

# Probing AGN obscuration via Galaxy orientation and evolution in comprehensive semi-analytic models

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 860744.



**University of  
Southampton**

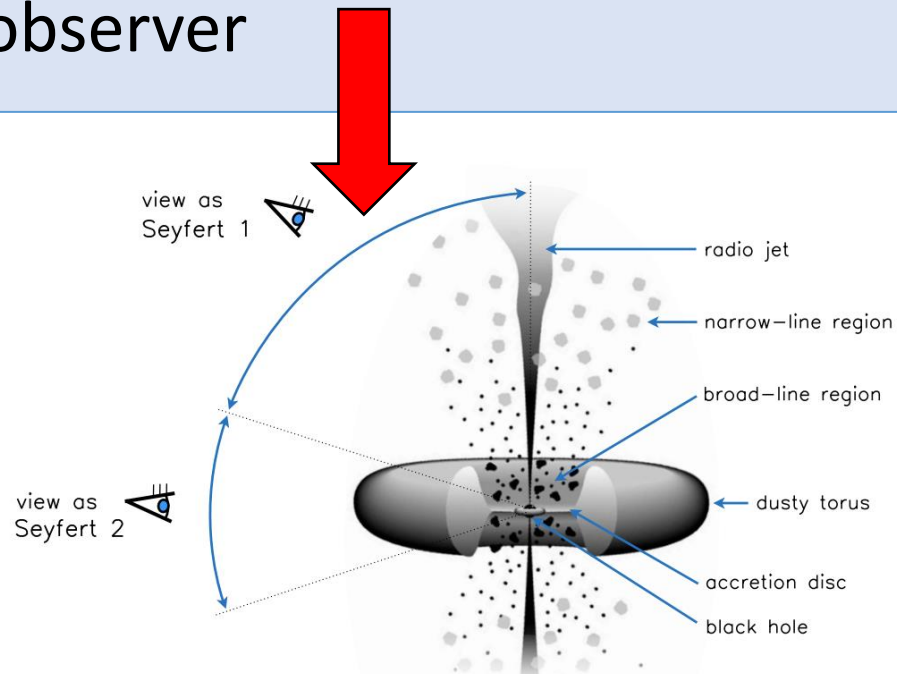
# Summary

## Orientation model

- Obscuration depends on the position of the object vs observer

## Evolutionary model

- Obscuration depends on the moment of the object history



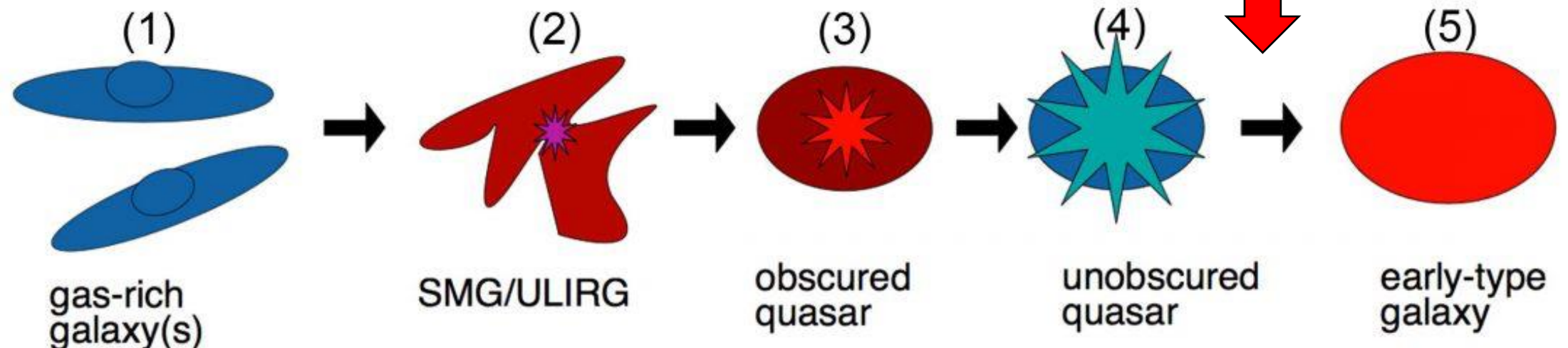
# Summary

## Orientation model

- Obscuration depends on the position of the object vs observer

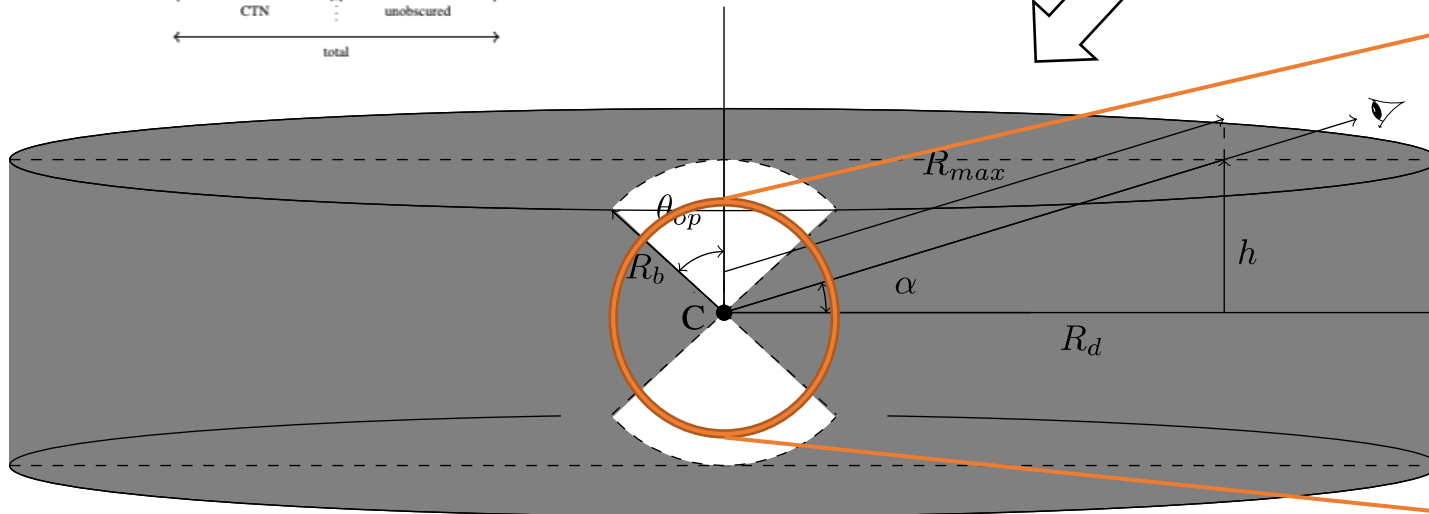
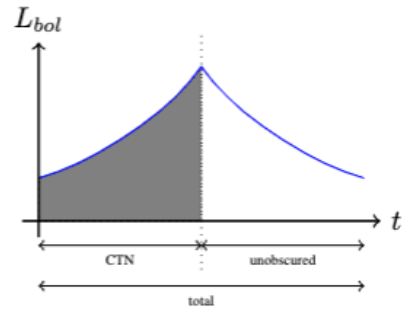
## Evolutionary model

- Obscuration depends on the moment of the object history



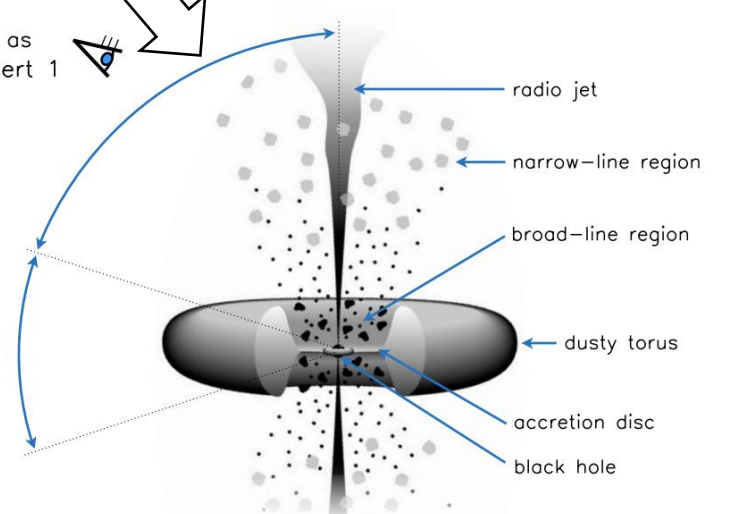
# Summary

## Obscuration = host + torus

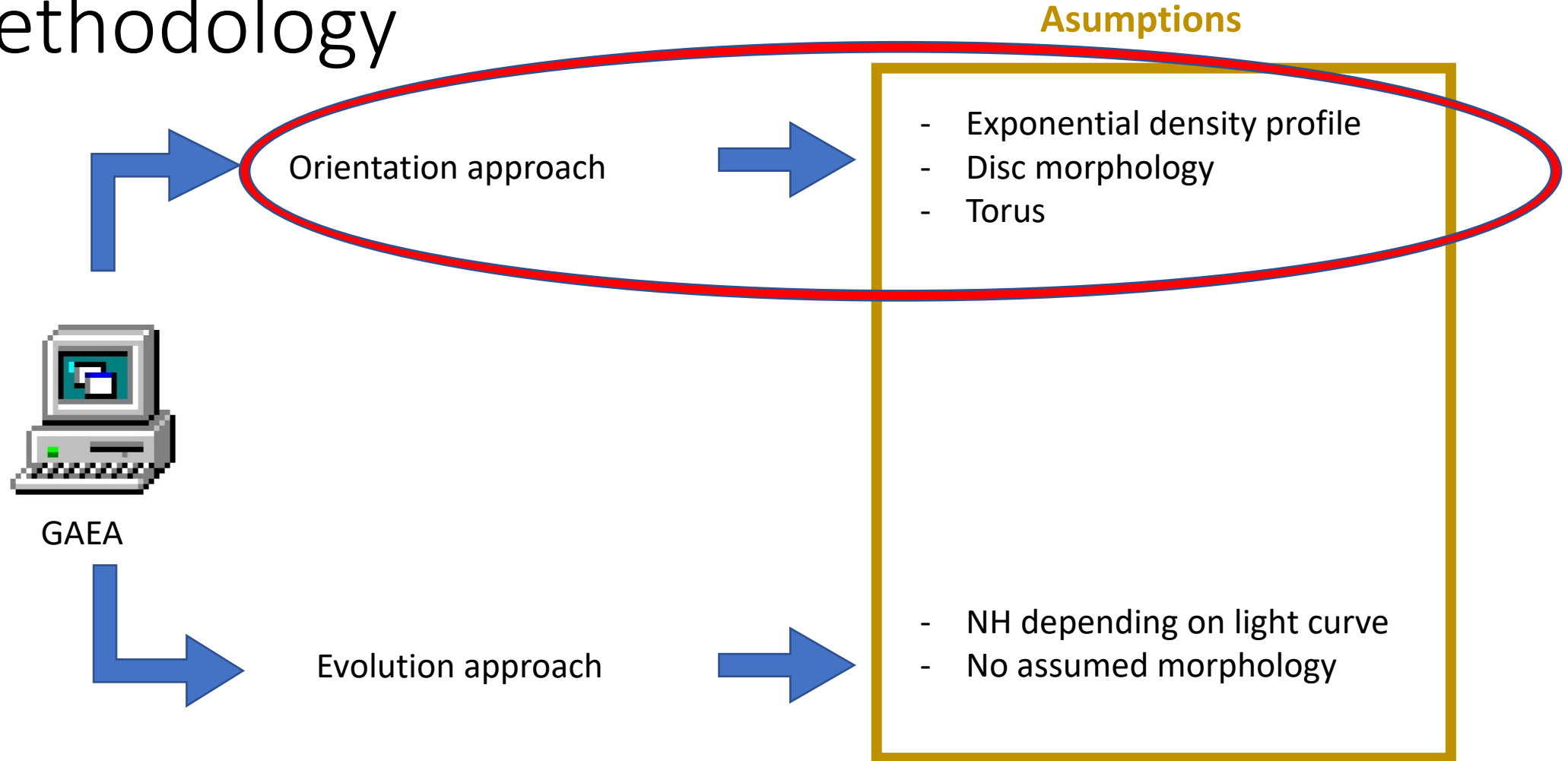


view as Seyfert 1

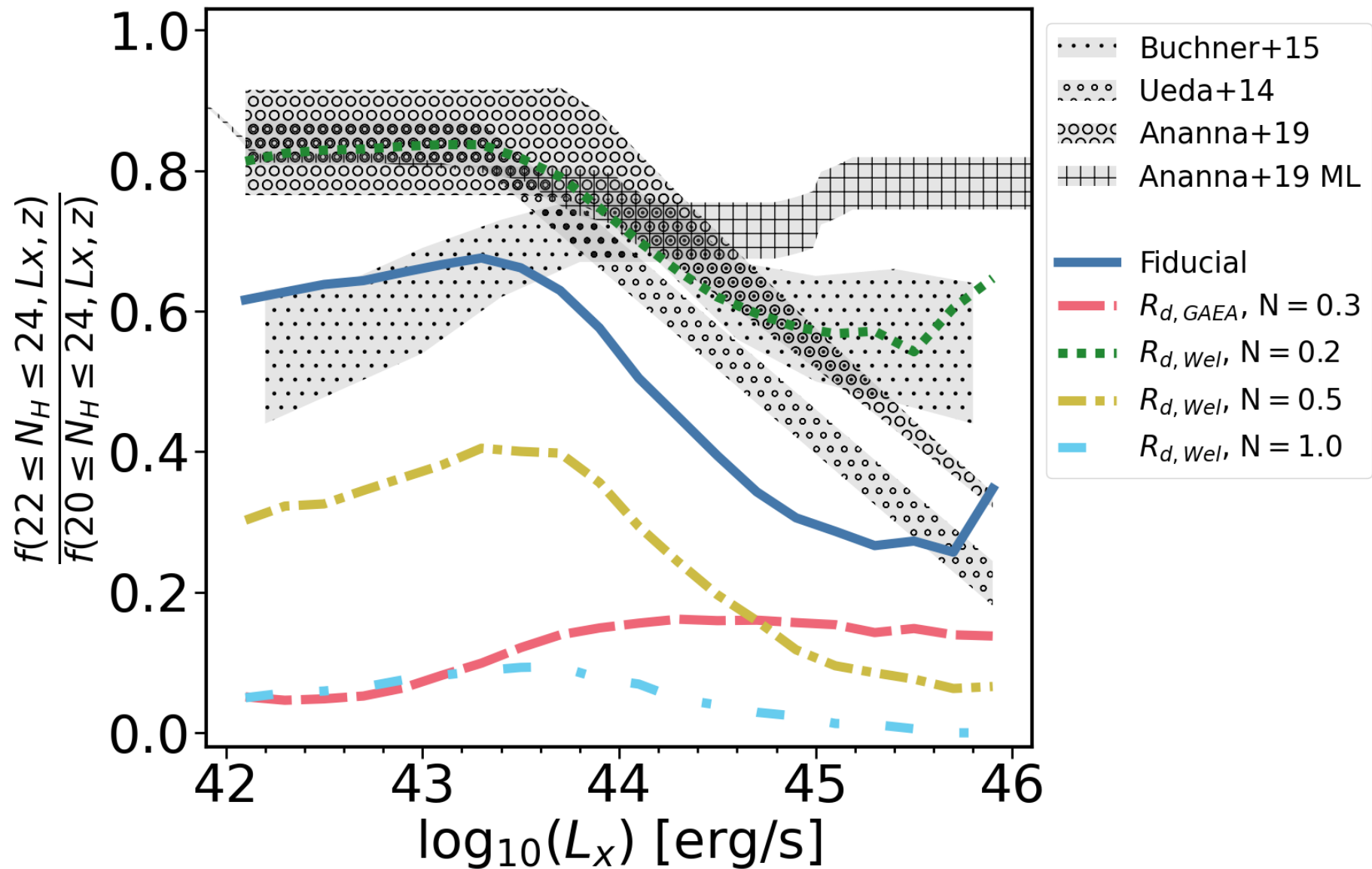
view as Seyfert 2



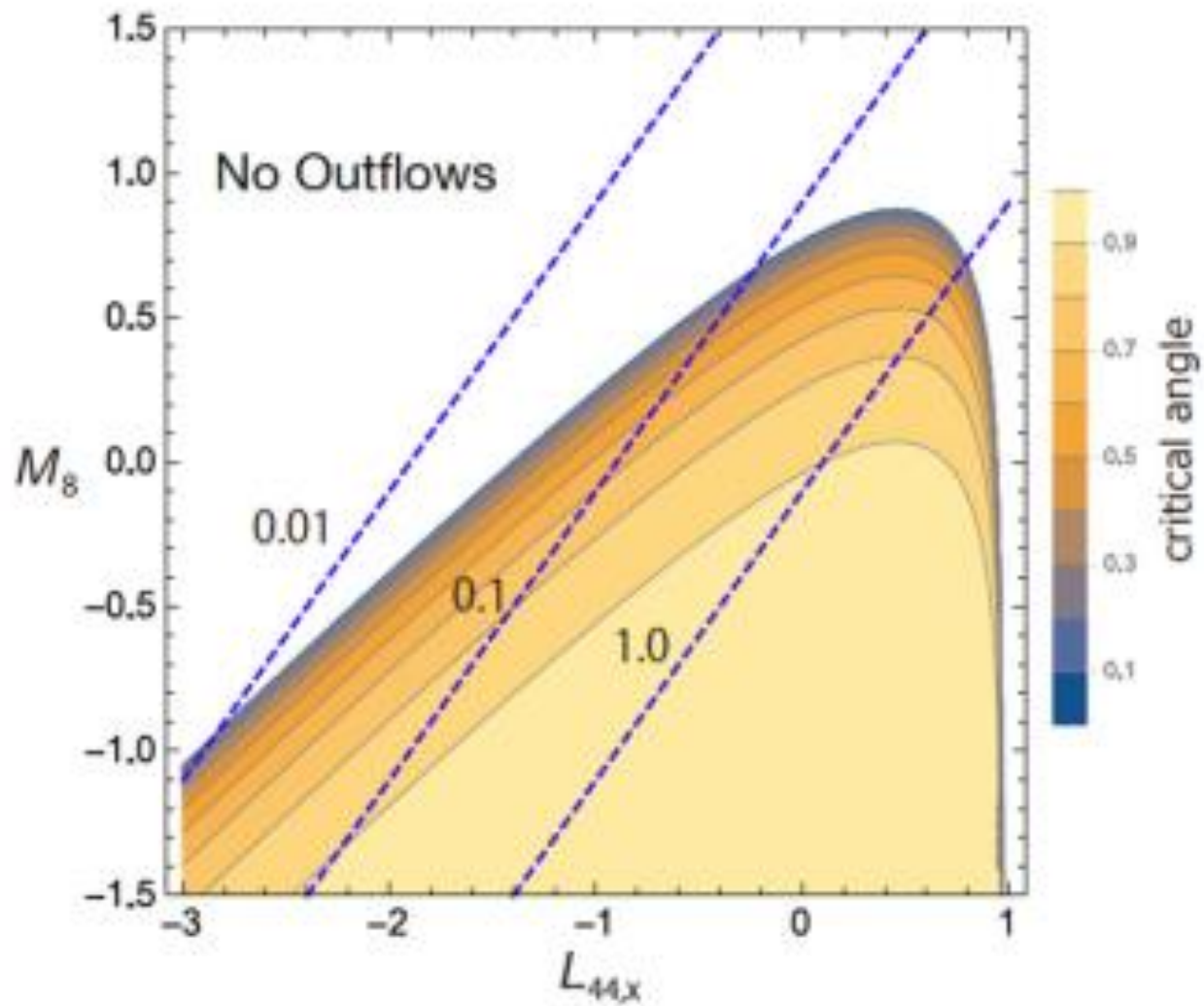
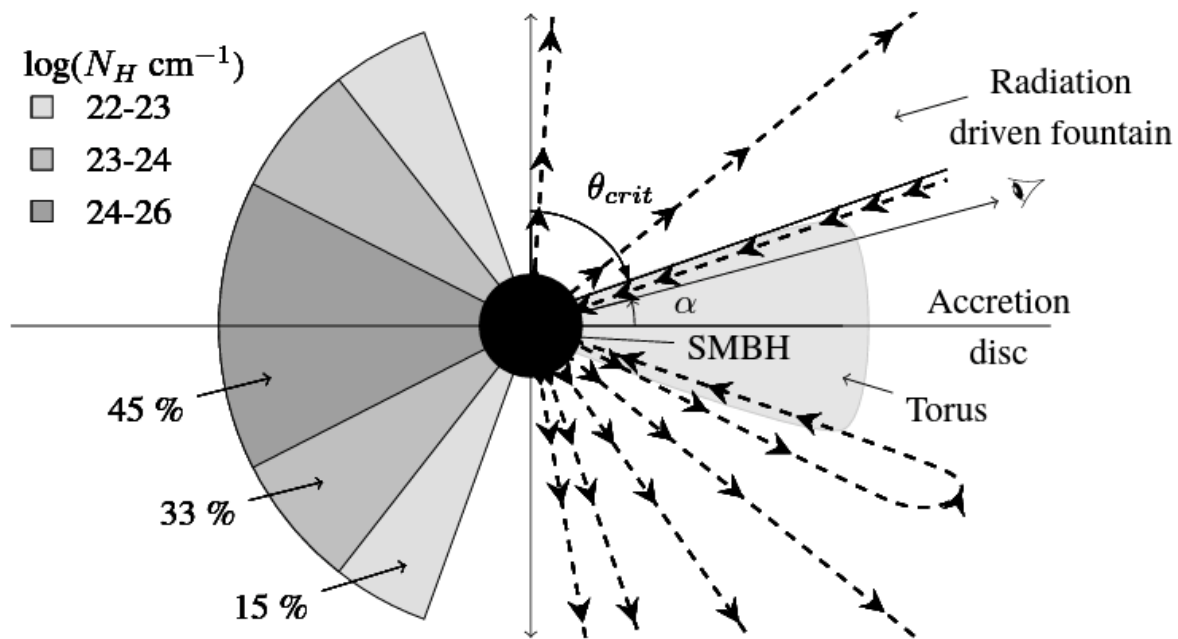
# Methodology



# no-BW model

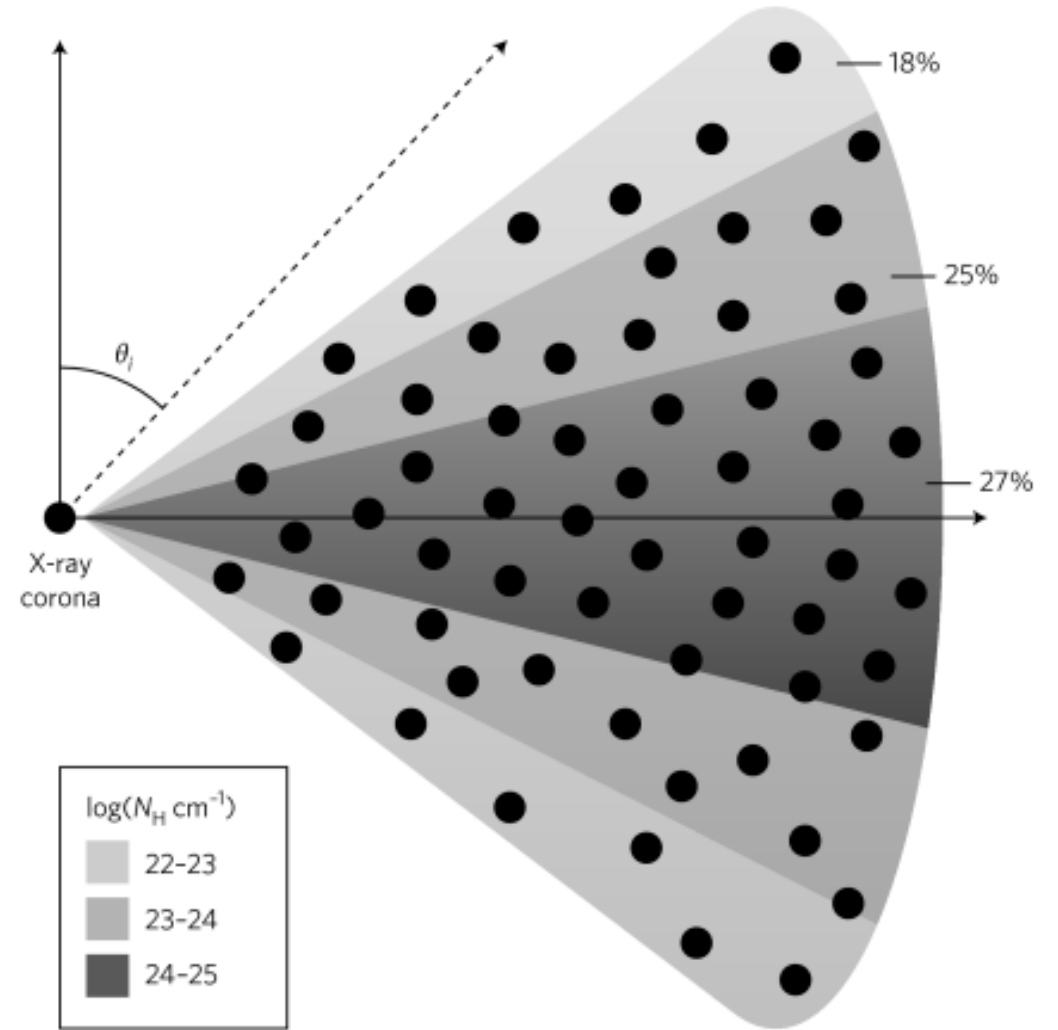
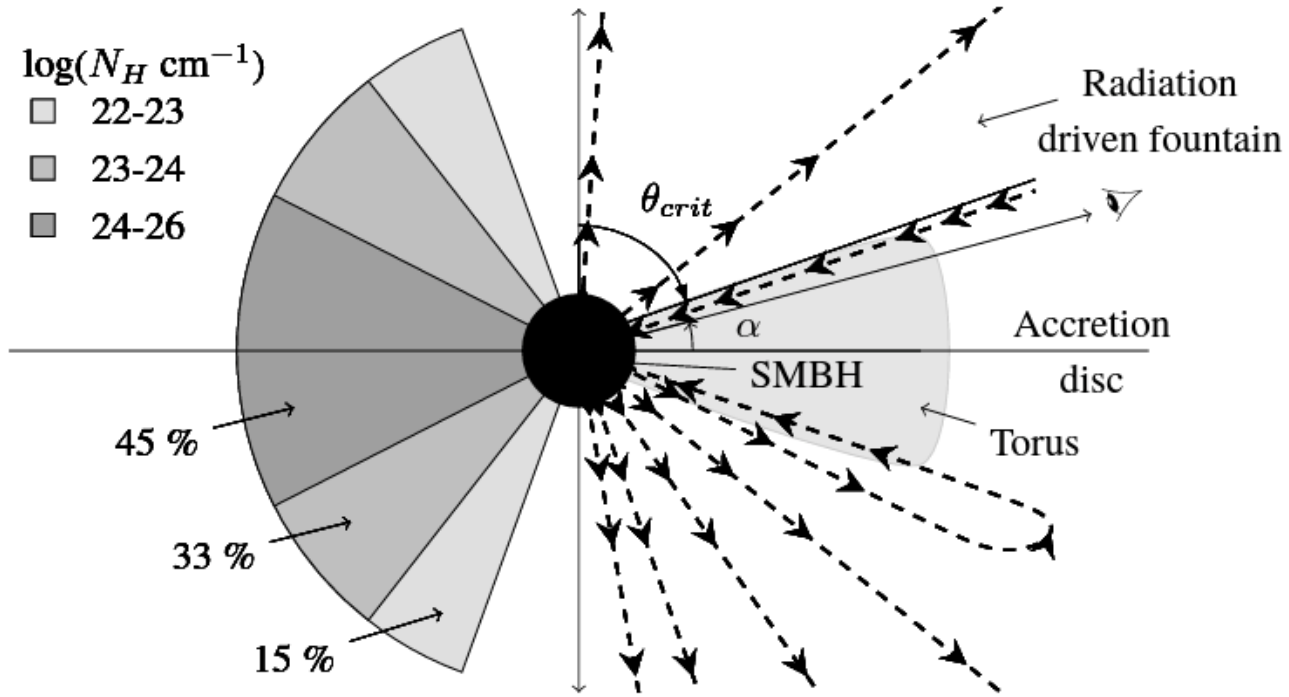


# Torus

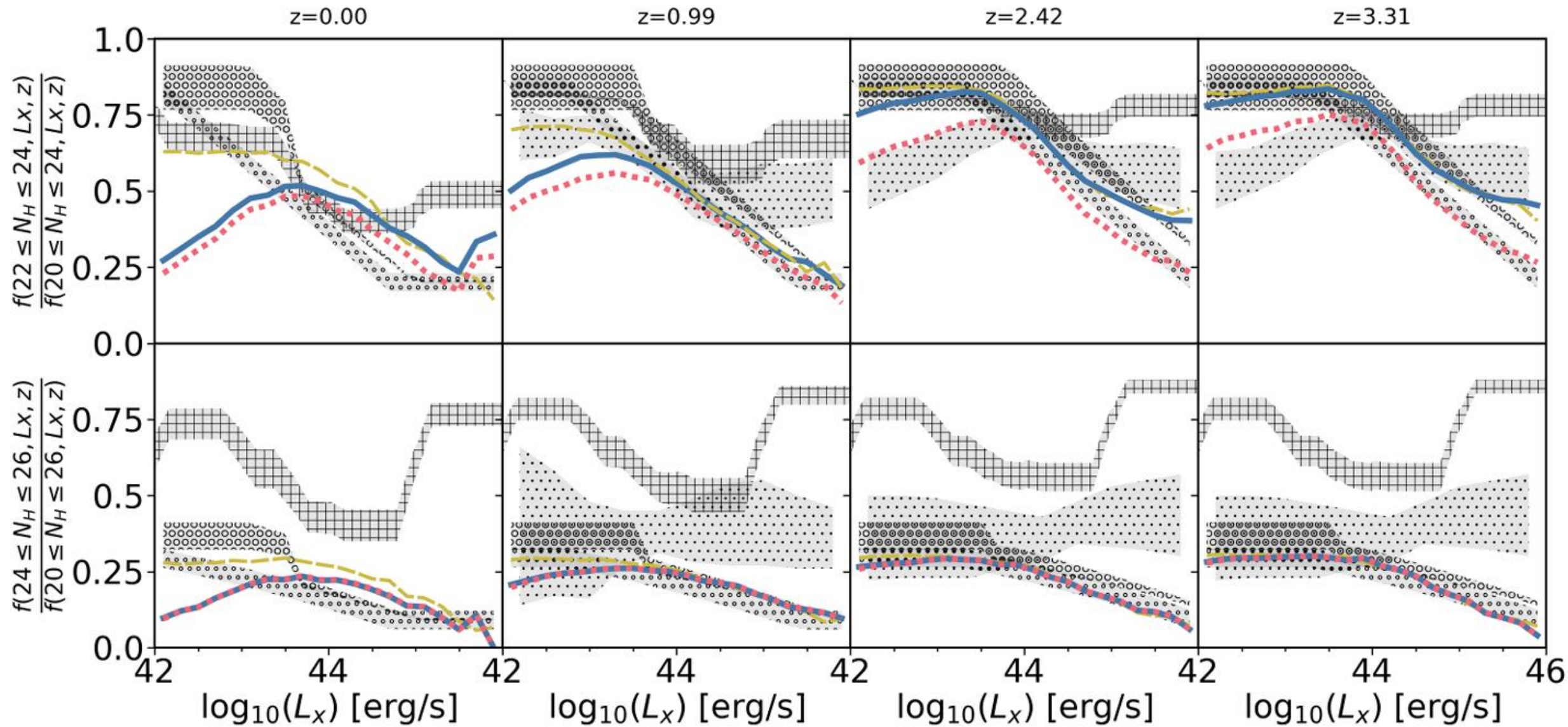
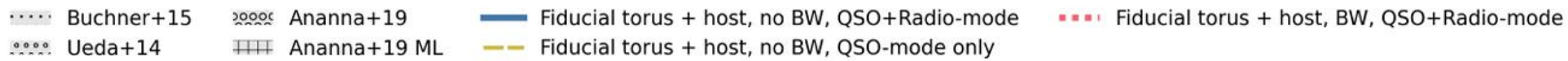


Wada (2015)

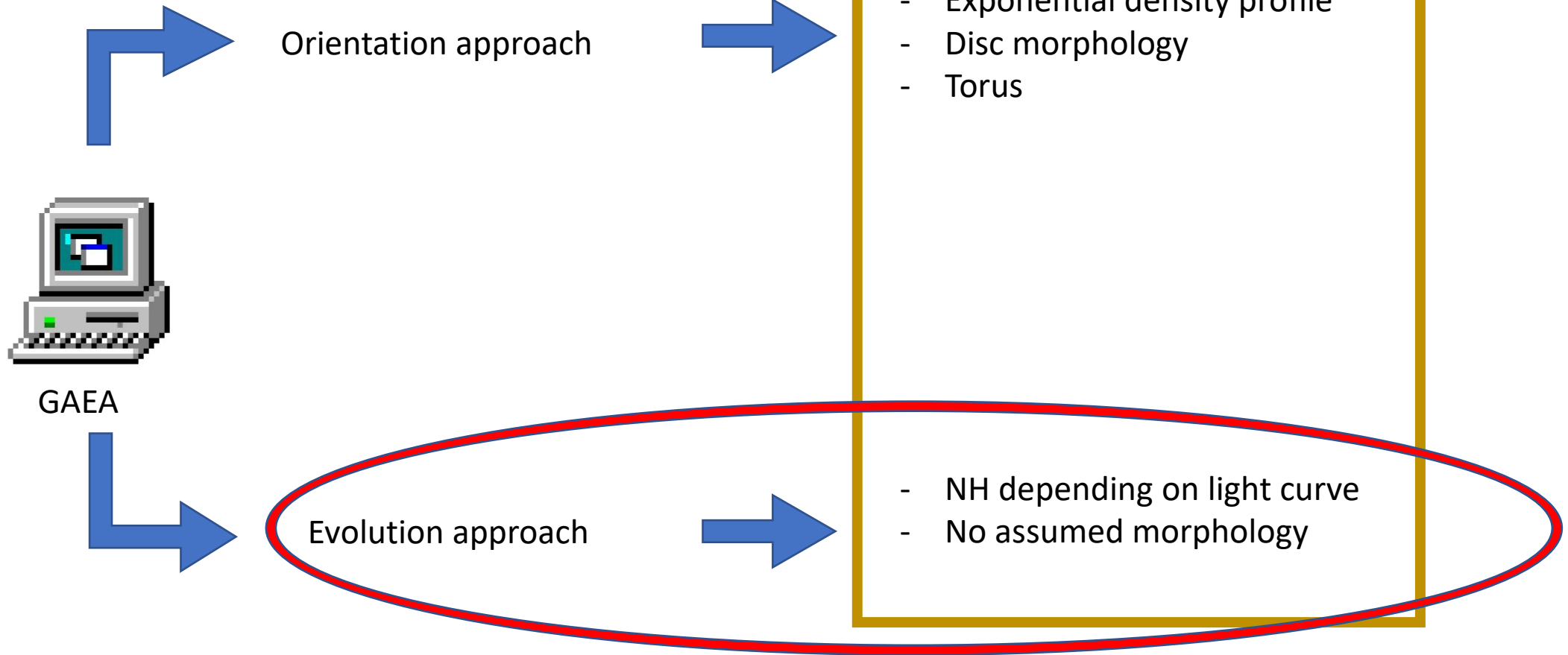
# Torus

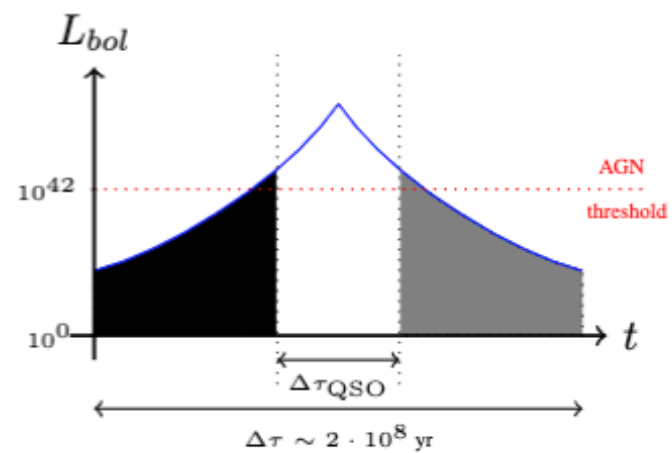
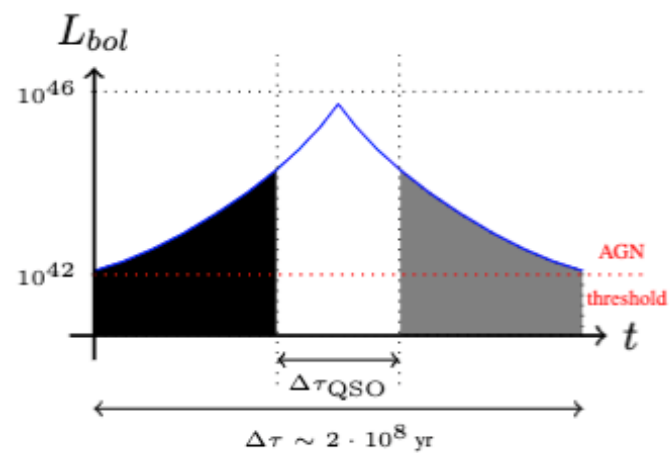
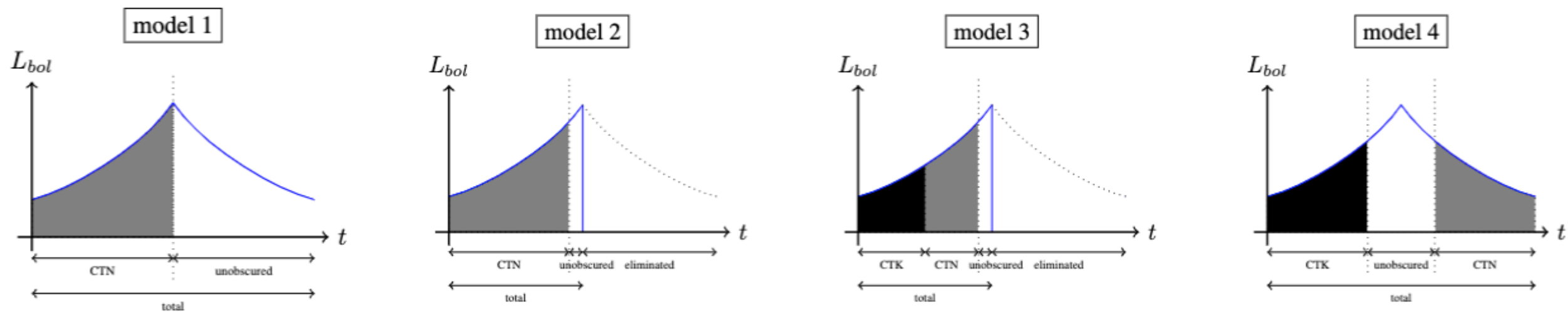


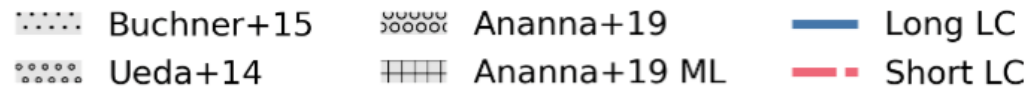




# Methodology

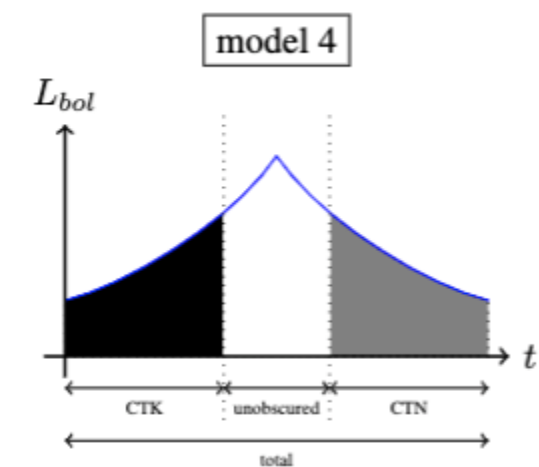
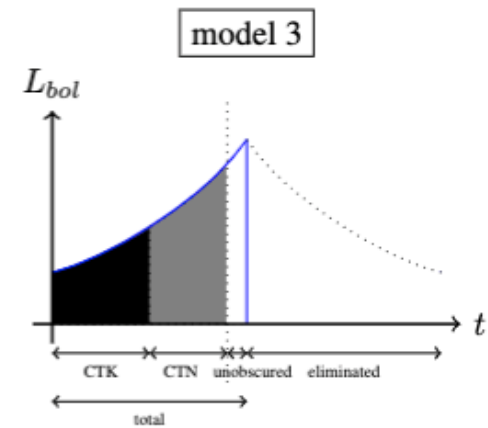
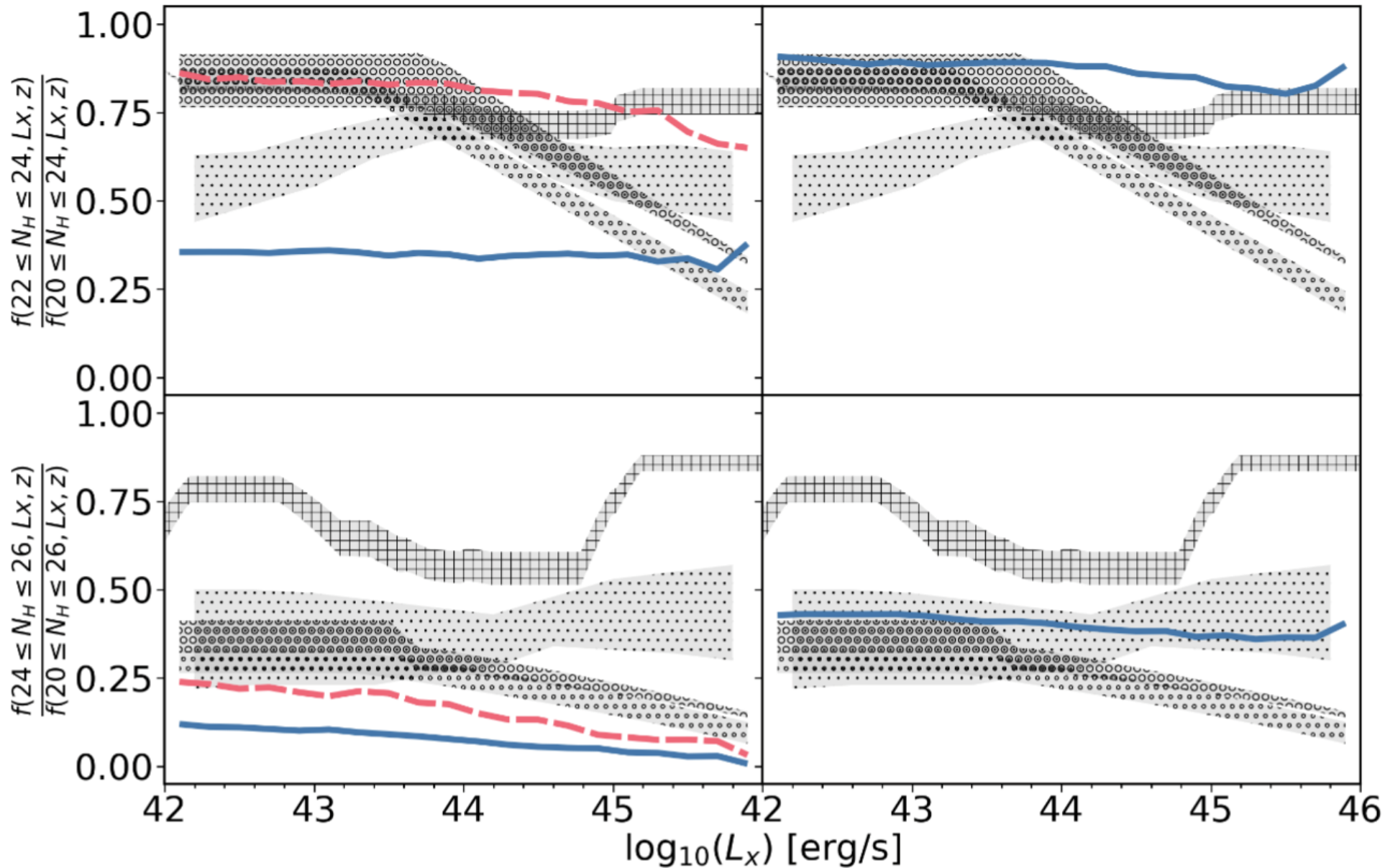






Model 3: CTK/CTN/op vis

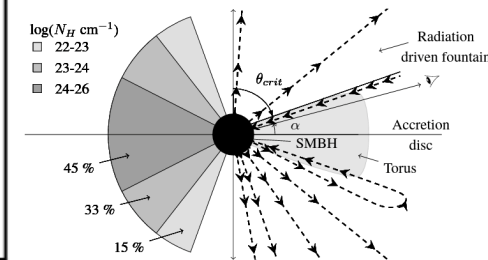
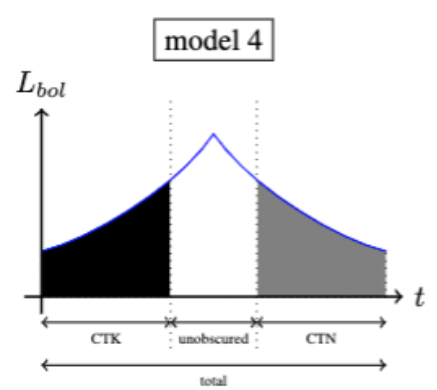
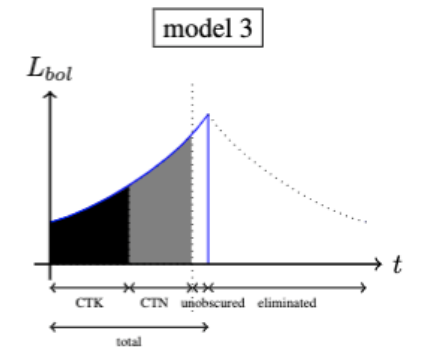
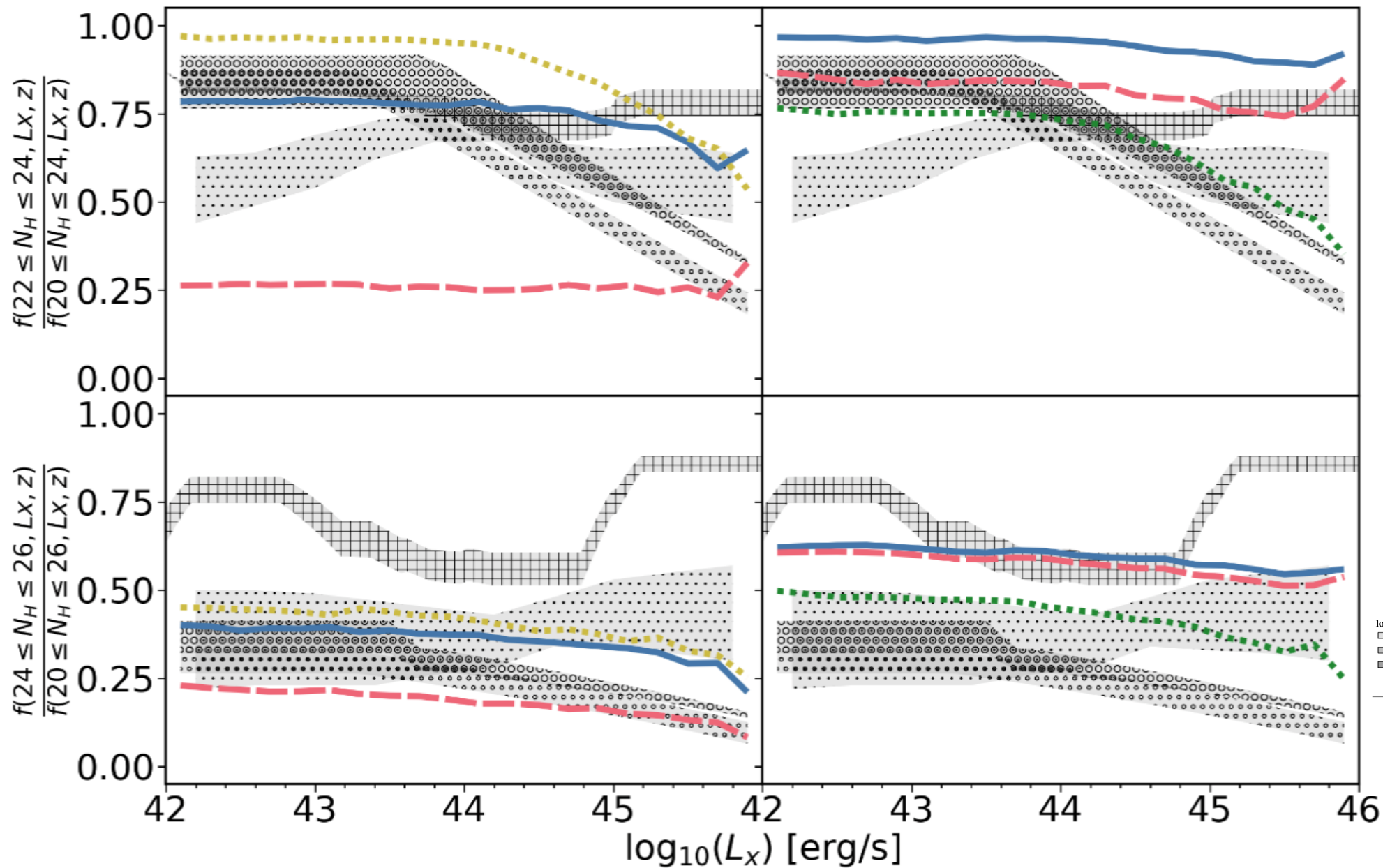
Model 4: CTK/op vis/CTN



Buchner+15    
  Ananna+19    
  LL torus +  $10^7$  yr window    
  LL torus +  $10^7$  yr window + Short LC  
 Ueda+14    
 Ananna+19 ML    
 SL torus +  $10^7$  yr window    
 LL torus +  $10^8$  yr window

Model 3: CTK/CTN/op vis

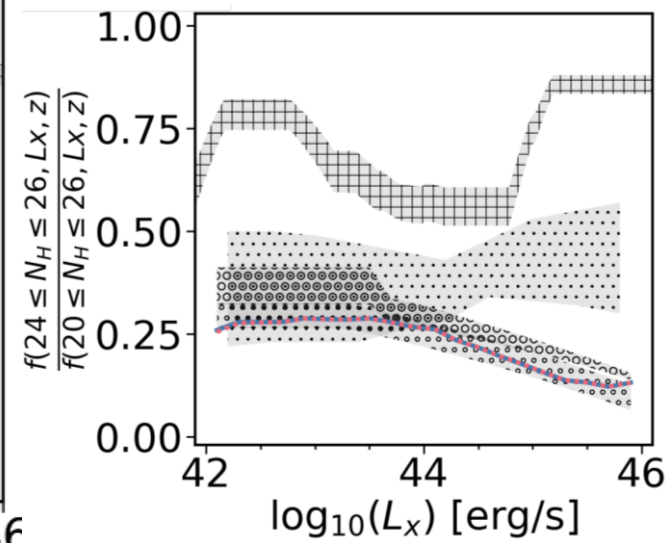
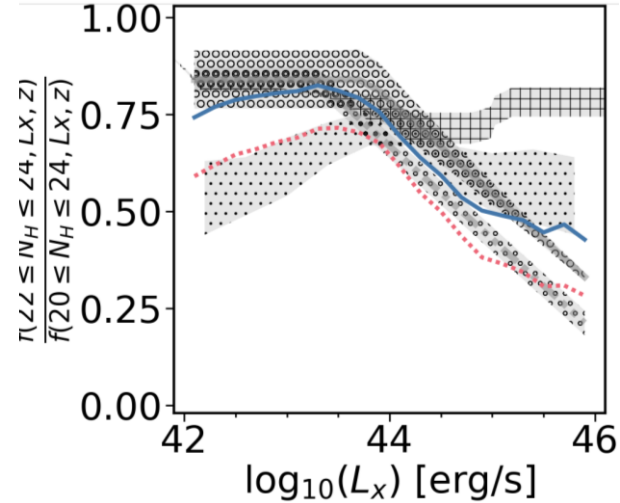
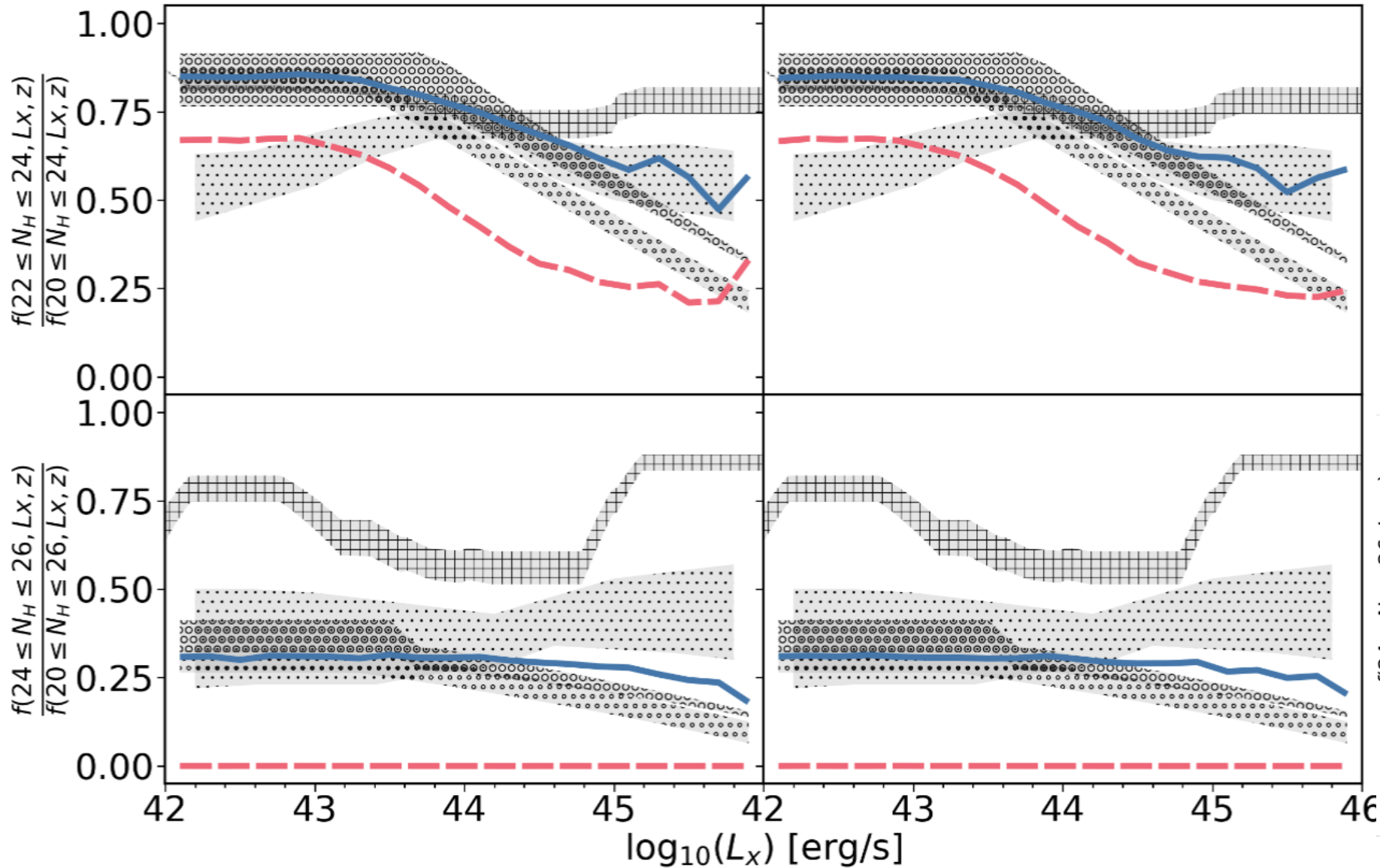
Model 4: CTK/op vis/CTN

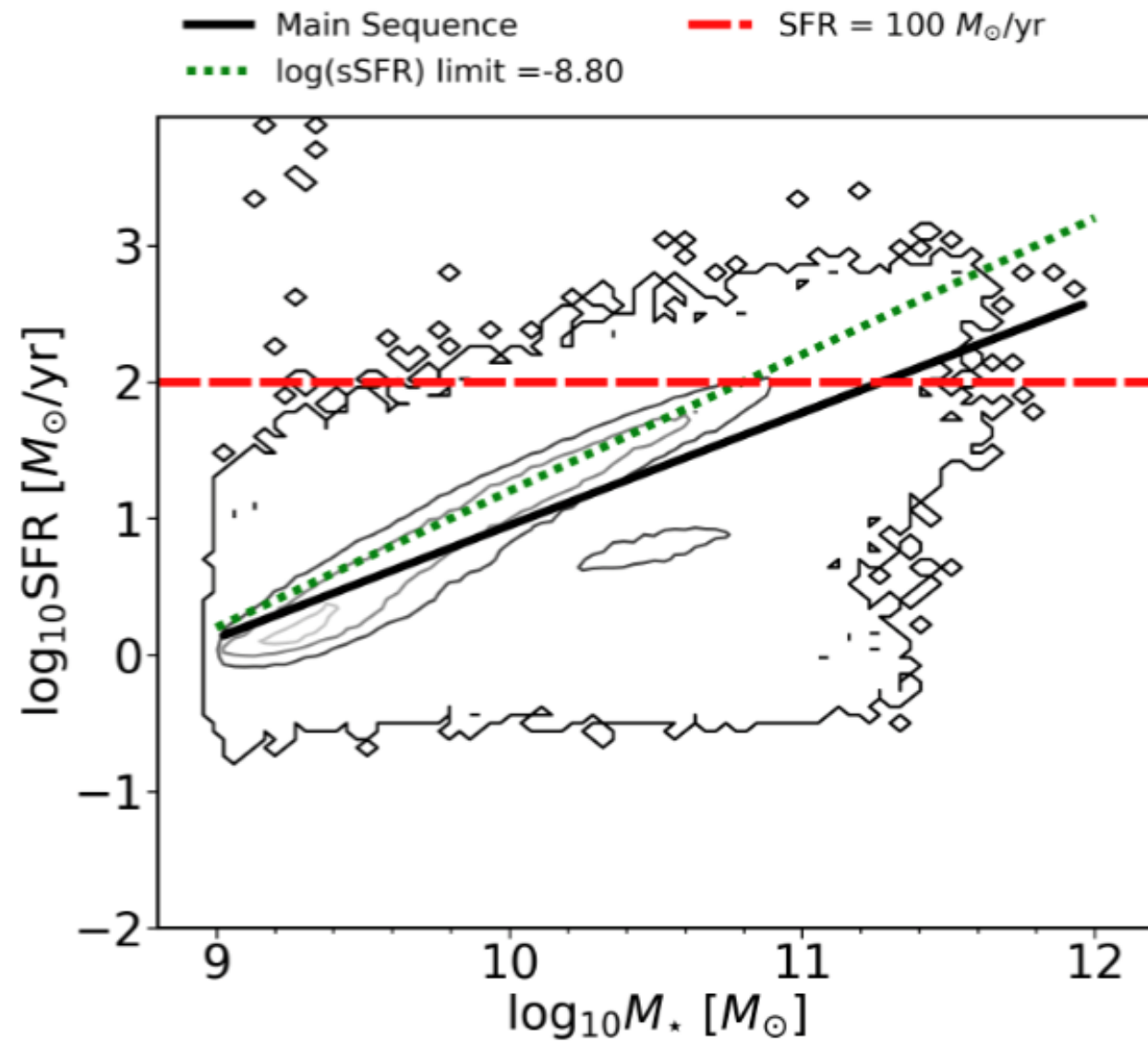


- Buchner+15
- Ueda+14
- Ananna+19
- Ananna+19 ML
- Host galaxy + torus
- Host galaxy only

Model 3: CTK/CTN/op vis

Model 4: CTK/op vis/CTN





Buchner+15
  Ananna+19
  Paper I (host)

Ueda+14
  Ananna+19 ML
  SFR over 100  $M_{\odot}/\text{yr}$  are CTK

