

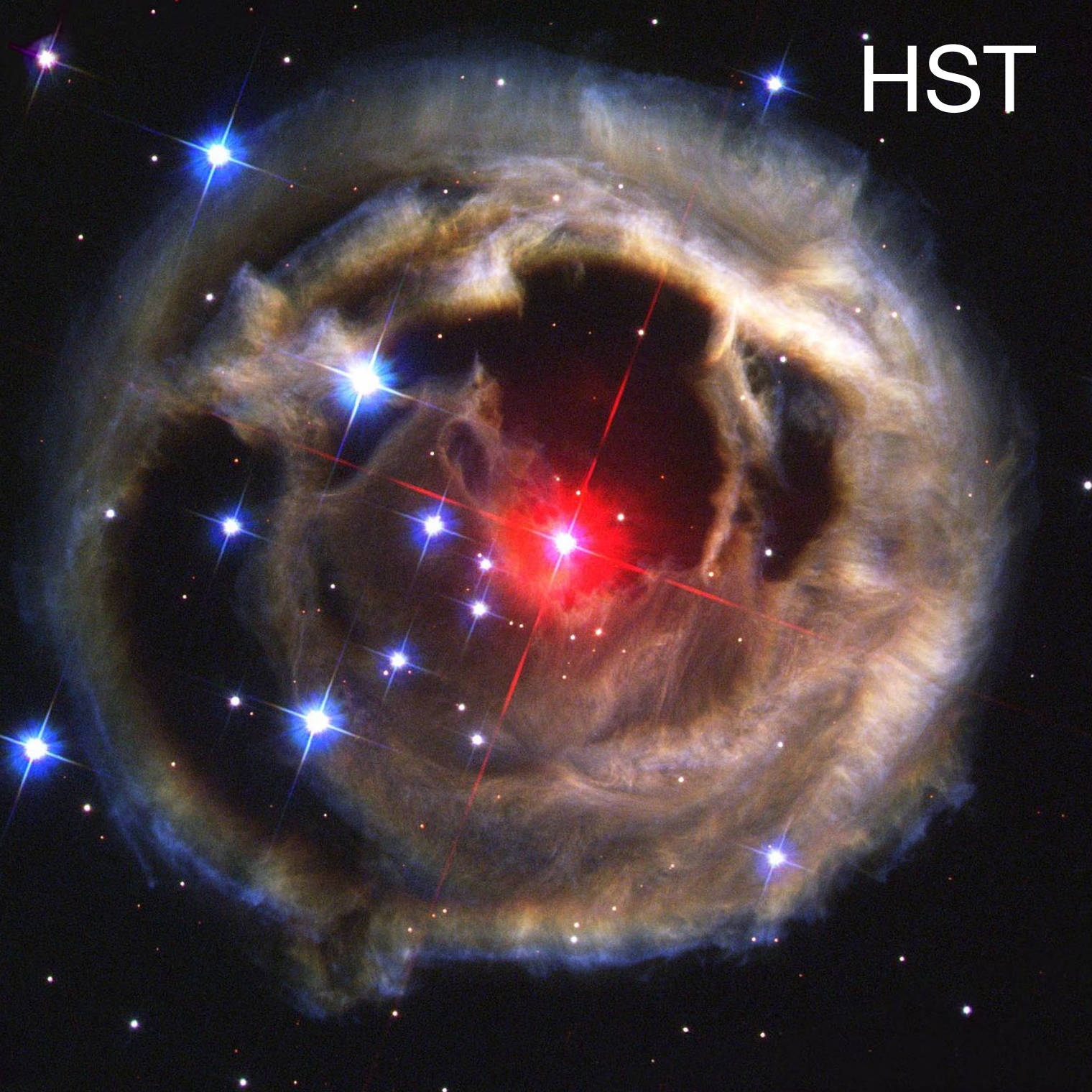


CAMK Annual Meeting 2024

Muhammad Zain Mobeen,

Supervisor: dr. hab Tomasz Kamiński

CAMK Toruń



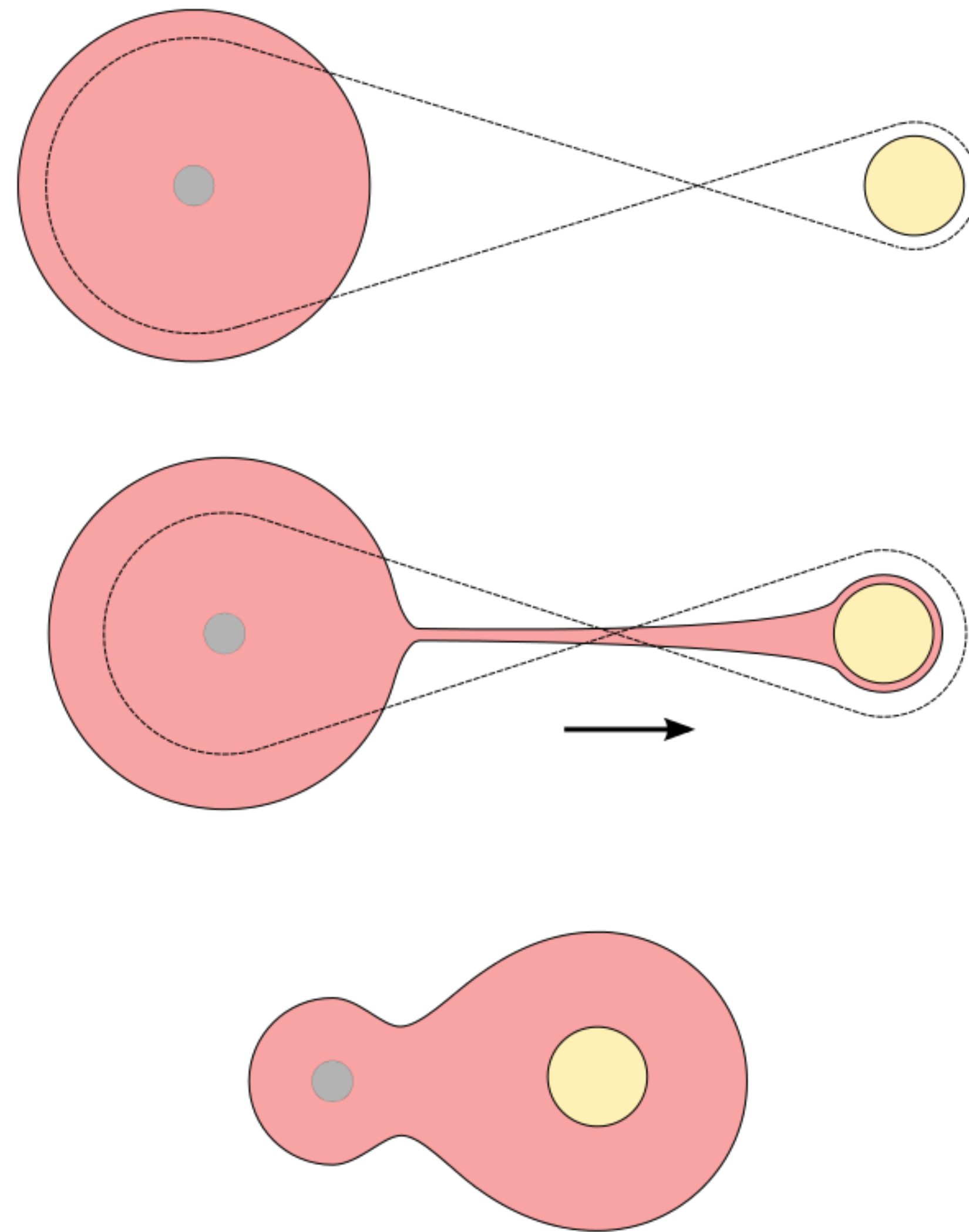
Outburst in 2002, $\sim 10^6 L_{\odot}$

Spectral type evolved to L type

Molecular lines observed

Dust formation

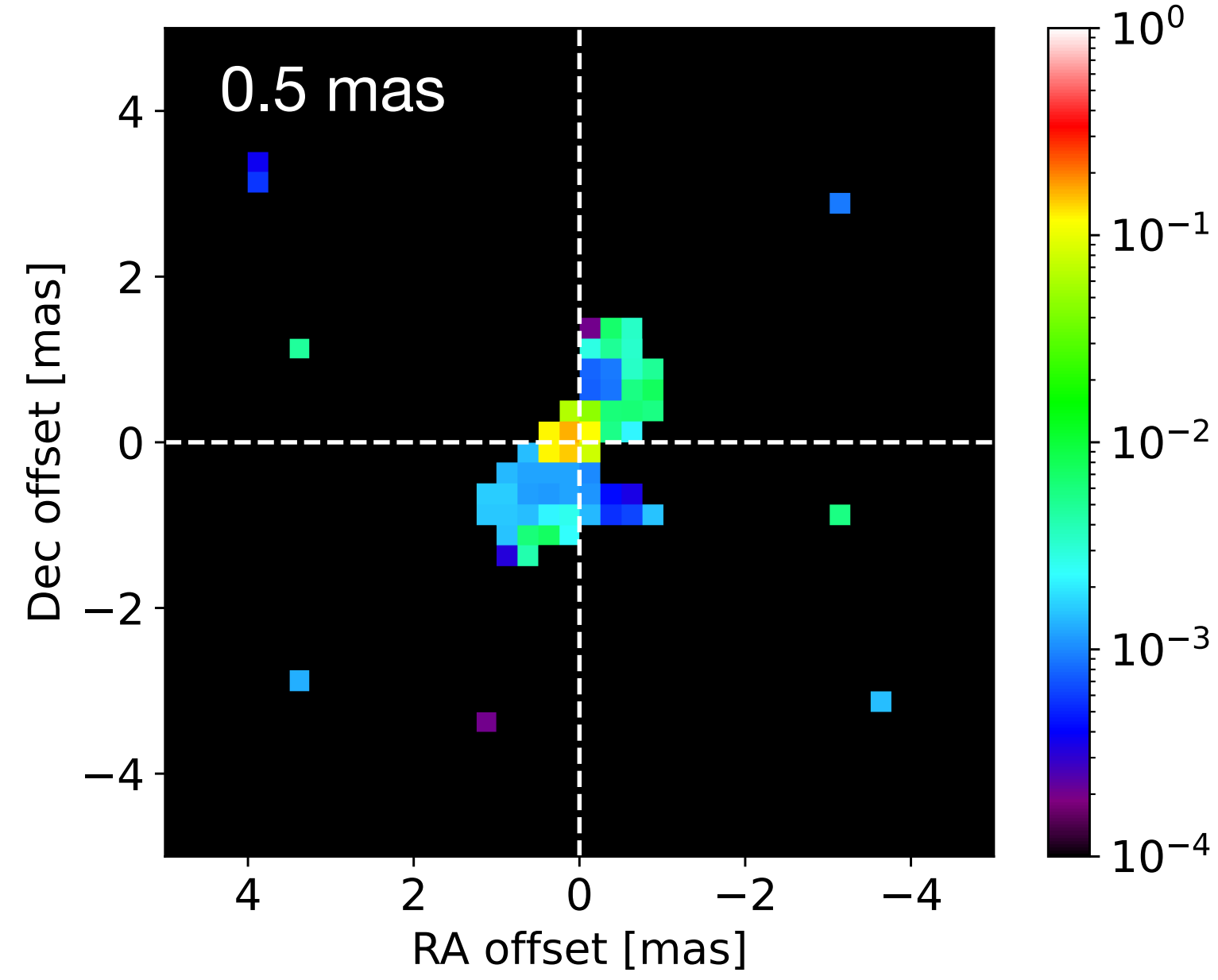
$0.3M_{\odot} + 8M_{\odot}$



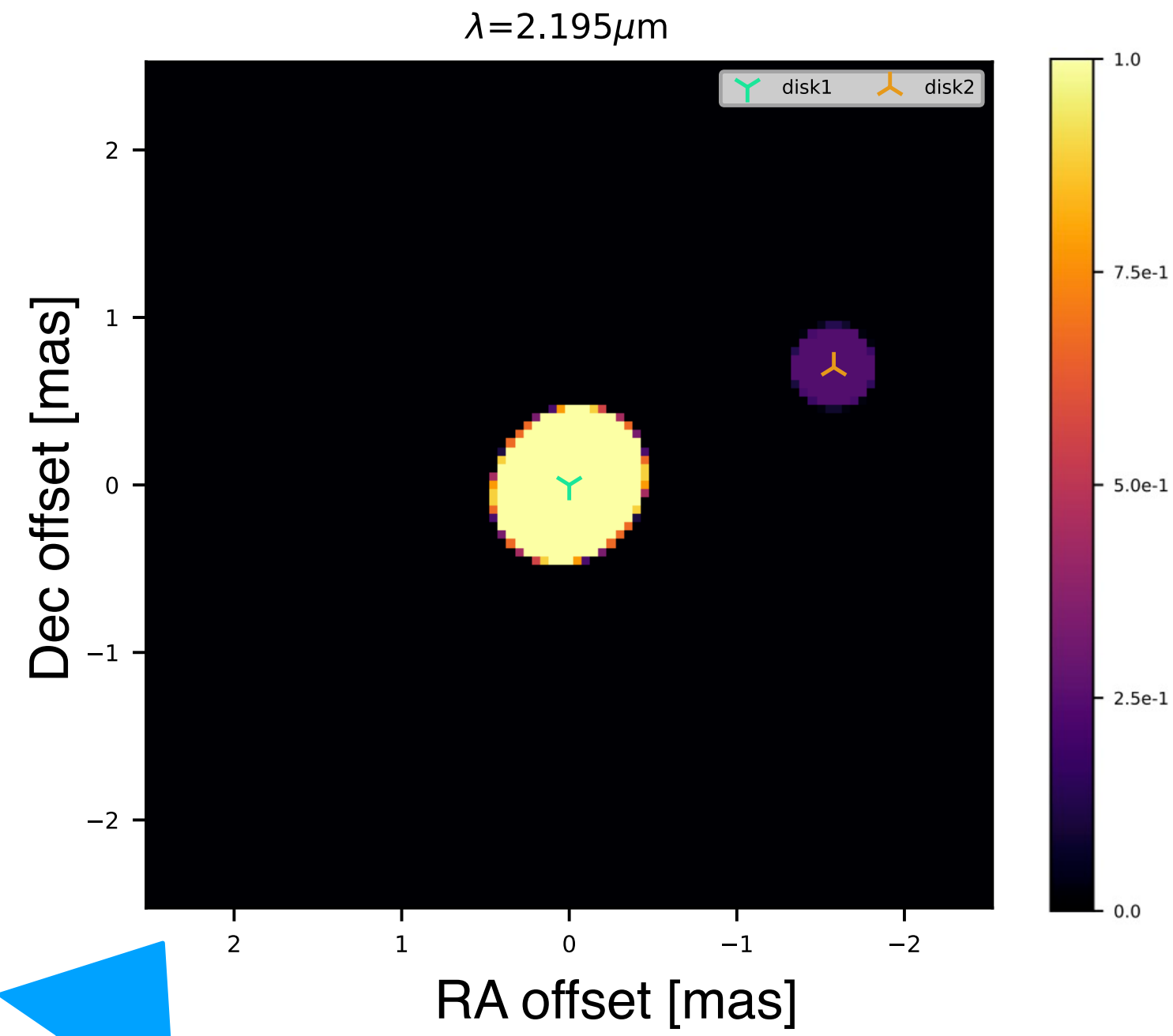
Can use interferometry!

Tylenda 2003

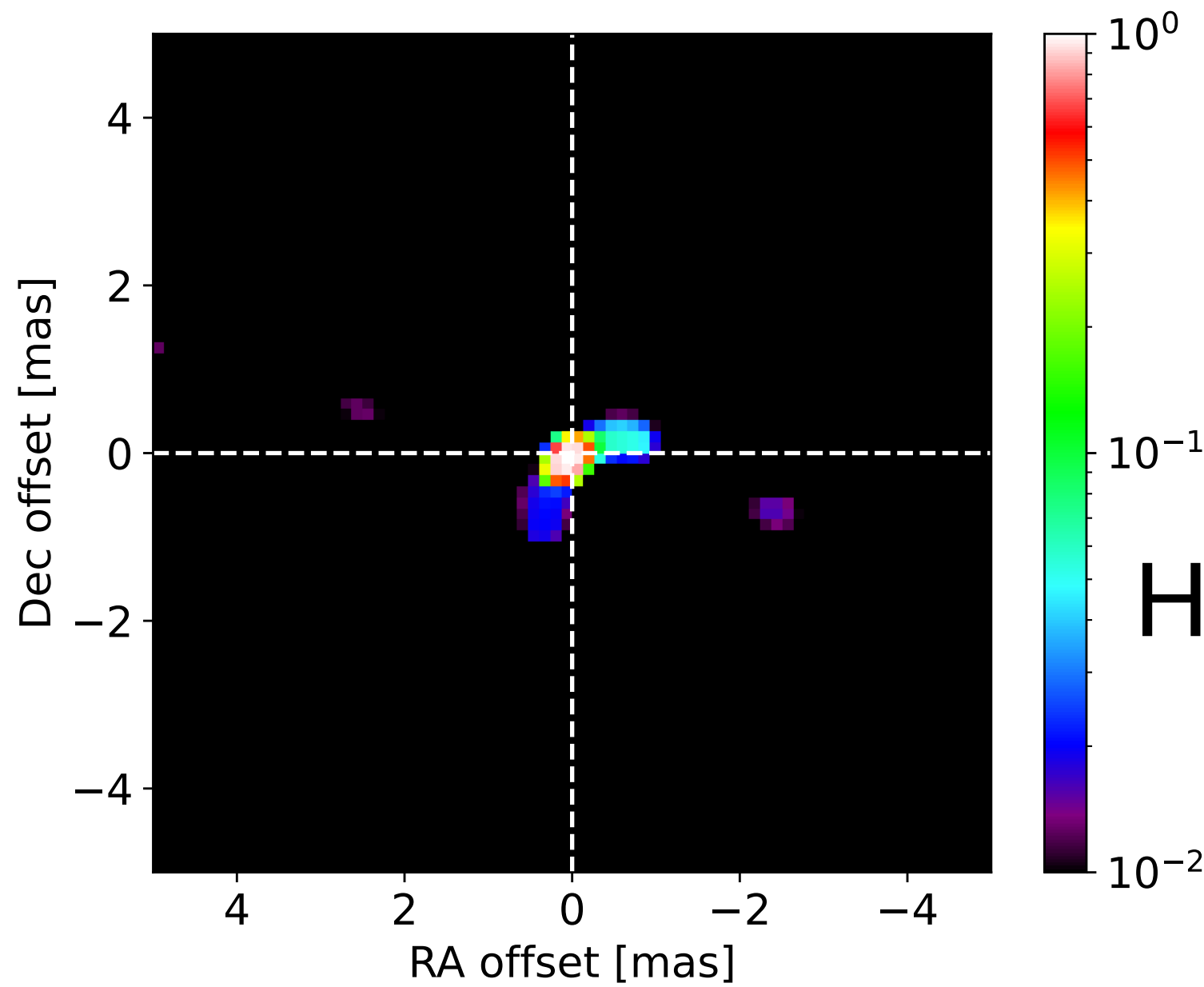
K band image



Geometric model



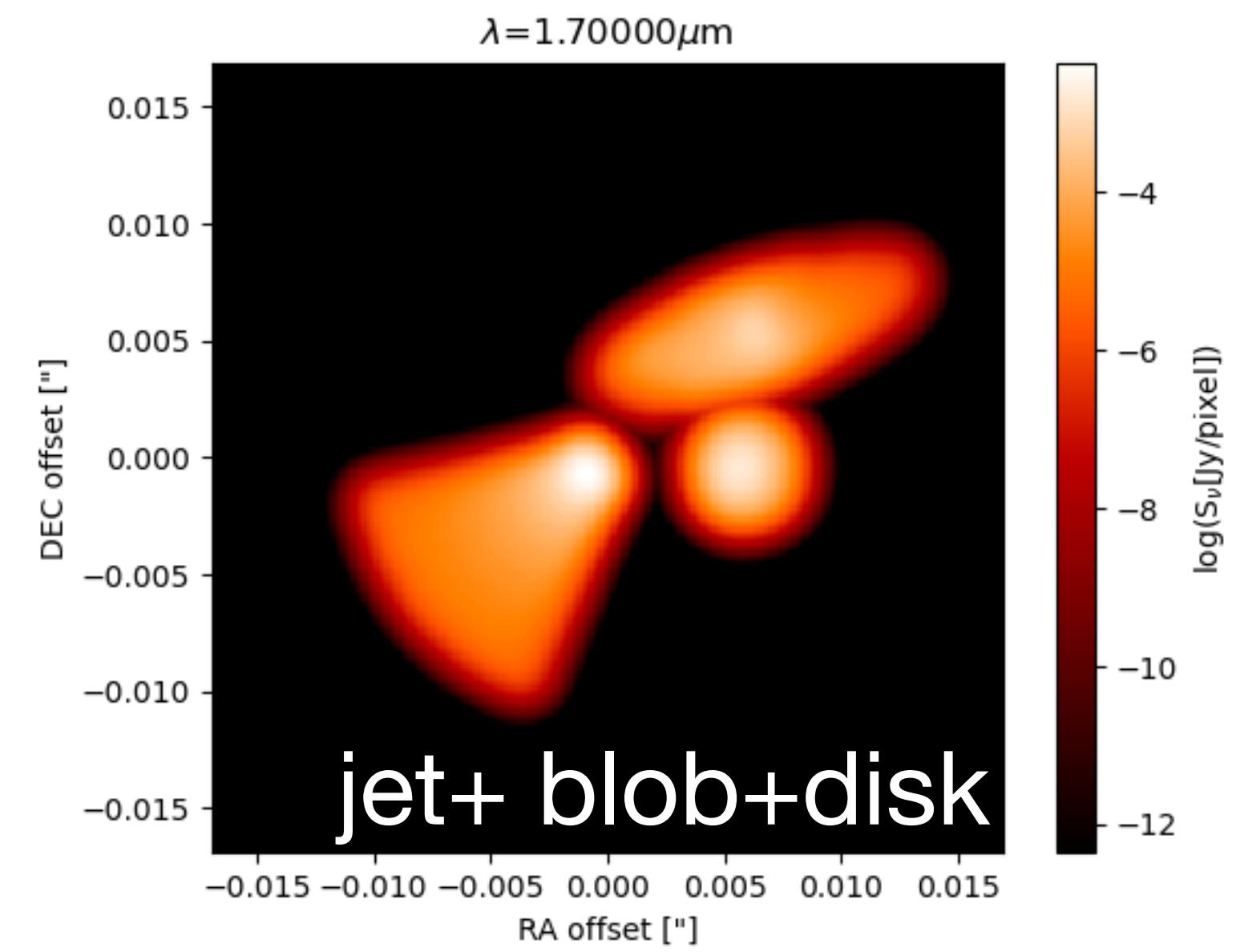
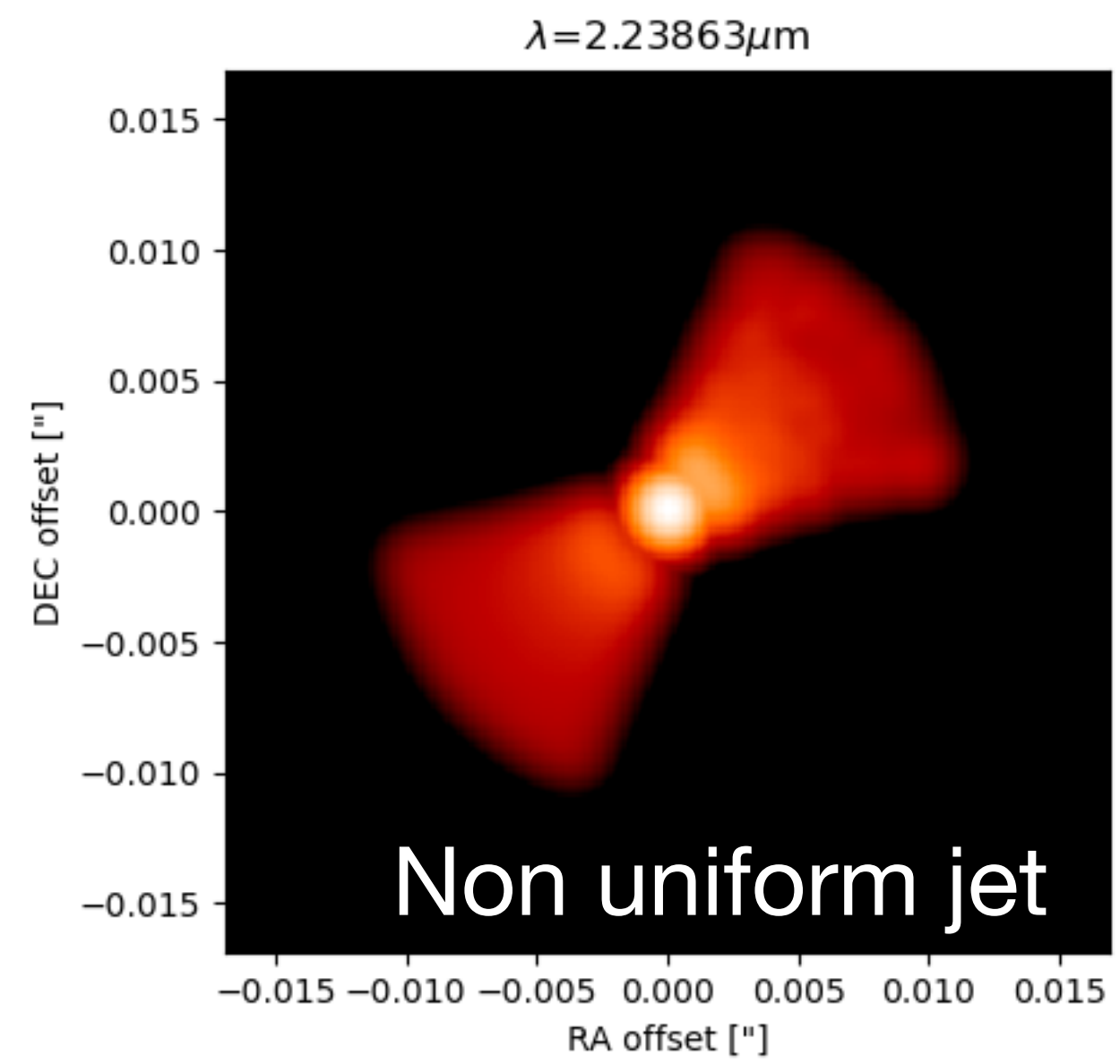
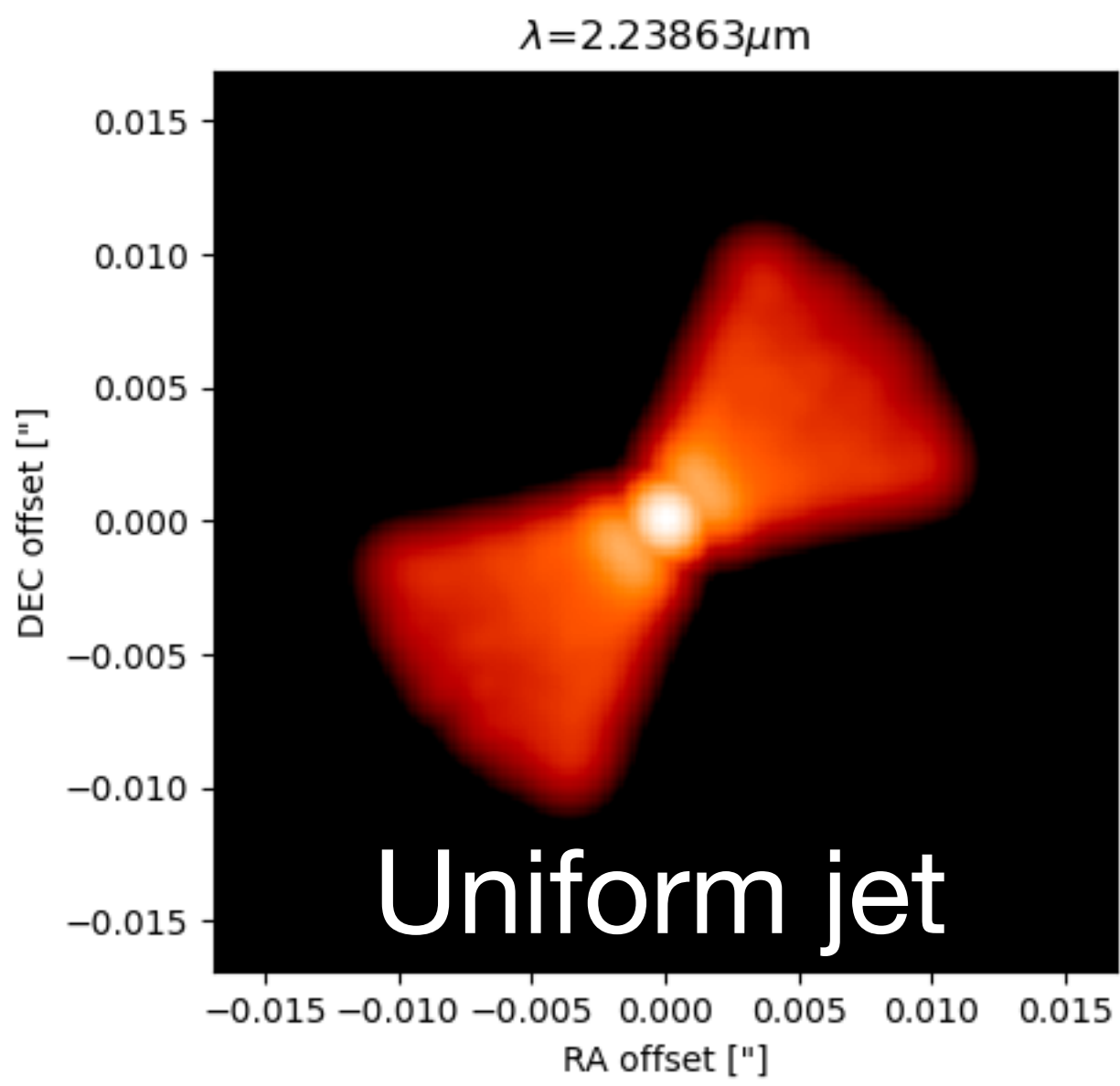
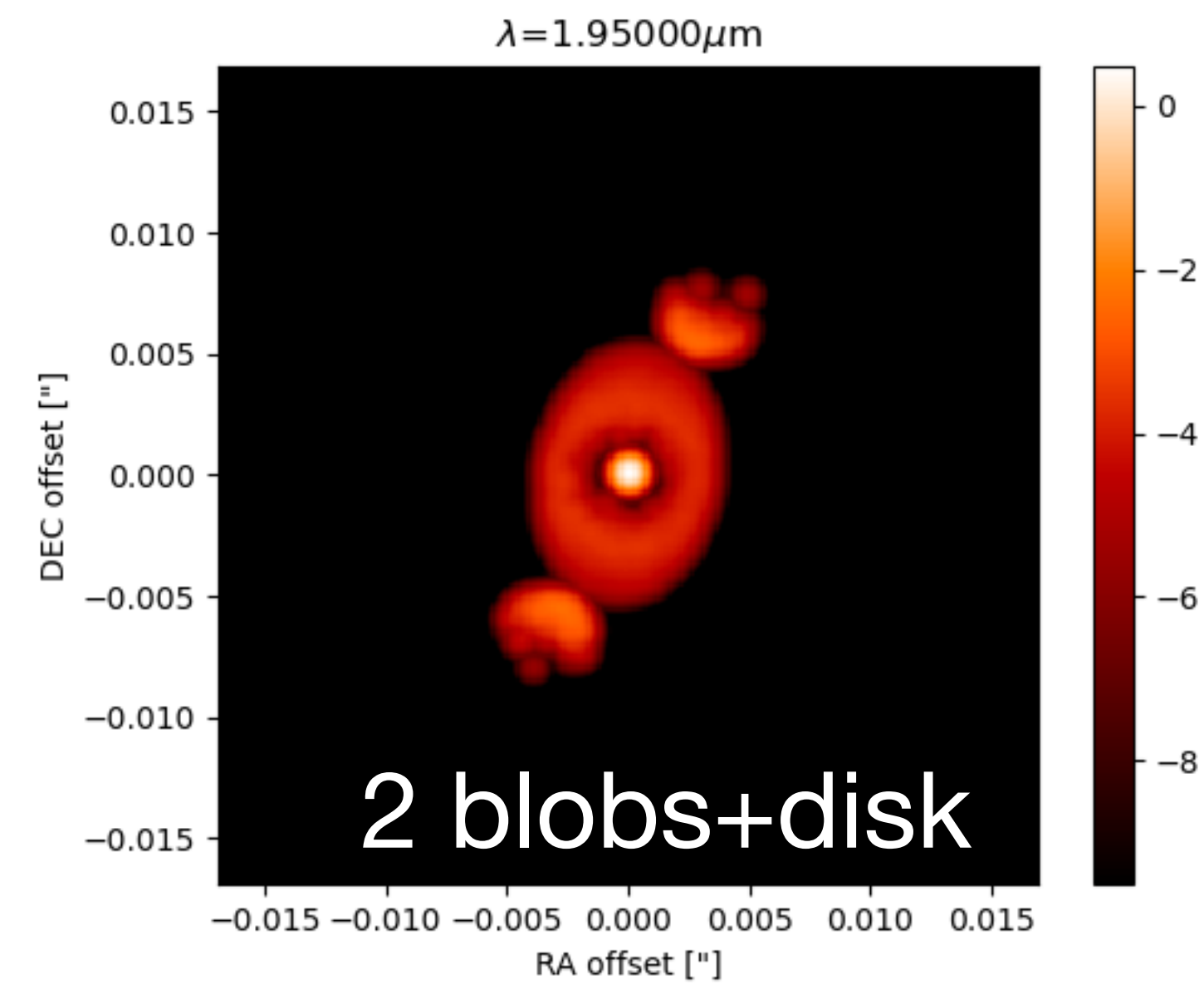
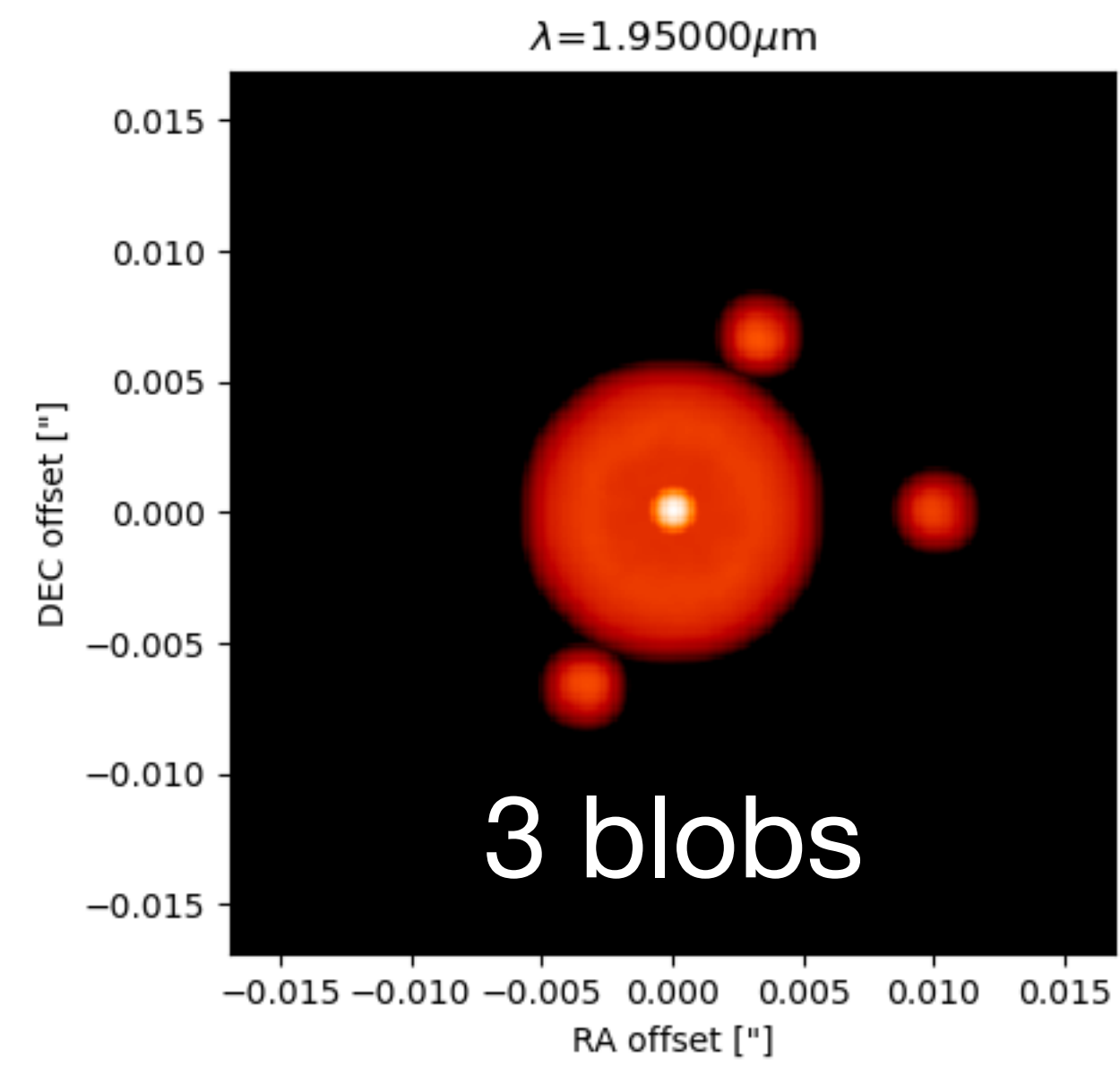
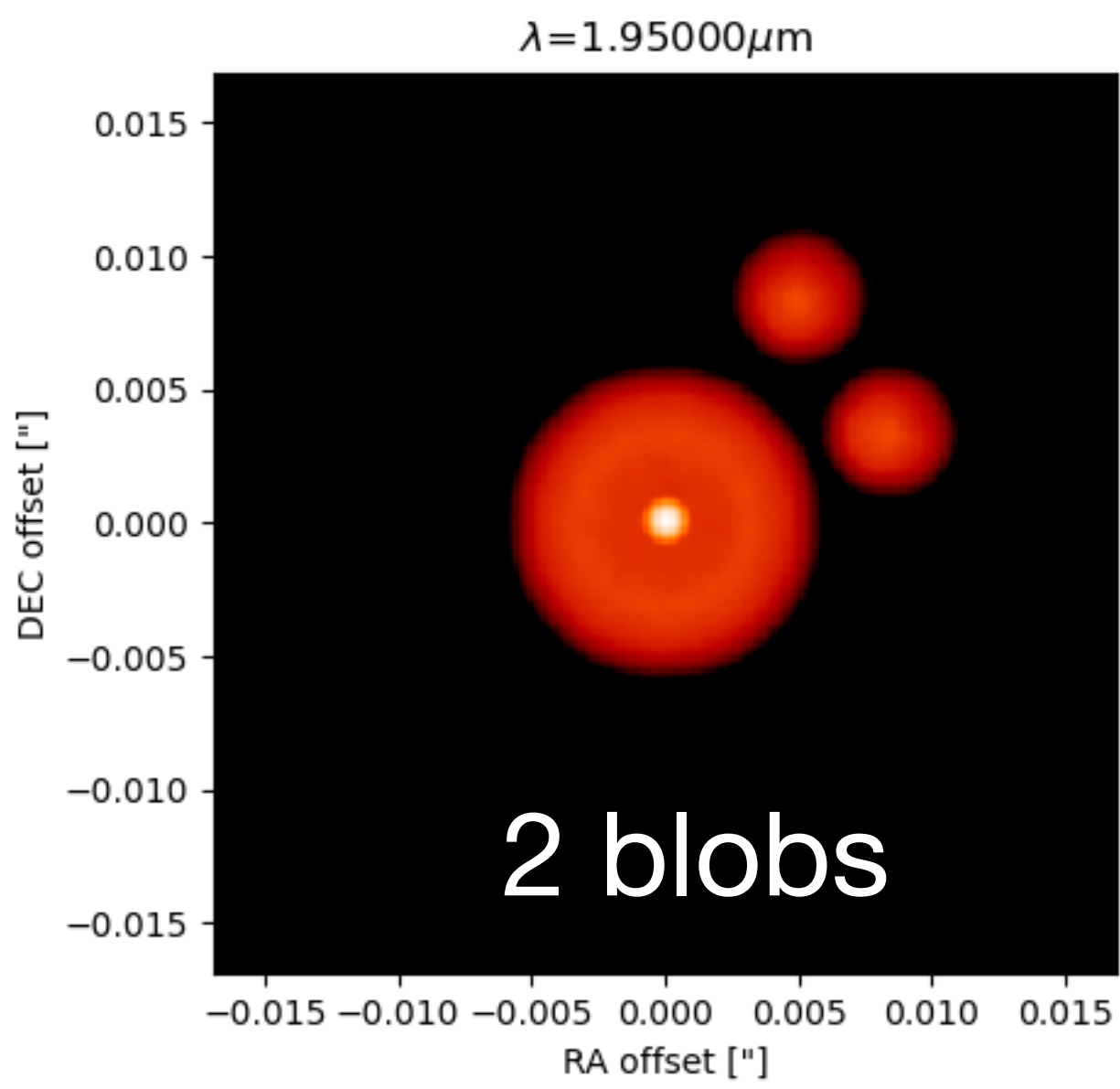
Asymmetric Bipolar structure!

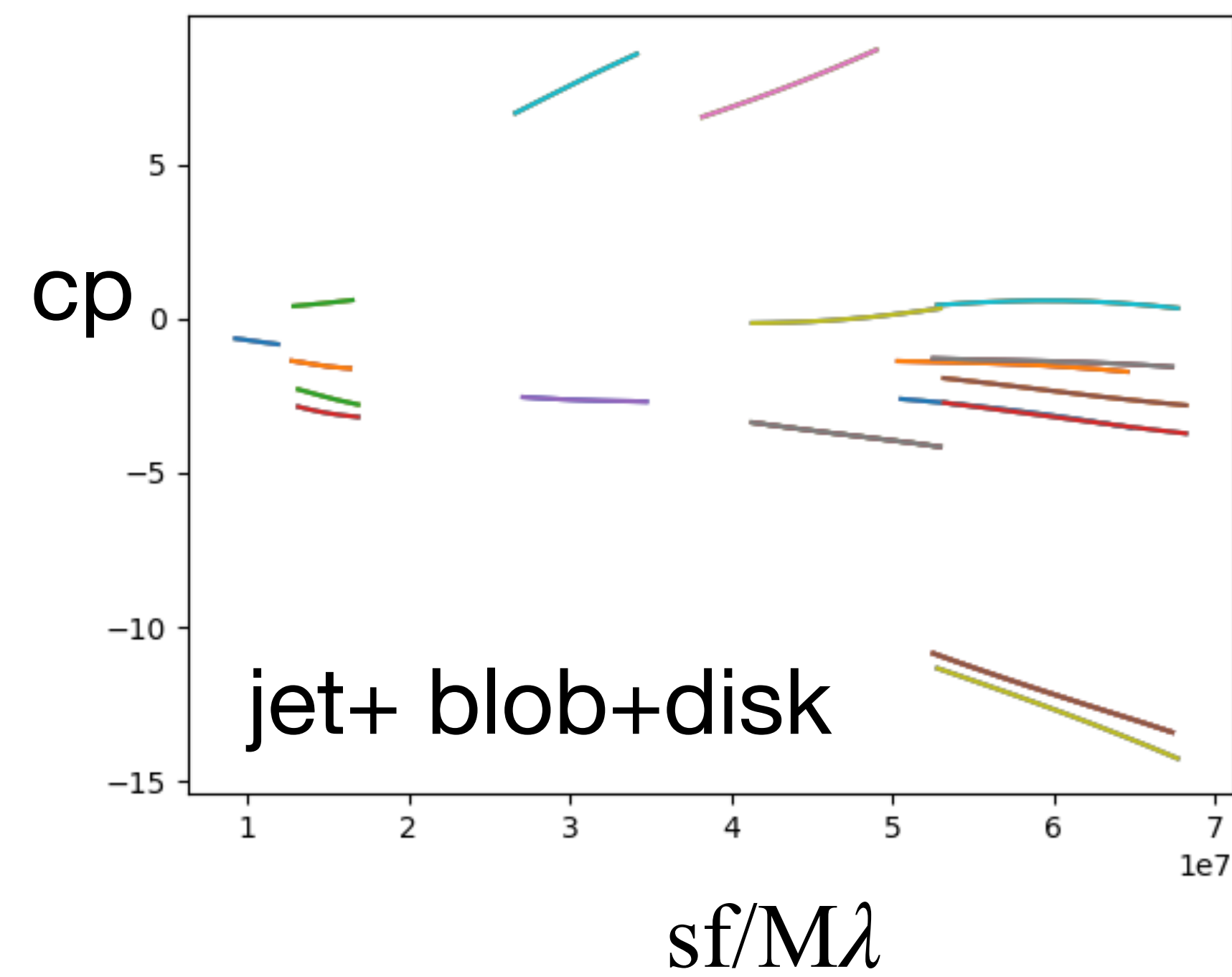
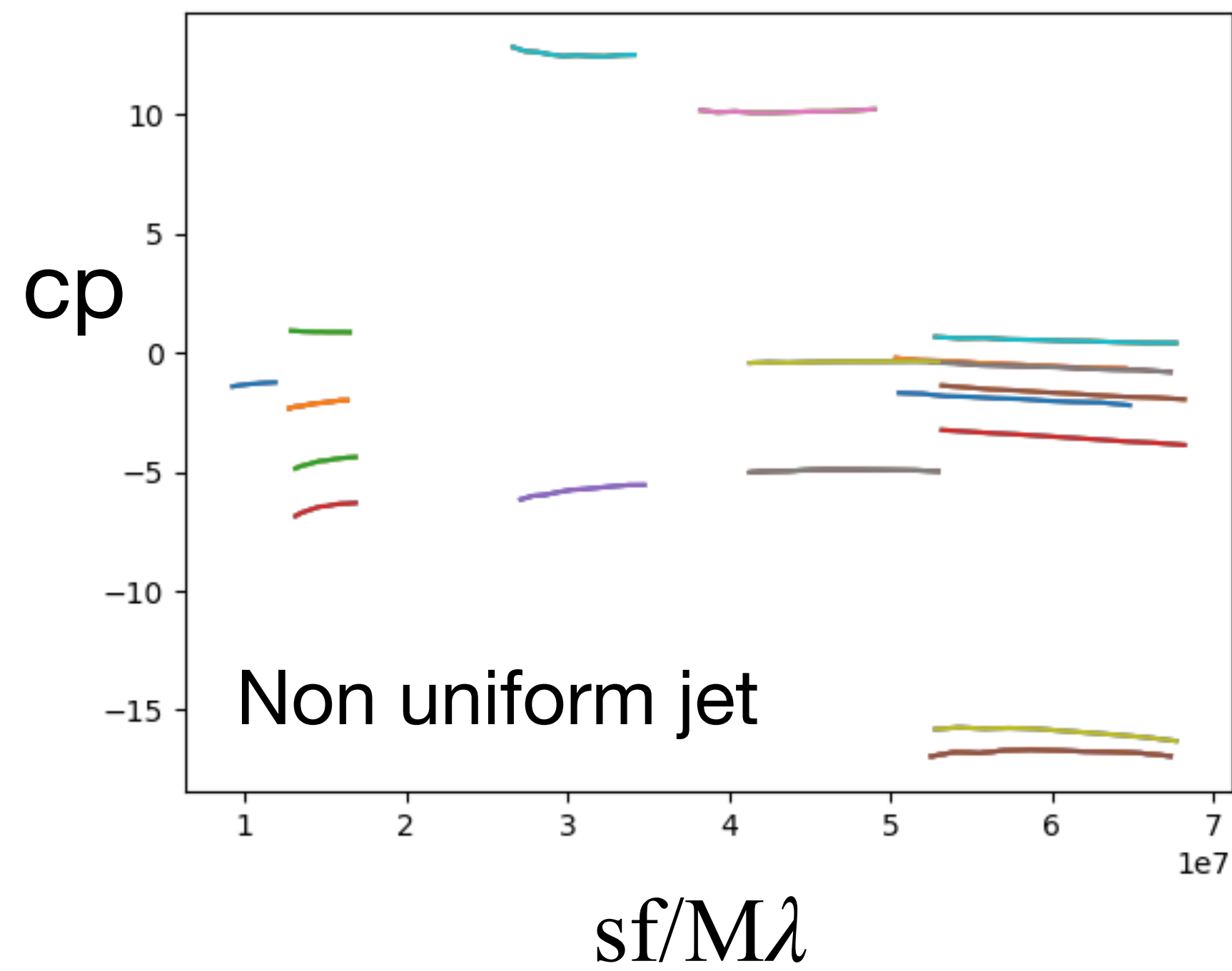
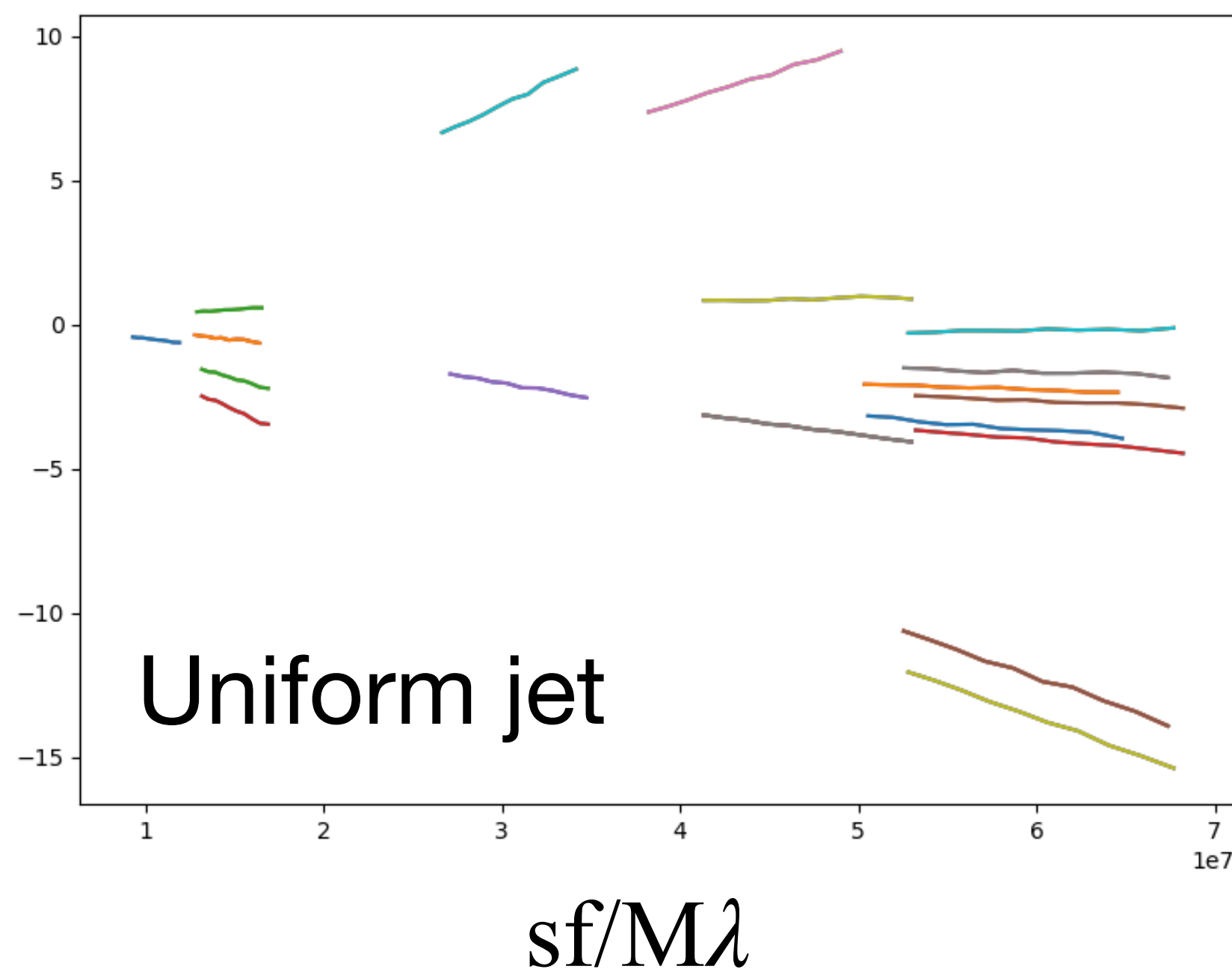
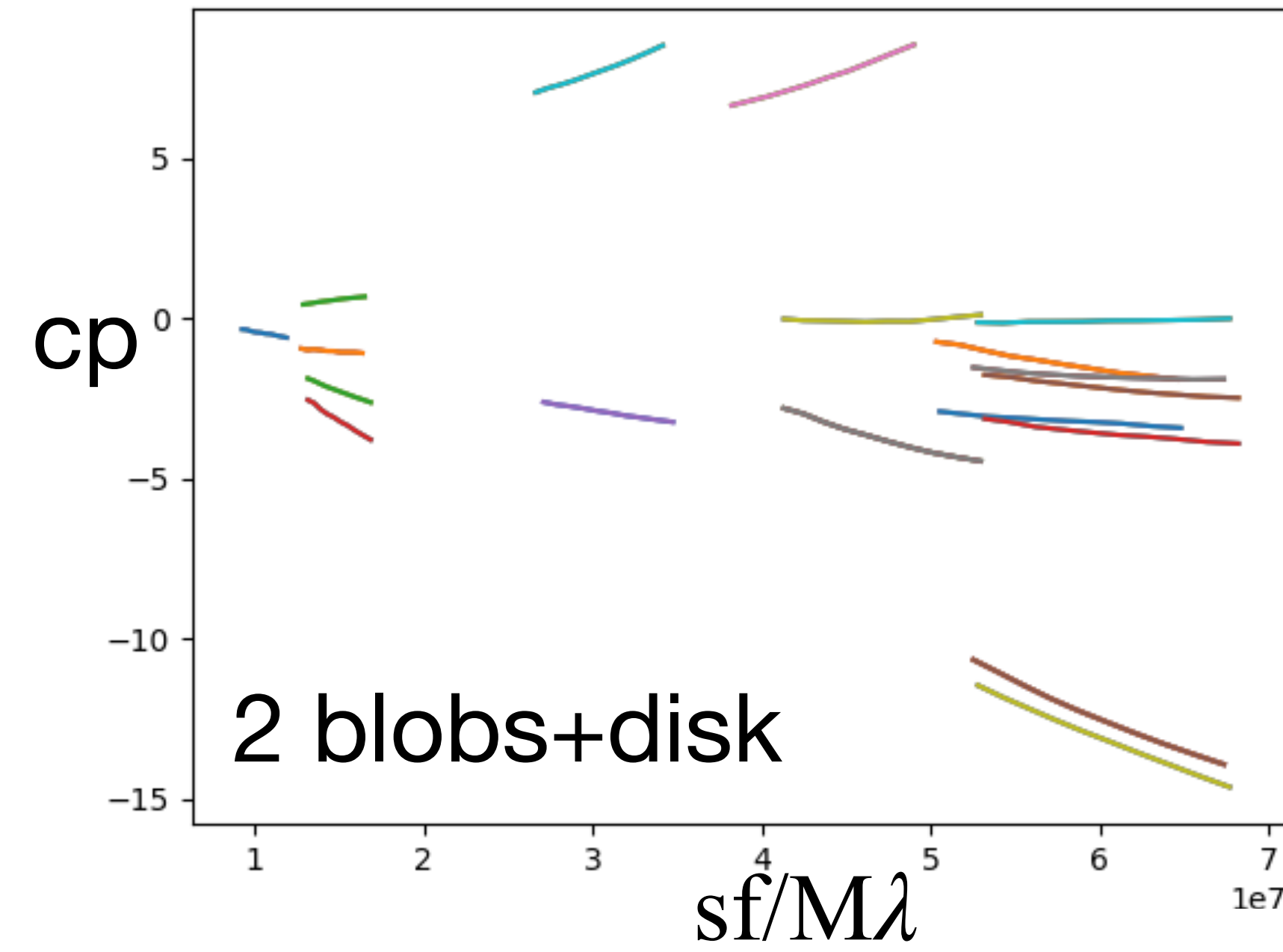
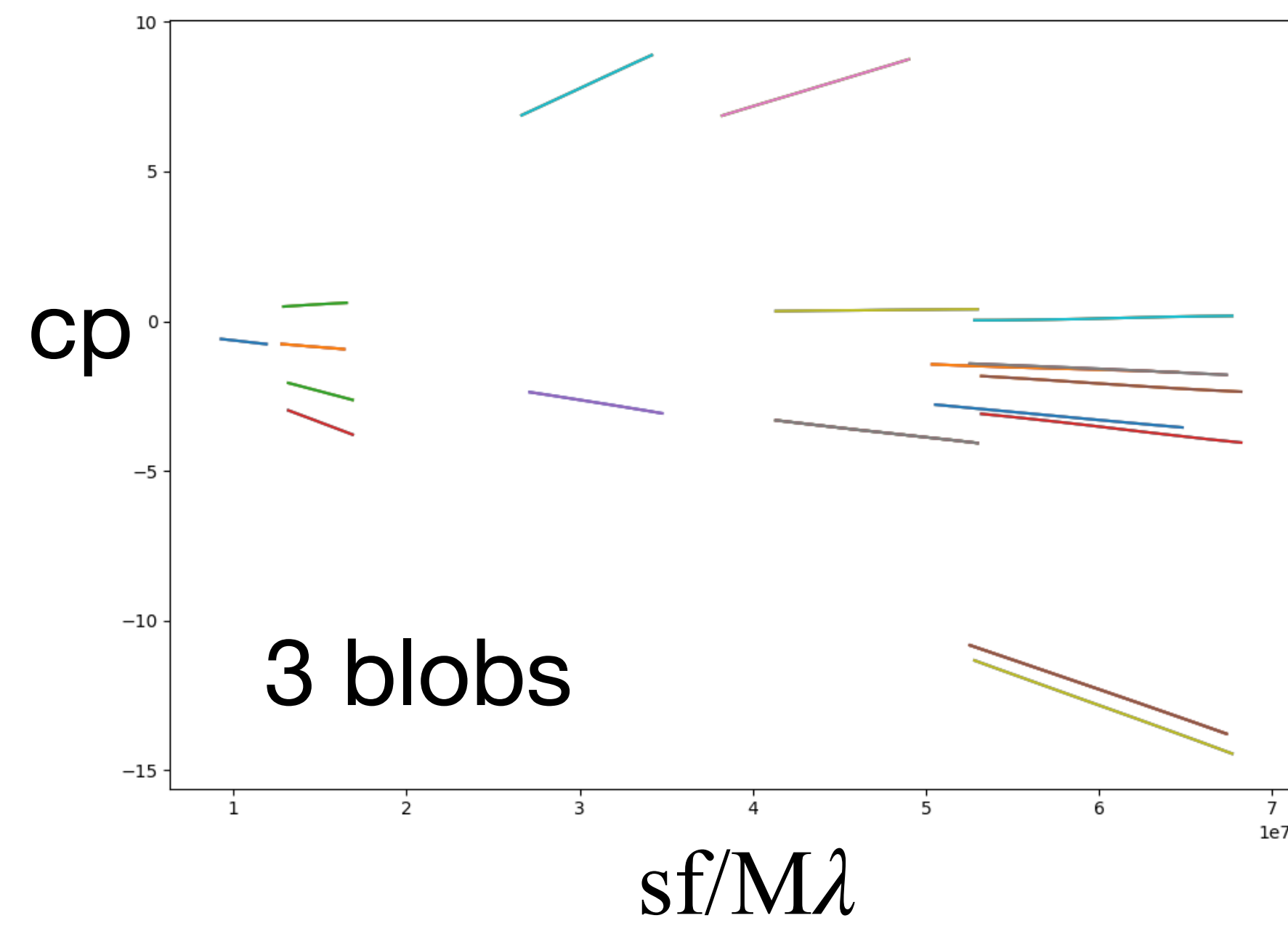
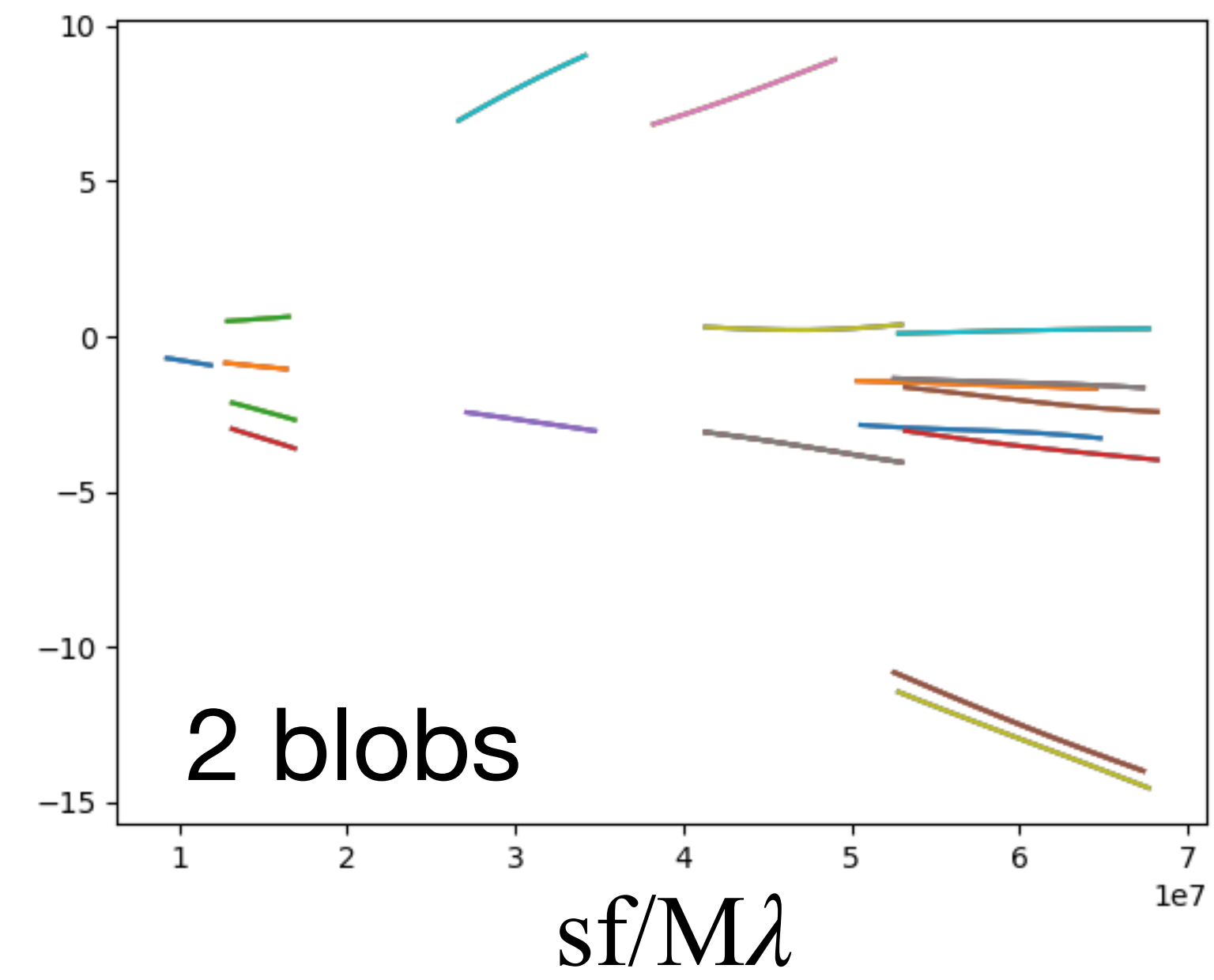


H band image

Can we make physical models?

RADMC3D





Activities this year

- Talk at EAS 2023
- VLT School in Budapest
- Popular science talk at the Blackhole, Islamabad
- Designing an online Intro astronomy course at LUMS, Pakistan
- Popular science article on Betelgeuse
- Co author on paper on U Equ (accepted)
- **Upcoming CHARA observations of VV Cep**