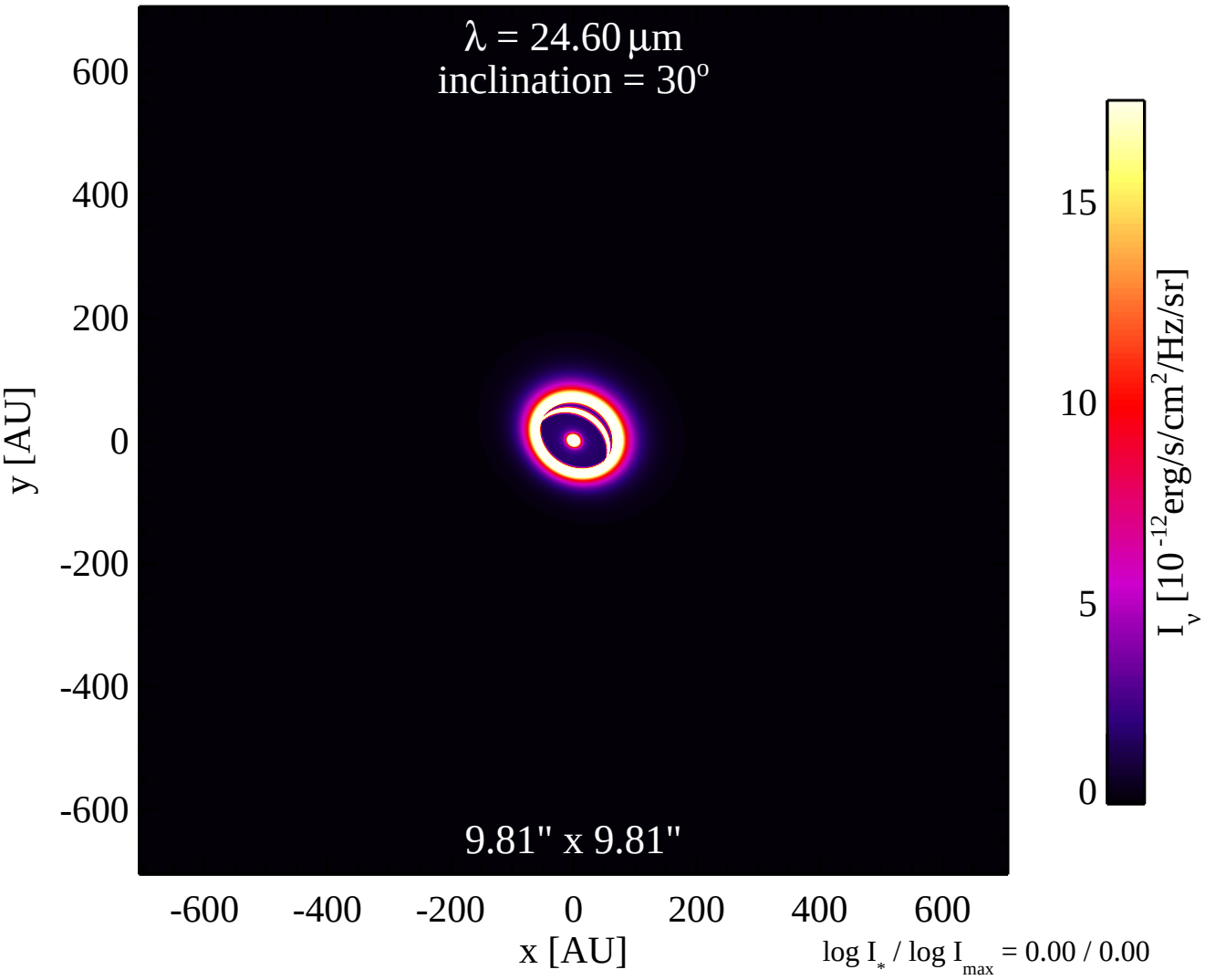

λ = 1.65 μm
model profile
model after convolution
observations
<I_ν> [erg/s/cm²/Hz/sr]
1.4×10⁻¹³
1.2×10⁻¹³
1.0×10⁻¹³
8.0×10⁻¹⁴
6.0×10⁻¹⁴
4.0×10⁻¹⁴
2.0×10⁻¹⁴
0
0
200
400
600
800
r [AU]

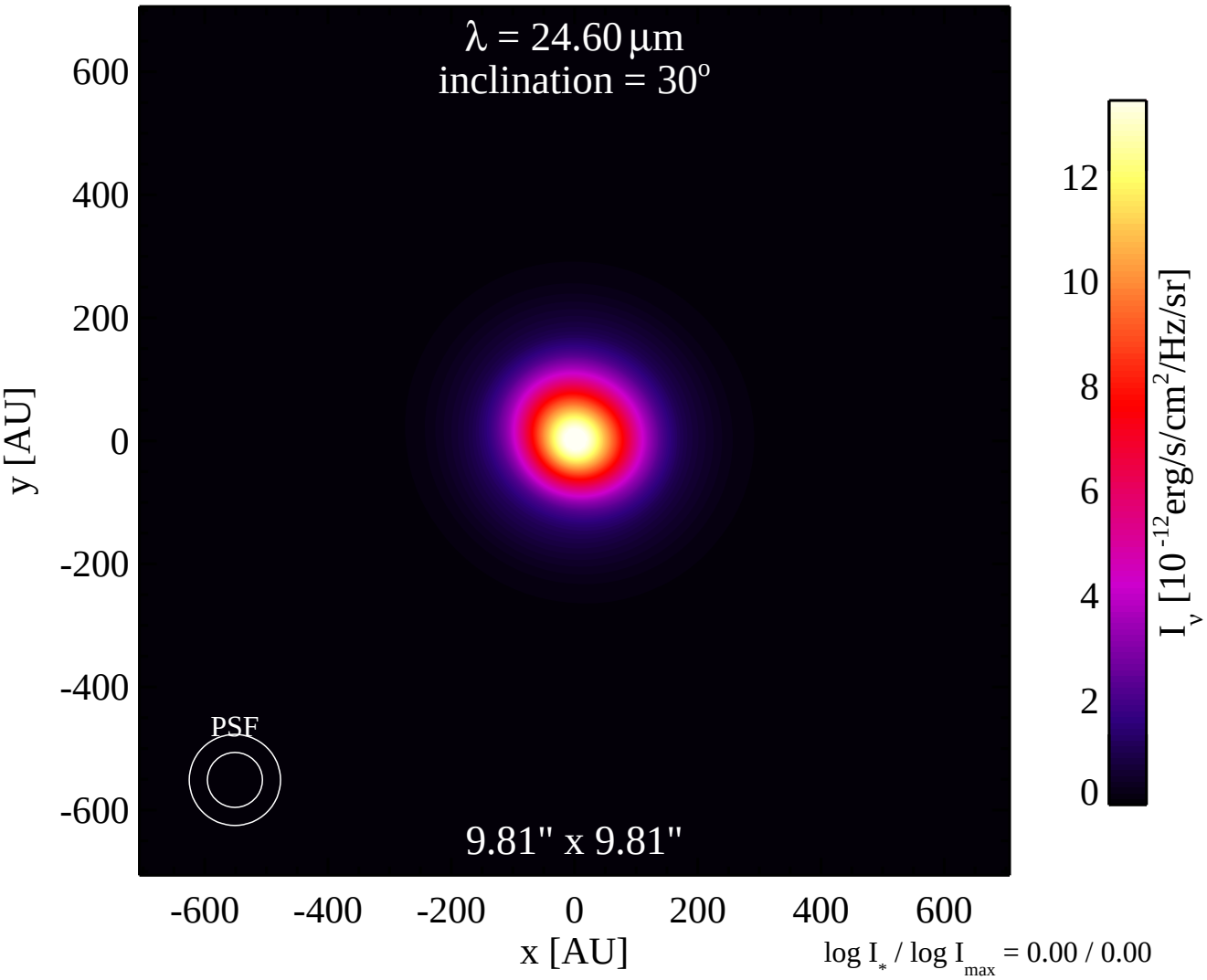

λ = 872.00 μm
inclination = 30°
11.09" x 11.09"
500
0
-500
y [AU]
-500
0
500
x [AU]
6
4
2
0
I_ν [10^-14 erg/s/cm^2/Hz/sr]
log I_* / log I_max = 0.00 / 0.00

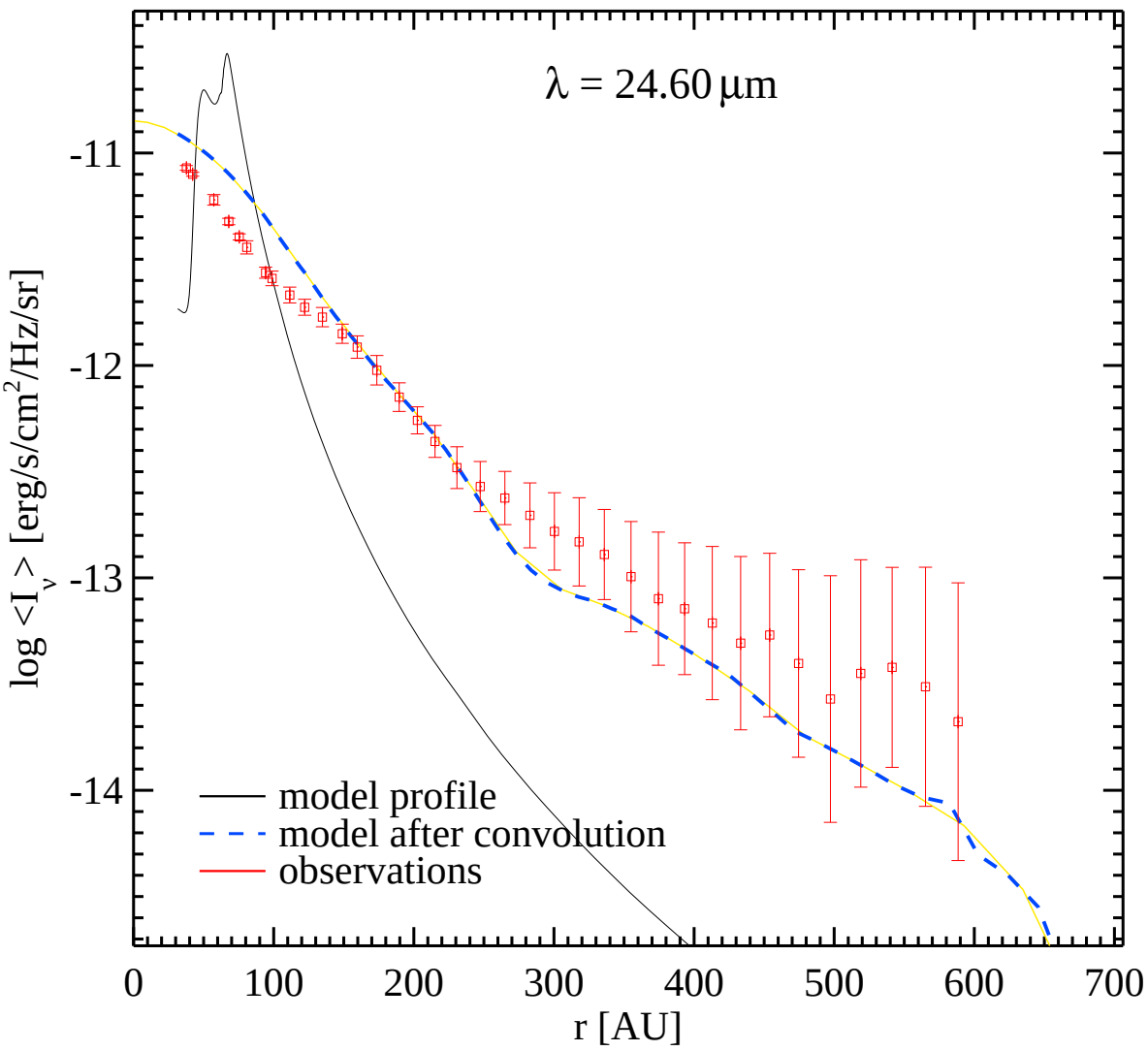

λ = 872.00 μm
inclination = 30°
500
0
-500
y [AU]
PSF
50%
15%
11.09" x 11.09"
-500
0
500
x [AU]
20
15
10
5
0
I_ν [10^-15 erg/s/cm^2/Hz/sr]
log I_* / log I_max = 0.00 / 0.00

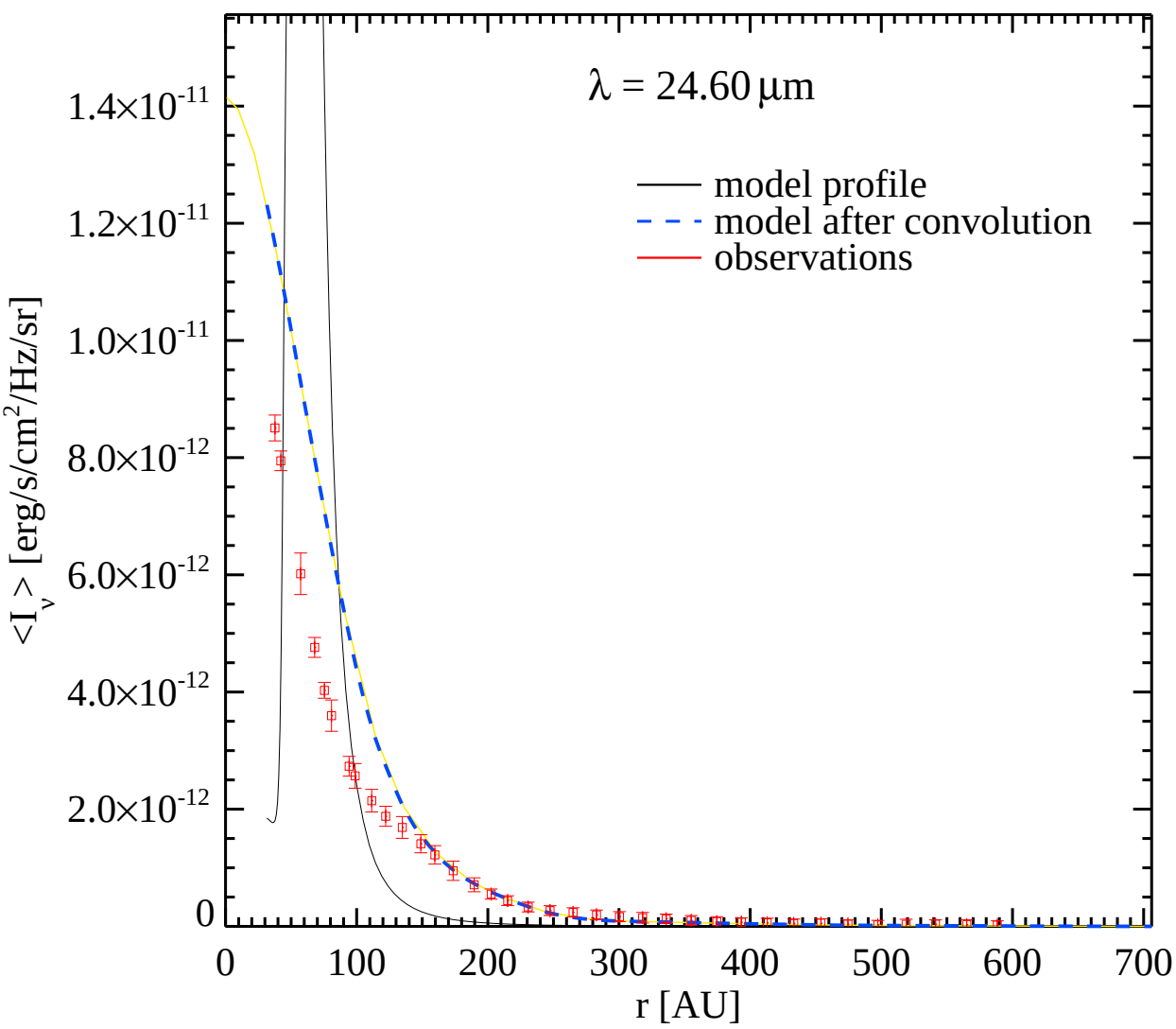

λ = 872.00 μm
-13
-14
-15
-16
-17
0
200
400
600
r [AU]
log <I_ν> [erg/s/cm²/Hz/sr]
model profile
model after convolution
observations


λ = 872.00 μm
model profile
model after convolution
observations
2.5×10-14
2.0×10-14
1.5×10-14
1.0×10-14
5.0×10-15
0
<Iν> [erg/s/cm2/Hz/sr]
0
200
400
600
r [AU]


λ = 24.60 μm
inclination = 30°
9.81" x 9.81"
600
400
200
0
-200
-400
-600
y [AU]
-600
-400
-200
0
200
400
600
x [AU]
15
10
5
0
I_ν [10^-12 erg/s/cm^2/Hz/sr]
log I_* / log I_max = 0.00 / 0.00


λ = 24.60 μm
inclination = 30°
PSF
9.81" x 9.81"
600
400
200
0
-200
-400
-600
y [AU]
-600
-400
-200
0
200
400
600
x [AU]
12
10
8
6
4
2
0
I_ν [10^-12 erg/s/cm^2/Hz/sr]
log I_* / log I_max = 0.00 / 0.00


λ = 24.60 μm
-11
-12
-13
-14
log <I_ν> [erg/s/cm²/Hz/sr]
0
100
200
300
400
500
600
700
r [AU]
model profile
model after convolution
observations


λ = 24.60 μm
model profile
model after convolution
observations
<I_ν> [erg/s/cm²/Hz/sr]
1.4×10^-11
1.2×10^-11
1.0×10^-11
8.0×10^-12
6.0×10^-12
4.0×10^-12
2.0×10^-12
0
0
100
200
300
400
500
600
700
r [AU]