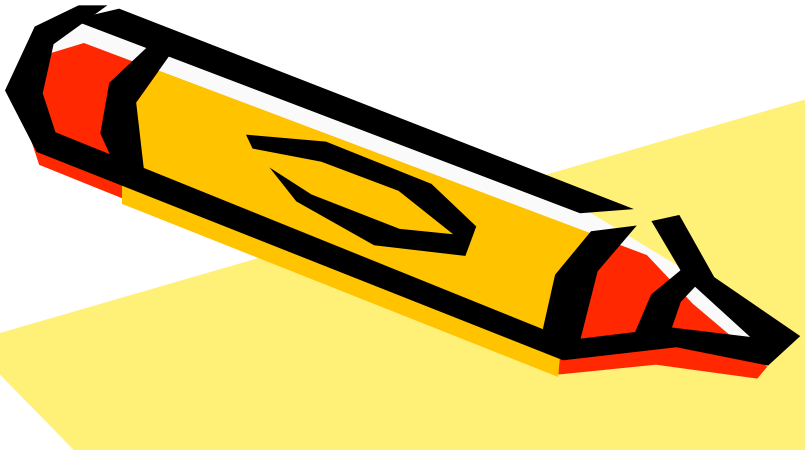


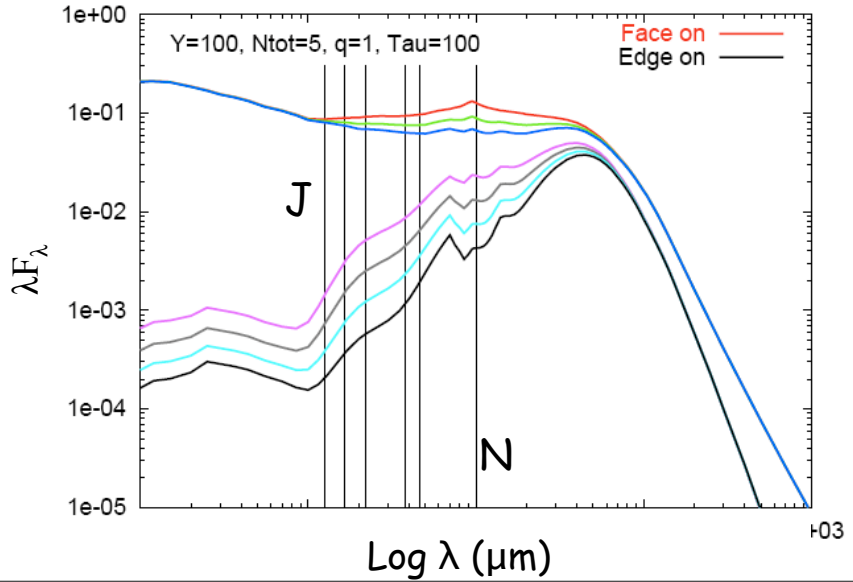
On the Infrared properties of Dusty

Preliminary Results

Liza Videla[1], Paulina Lira[1], Almudena Alonso-Herrero[2], David Alexander[3], Martin Ward[3].

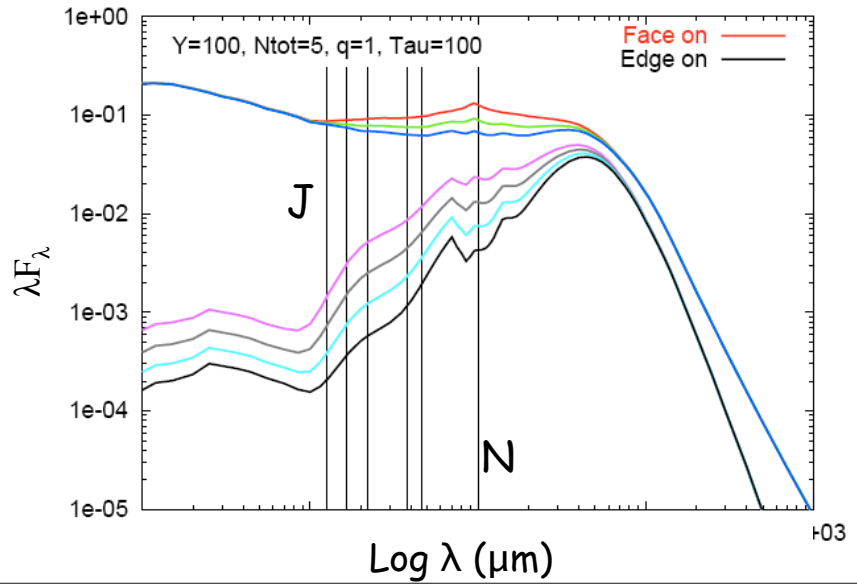
(1) Universidad de Chile (2) DAMIR (3) Durham University

Our Project


Y=100, Ntot=5, q=1, Tau=100
Face on
Edge on
J
N
1e+00
1e-01
1e-02
1e-03
1e-04
1e-05
λF_λ
Log λ (μm)

Our Project

- 52 Seyfert galaxies selected from The 12 μm Extended Galaxy Sample (Rush, Malkan & Spinoglio, 1993), high quality and high spatial resolution imaging in JHKLMN



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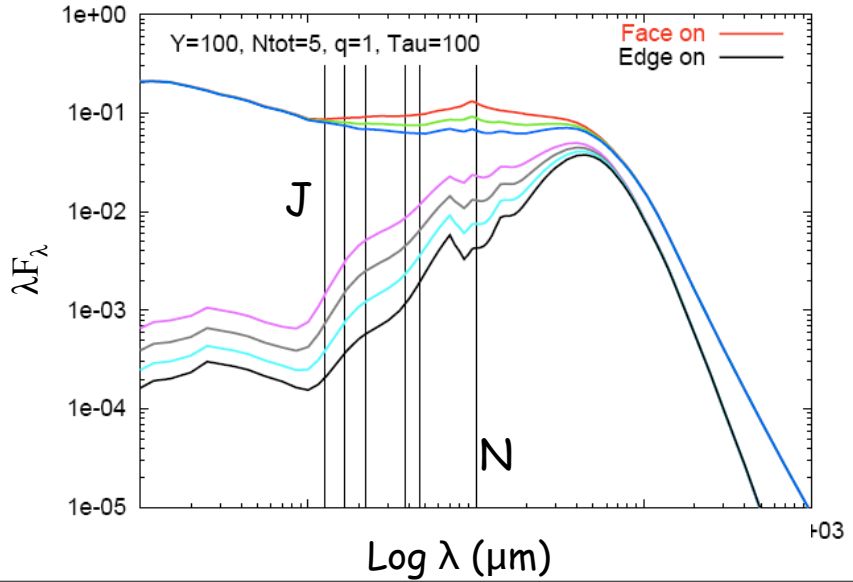

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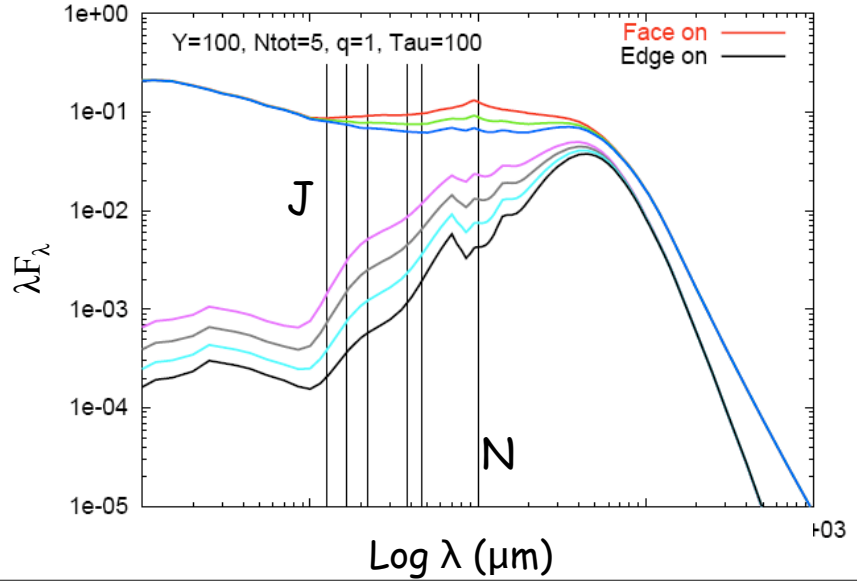

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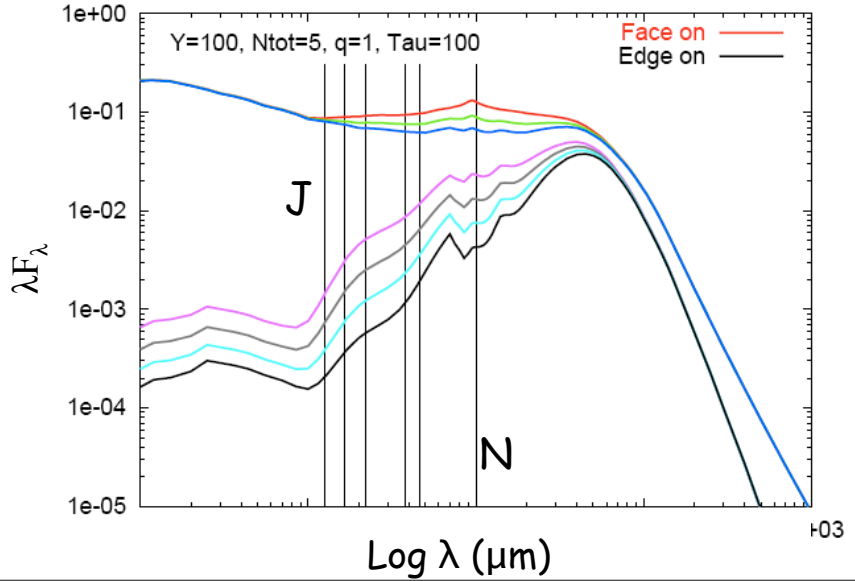
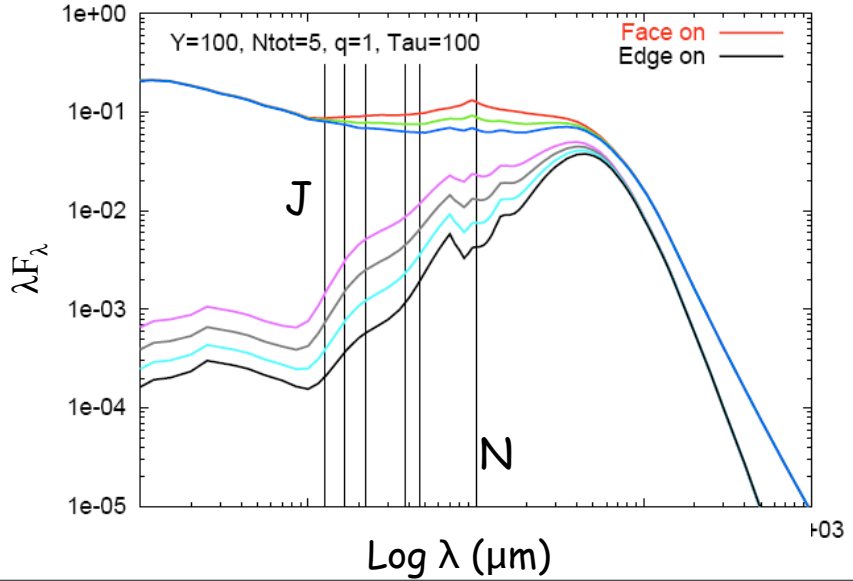


Our Project

- 52 Seyfert galaxies selected from The 12 μm Extended Galaxy Sample (Rush, Malkan & Spinoglio, 1993), high quality and high spatial resolution imaging in JHKLMN
- Determination of the torus contribution
- Nuclear IR SED construction
- Comparison between observational results and theoretical predictions
- Complementary multiwavelength data: spectropolarimetry, X-rays, SPIT



Theoretical modelling

The galaxy model

- Nucleus: Dirac's delta
- Bulge: Sersic's profile
- Bar: Sersic´s profile (if necessary)
- Disc: exponencial law
- Final model:

$$Ó = [ó_n \times ä(r) + ó_B \times \exp\{-b(n_B) \times (r/r_B)^{1/n_B}\} + ó_b \times \exp\{-b(n_b) \times (r/r_b)^{1/n_b}\} + ó_d \times e^{-r/r_d}] \otimes PSF$$

Nucleus | Bulge | Bar | Disk

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Nucleus | Bulge | Bar | Disk

SED error estimates:

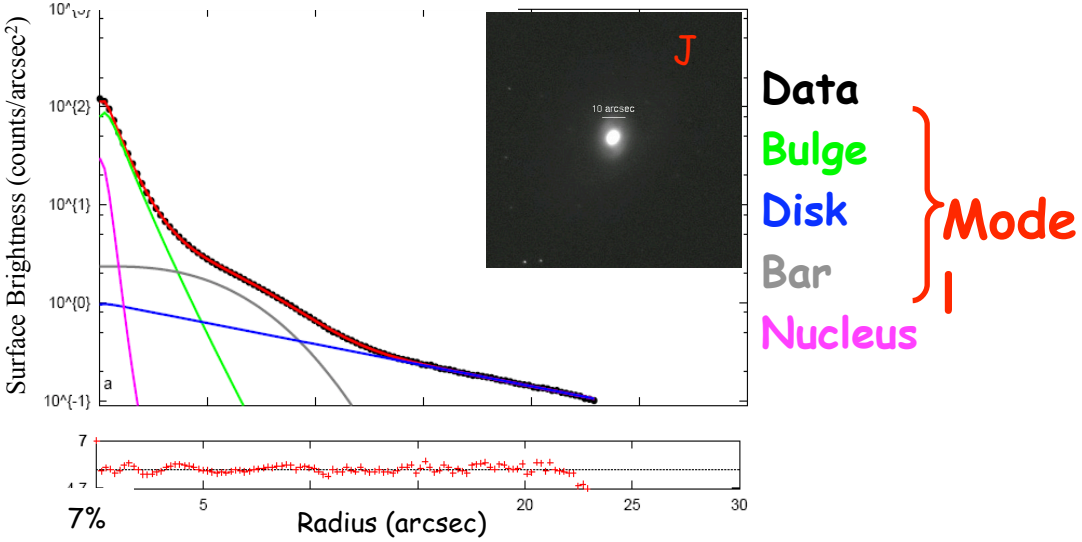
- parameter errors from Montecarlo simulations, and
- photometric errors

Galaxy Modelling (MCG-3-34-64)

SB(1)

ab

$F_\nu(N)=1.53\cdot10^{-15}Wm^{-2}$



Data

Bulge

Disk

Bar

Nucleus

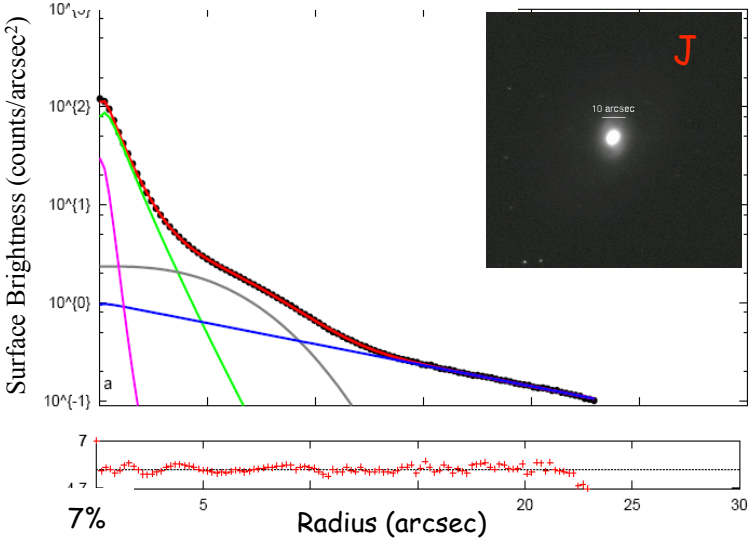
} Mode

Galaxy Modelling (MCG-3-34-64)

SB(1)

ab

$F_\nu(N)=1.53\cdot10^{-15}Wm^{-2}$



Data

Bulge

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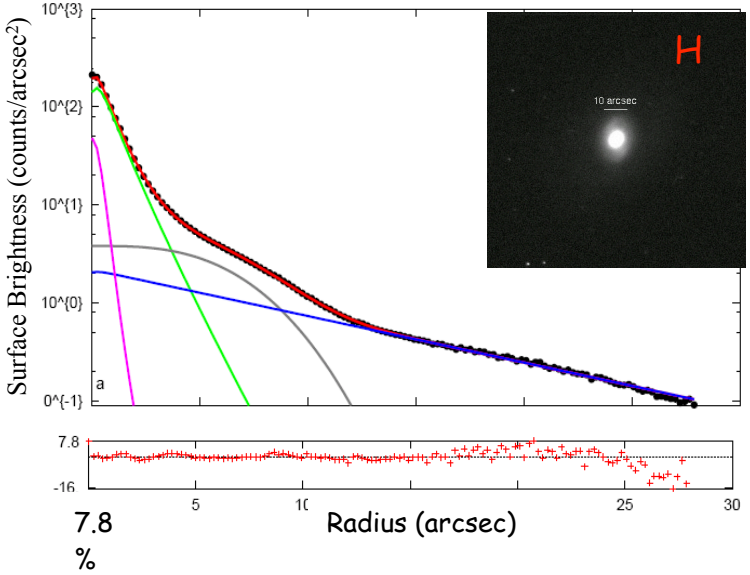
$F_\nu(N)=1.51\cdot10^{-15}Wm^{-2}$



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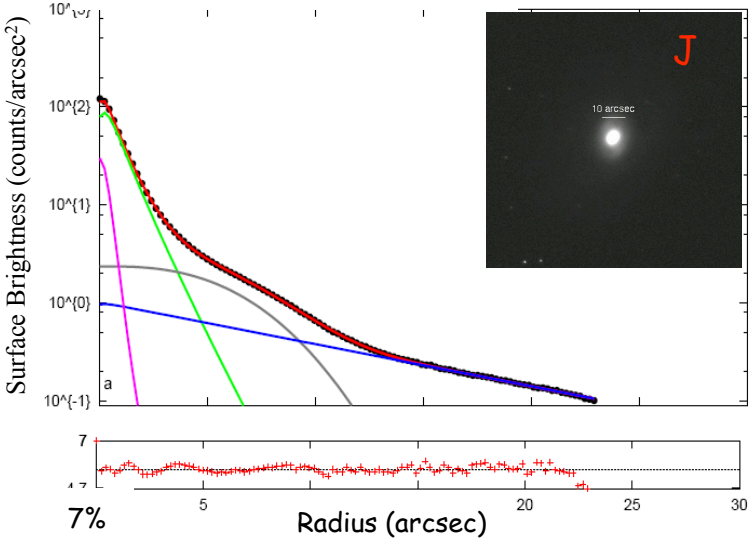
SB(1) ab

$F_\nu(N)=1.53\cdot10^{-15}Wm^{-2}$

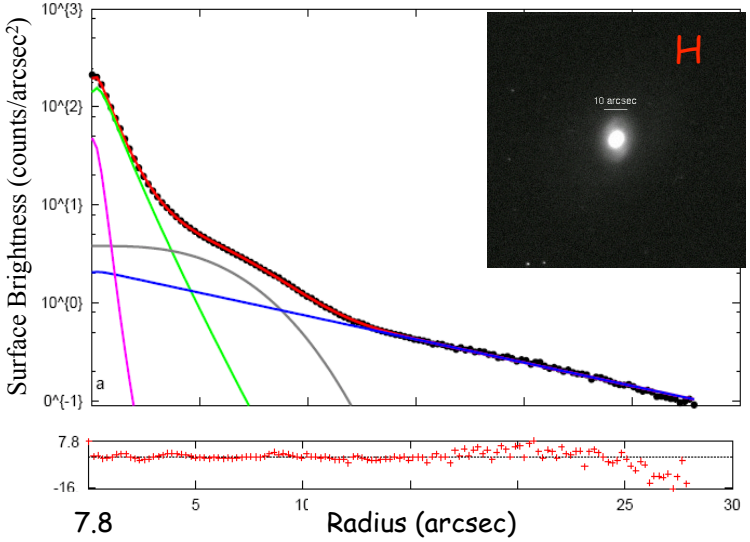


7%

Data
Bulge
Disk
Bar
Nucleus

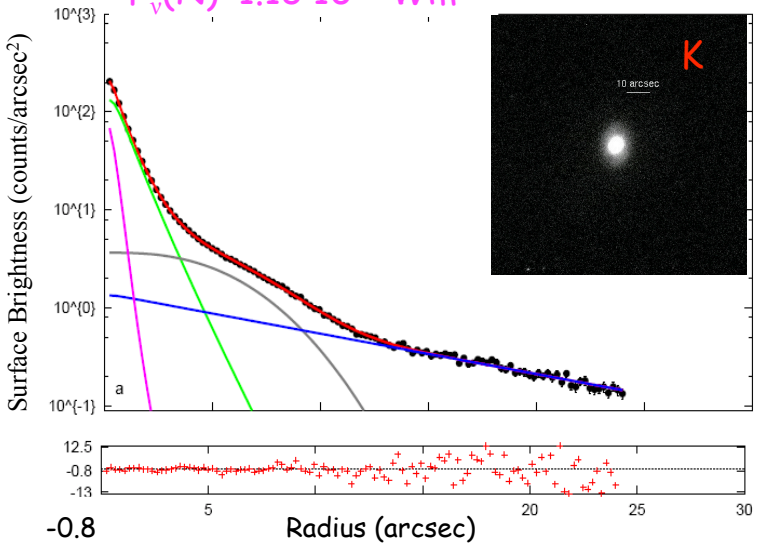
Mode I

$F_\nu(N)=1.51\cdot10^{-15}Wm^{-2}$



7.8 %

$F_\nu(N)=1.13\cdot10^{-15}Wm^{-2}$

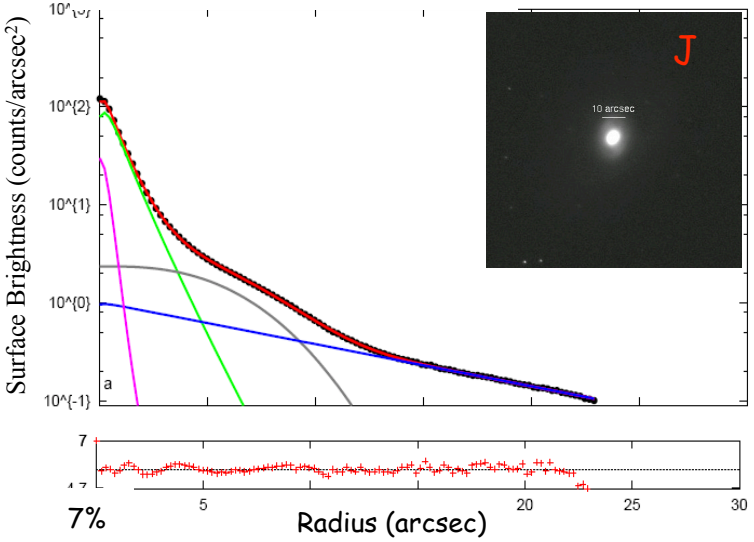


-0.8

Galaxy Modelling (MCG-3-34-64)

SB(1) ab

$F_\nu(N)=1.53\cdot10^{-15}Wm^{-2}$

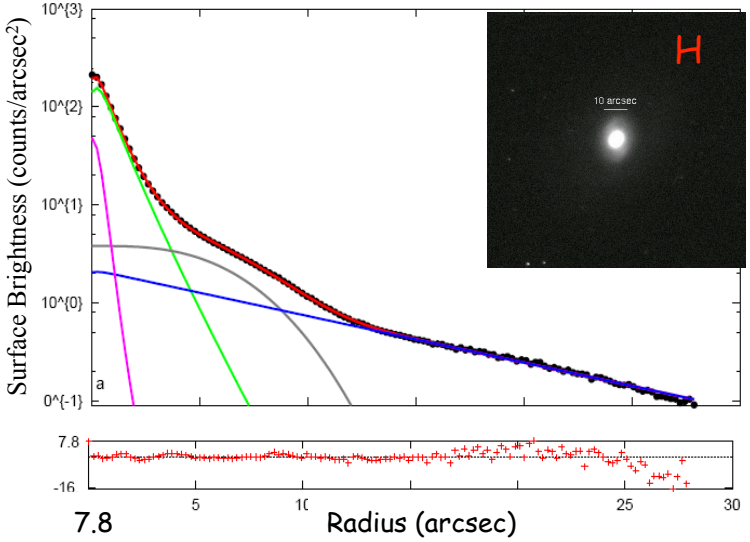


7%

Data
Bulge
Disk
Bar
Nucleus

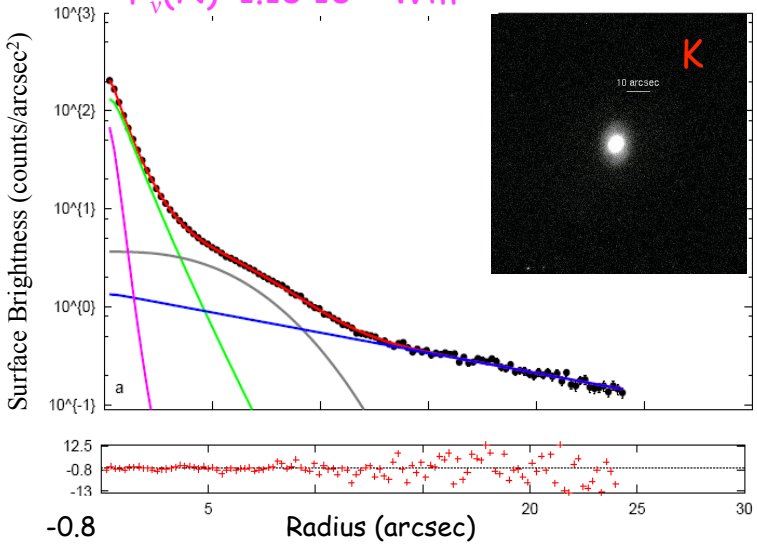
Mode I

$F_\nu(N)=1.51\cdot10^{-15}Wm^{-2}$



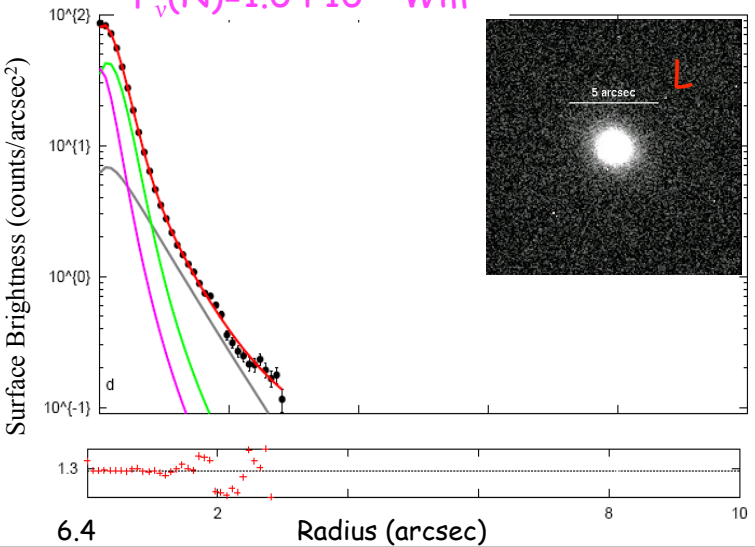
7.8 %

$F_\nu(N)=1.13\cdot10^{-15}Wm^{-2}$



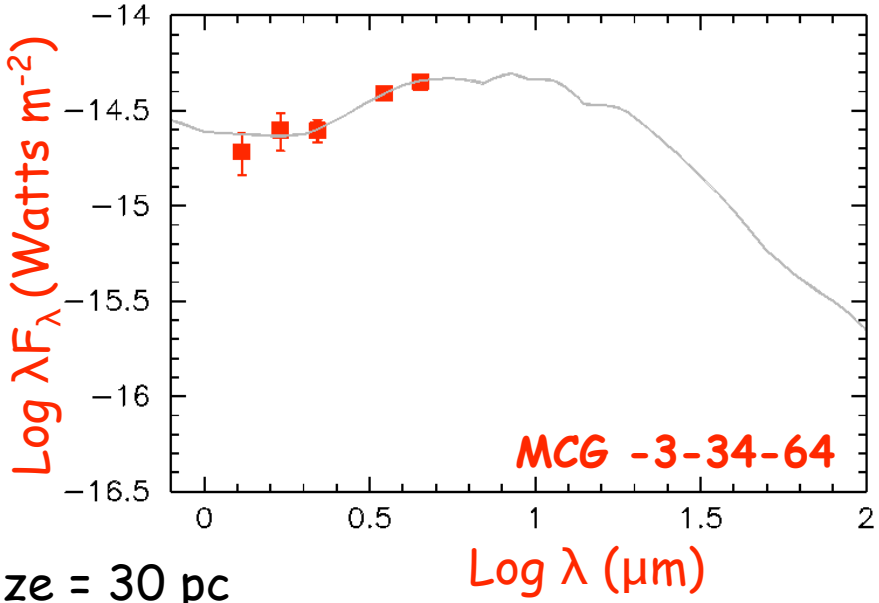
-0.8

$F_\nu(N)=1.04\cdot10^{-15}Wm^{-2}$



6.4

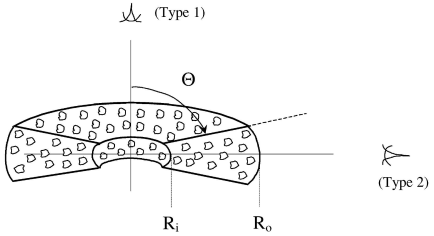
Nuclear IR SEDs



Size = 30 pc

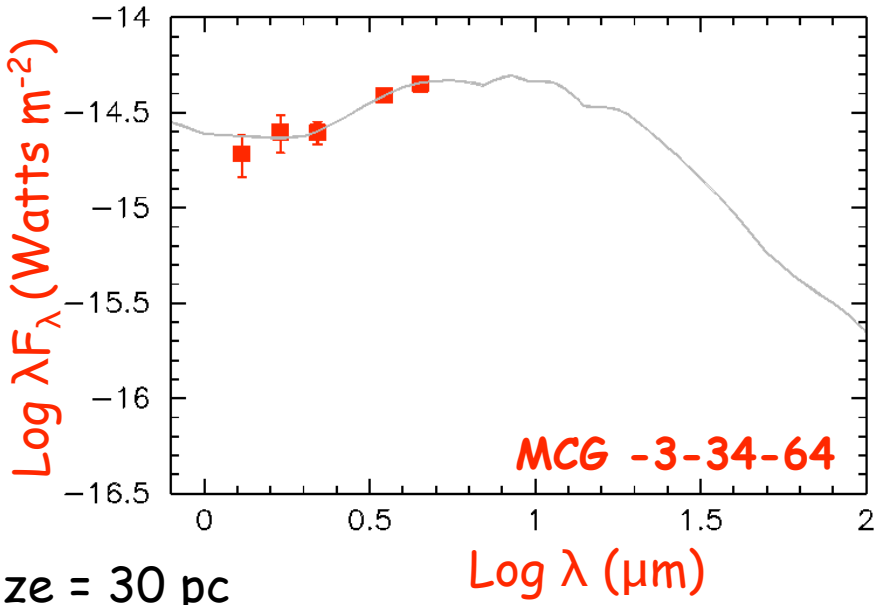
N = 5 clouds

Angle = 0°

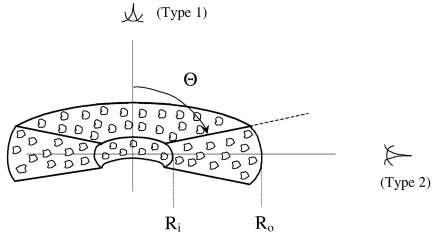


Nenkova, Ivezić , & Elitzur 2002

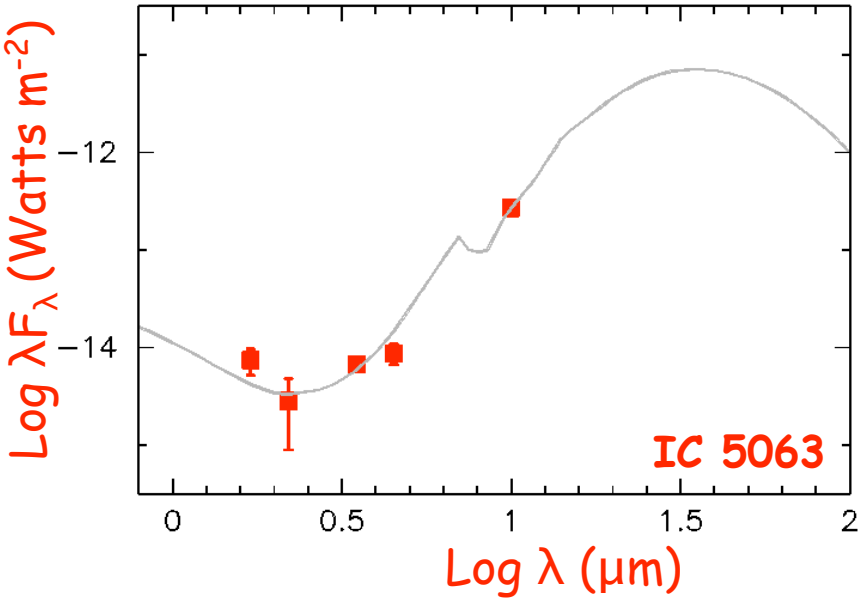
Nuclear IR SEDs



Size = 30 pc
N = 5 clouds
Angle = 0°



Size = 30 pc
N = 10 clouds
Angle = 90°



Nenkova, Ivezić , & Elitzur 2002

Thank you!