# NGC1614: Nuclear Star-formation or an Intrinsically X-ray Weak AGN?

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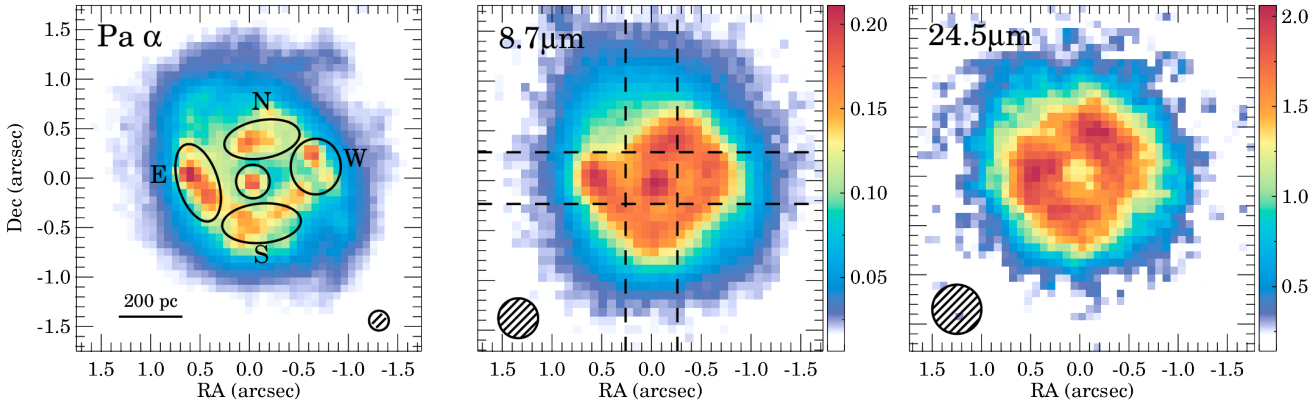
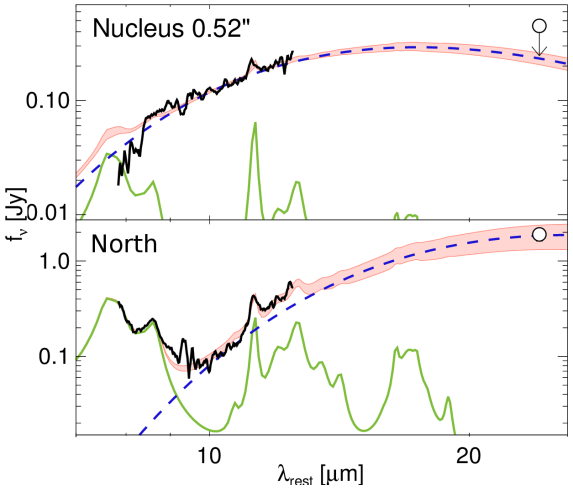
## GTC/CanariCam mid-IR $Q$-band imaging and $N$-band spectroscopy




## Nuclear SF vs. X-ray weak AGN

### AGN

- Strong mid-IR continuum and low PAH EW
- Weak hard X-ray emission (200 times lower than expected)
- No Compton-thick and no variability
- Intrinsically X-ray weak AGN? ($L_{\rm IR}$ <$6\times10^{43}$ erg s$^{-1}$)

### SF:

- Nuclear PAH emission
- Low amount of cold molecular gas mass. The depletion time would be <3 Myr
- Enhanced radiation field density to explain the mid-IR continuum

## SFR Tracers

| | | SFR ($M_\odot$ yr$^{-1}$) | | |
|---|---|---|---|---|
| | $A_{\rm k}$ | Pa$\alpha$ | PAH | 24$\mu$m |
| Nuc. | 0.3 | 1.5 | 0.9 | <6 |
| N | 0.7 | 9.3 | 4.1 | 22 |
| S | 0.8 | 11.2 | 3.1 | 21 |
| E | 0.6 | 7.8 | 4.1 | 26 |
| W | 1.0 | 16.4 | 5.2 | 7 |