



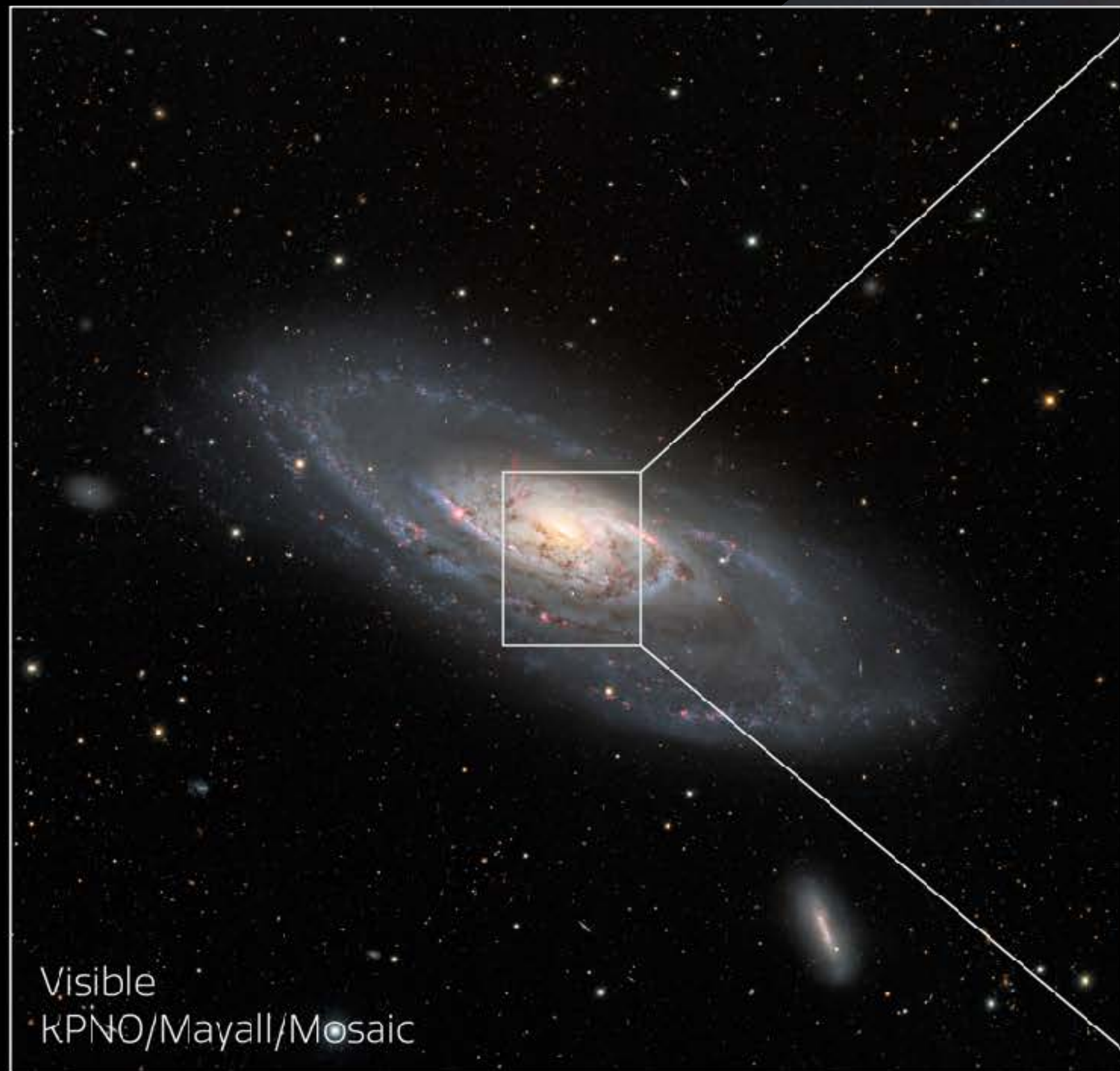
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SCIENCE INSTITUTE



# Rethinking Galactic Winds: JWST Reveals AGN Feedback in NGC 4258

Travis Fischer - June 9, 2025

with Nicholas Cothard, Isha Nayak, Jason Glenn, Erin Smith, and Henrique Schmitt



Visible  
KPNO/Mayall/Mosaic



Visible  
Hubble/WFC3/ACS



Infrared  
Webb/NIRCam

NGC 4258

HST Optical

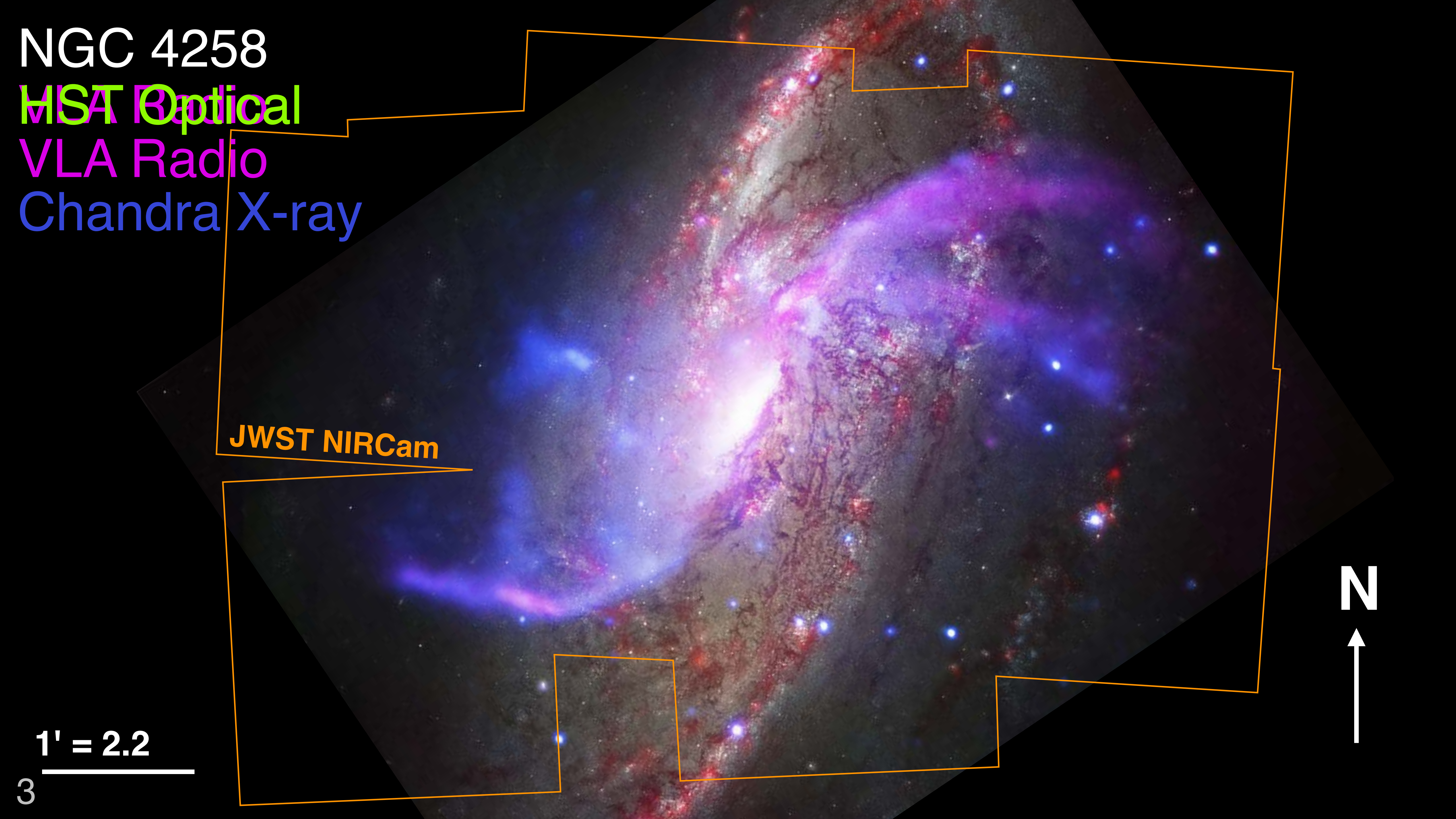
VLA Radio

Chandra X-ray

JWST NIRCam

1' = 2.2  
3

N  
↑

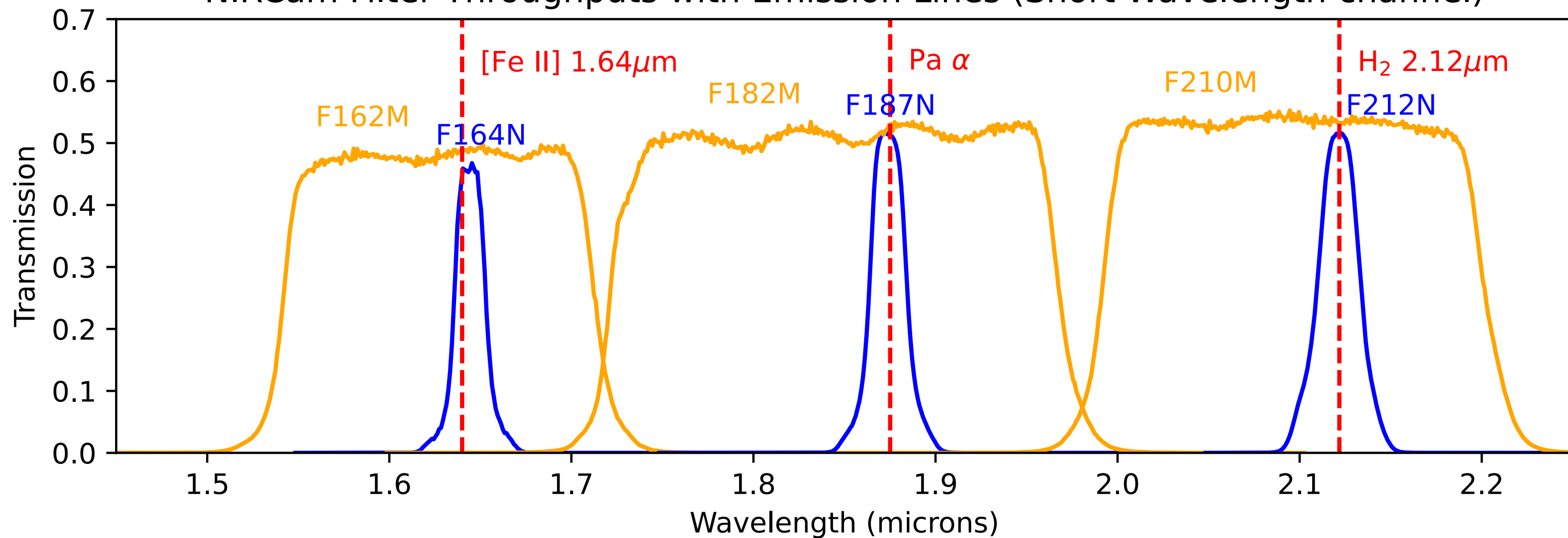


# NGC 4258

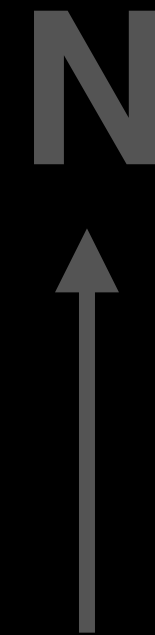
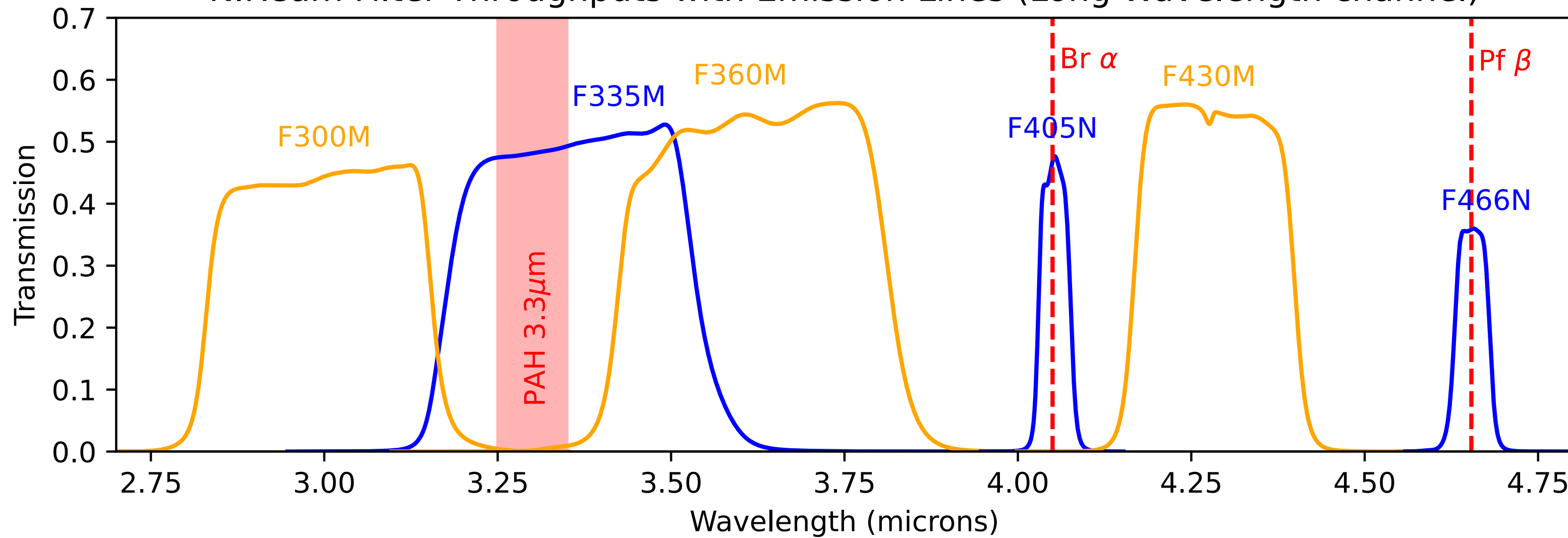
emission  
band  
continuum  
band

JW

### NIRCam Filter Throughputs with Emission Lines (Short Wavelength channel)



### NIRCam Filter Throughputs with Emission Lines (Long Wavelength channel)



1' = 2.2

NGC

PAH 3.35  $\mu\text{m}$   
Br- $\alpha$  4.65  $\mu\text{m}$   
VLA 4.8 GHz

Declination

47°20'  
19'  
18'  
17'  
16'

12<sup>h</sup>19<sup>m</sup>10<sup>s</sup>

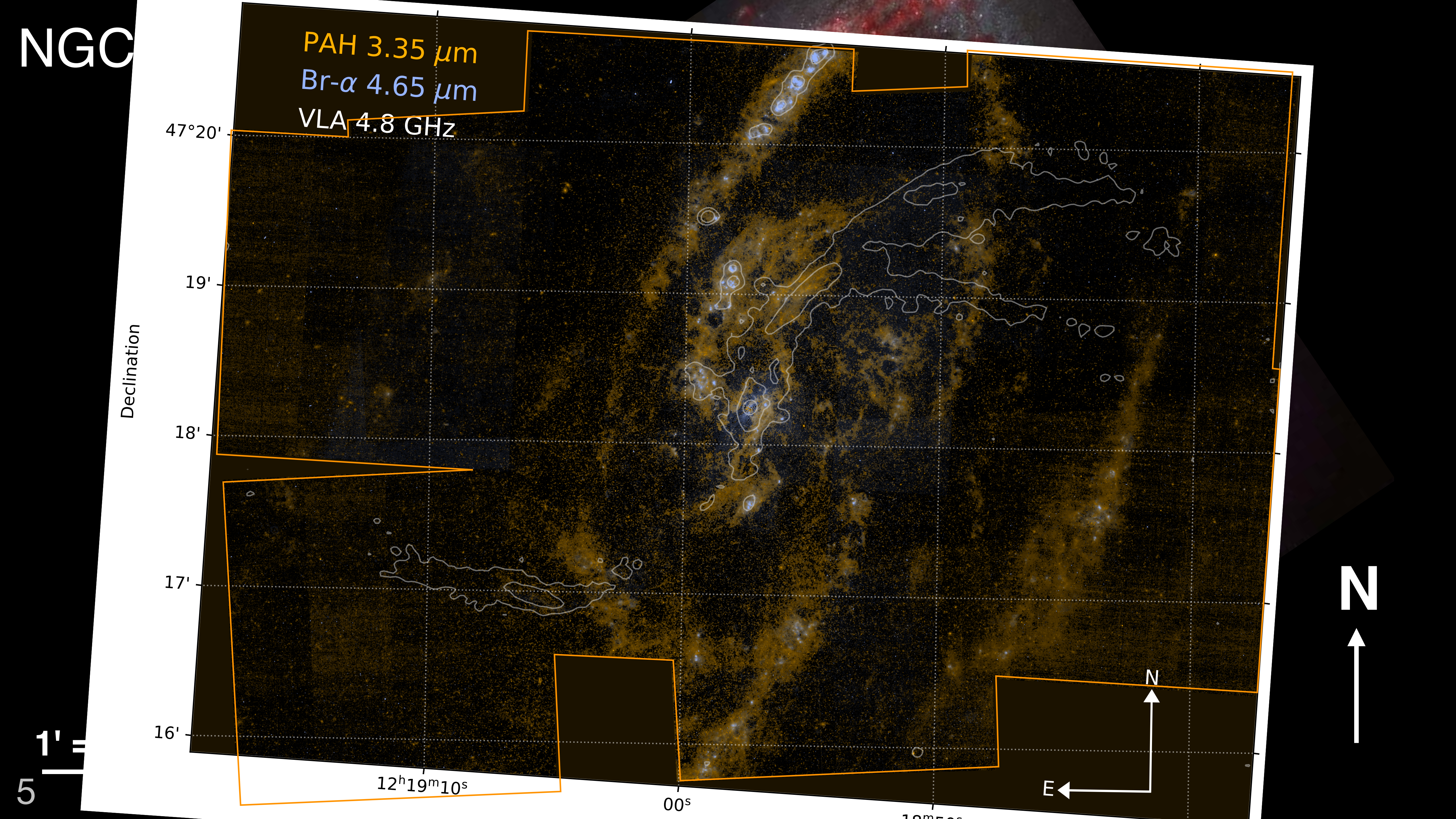
00<sup>s</sup>

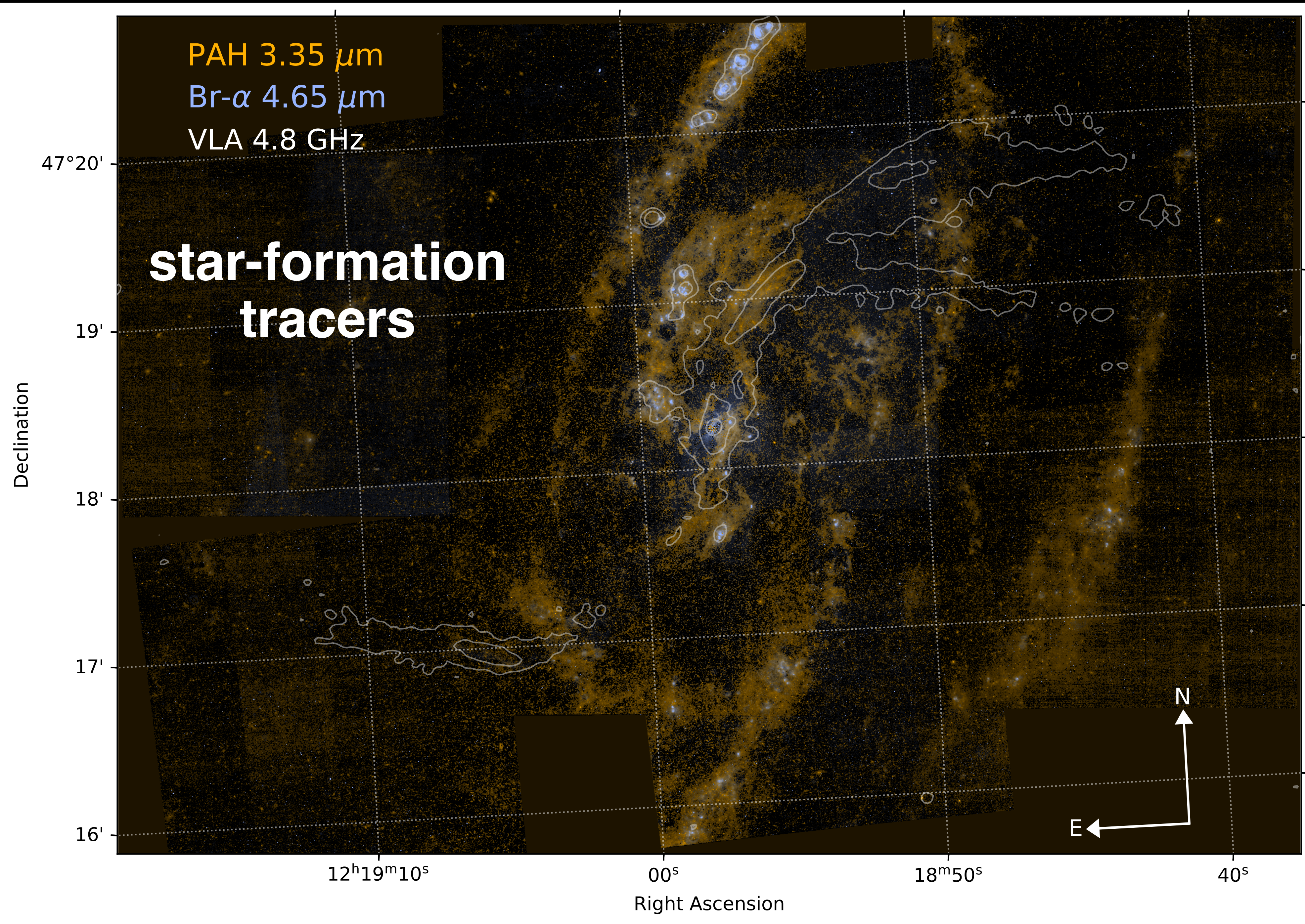
10<sup>s</sup>

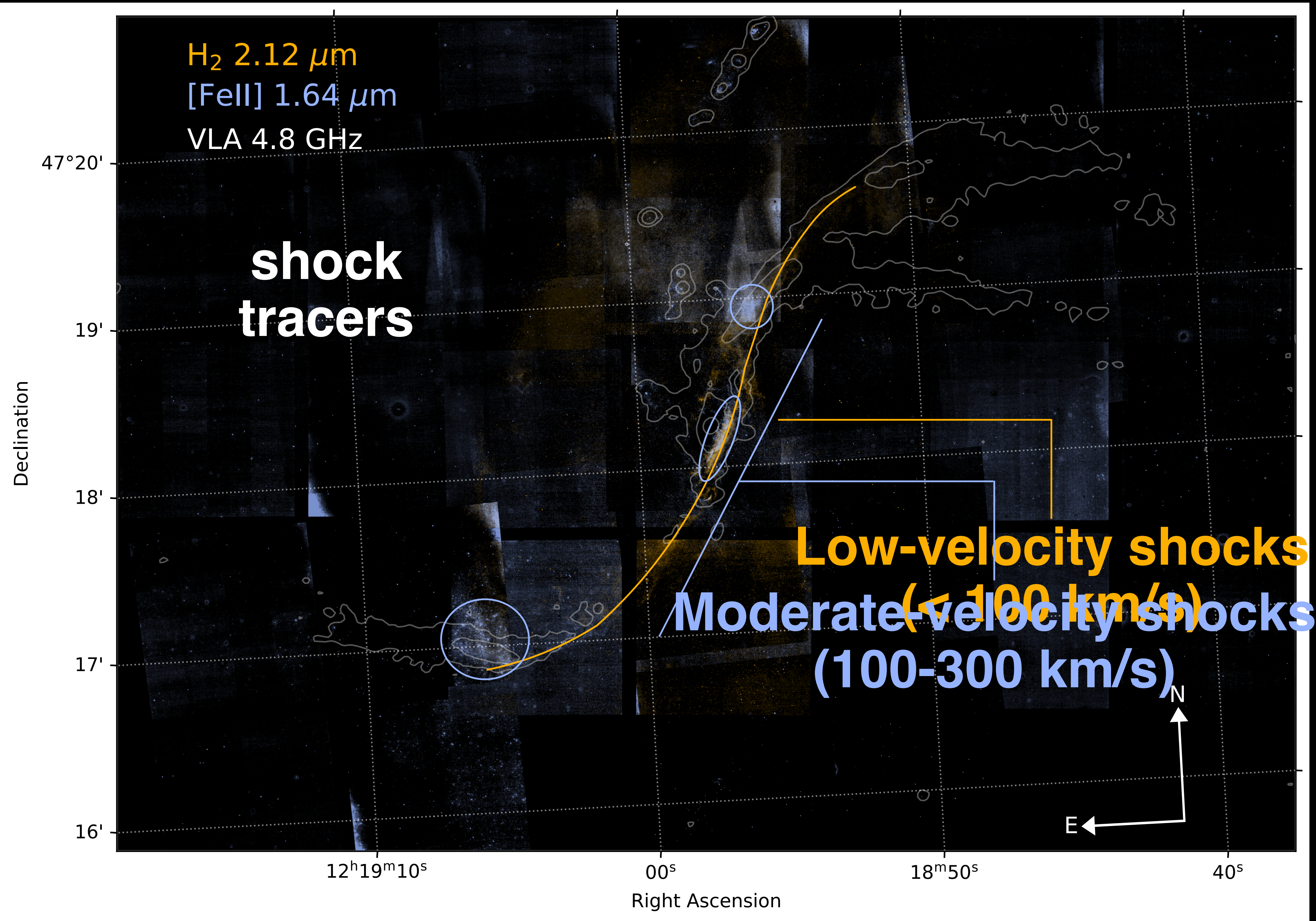
1' =  
5

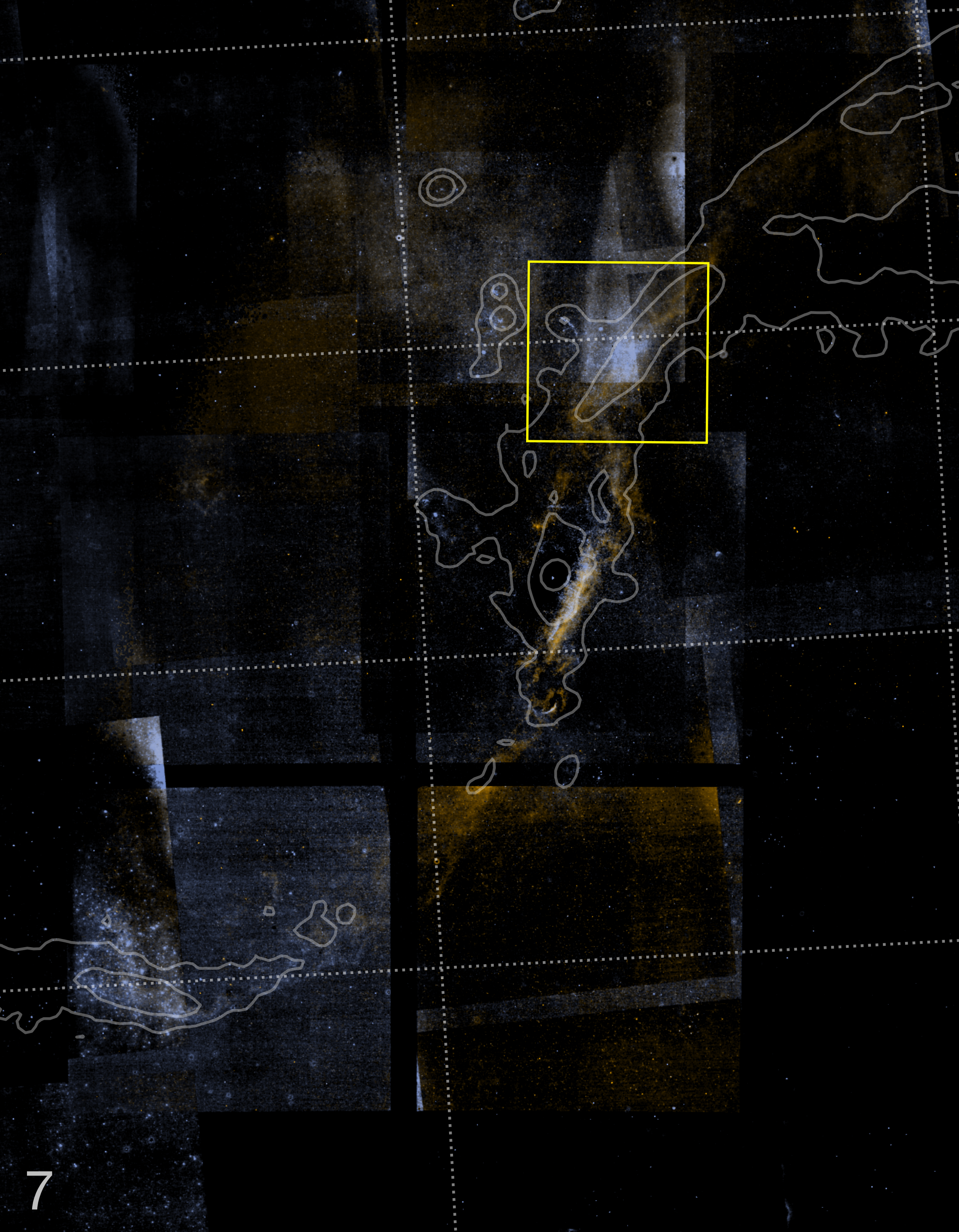
N  
↑

N  
↑  
E ←

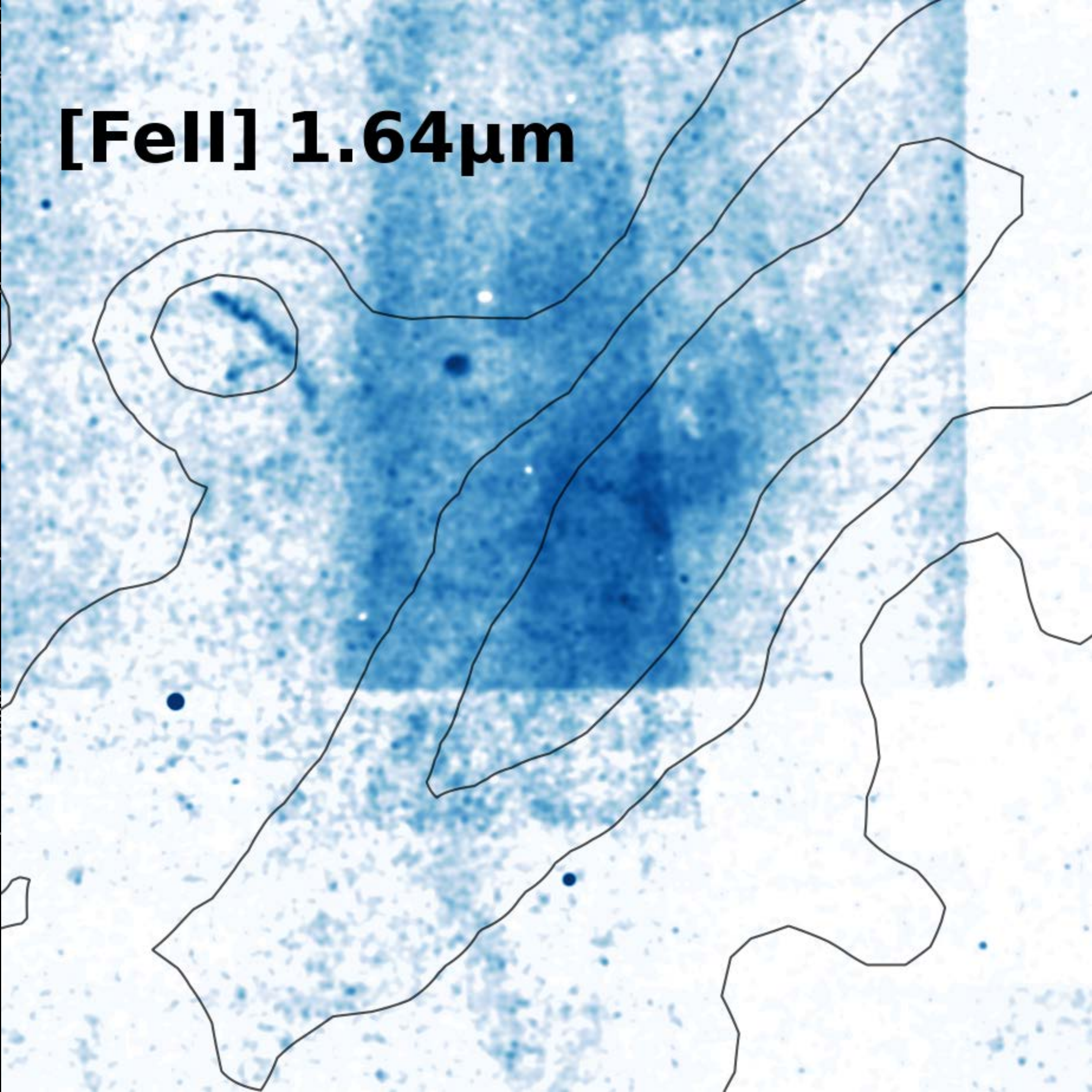


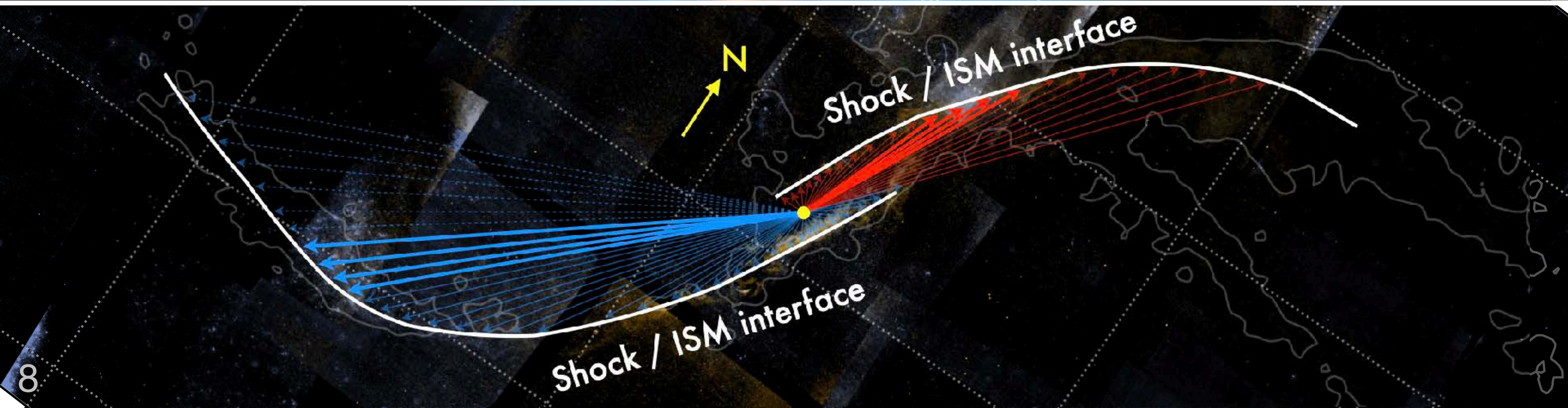






**[FeII] 1.64 $\mu$ m**





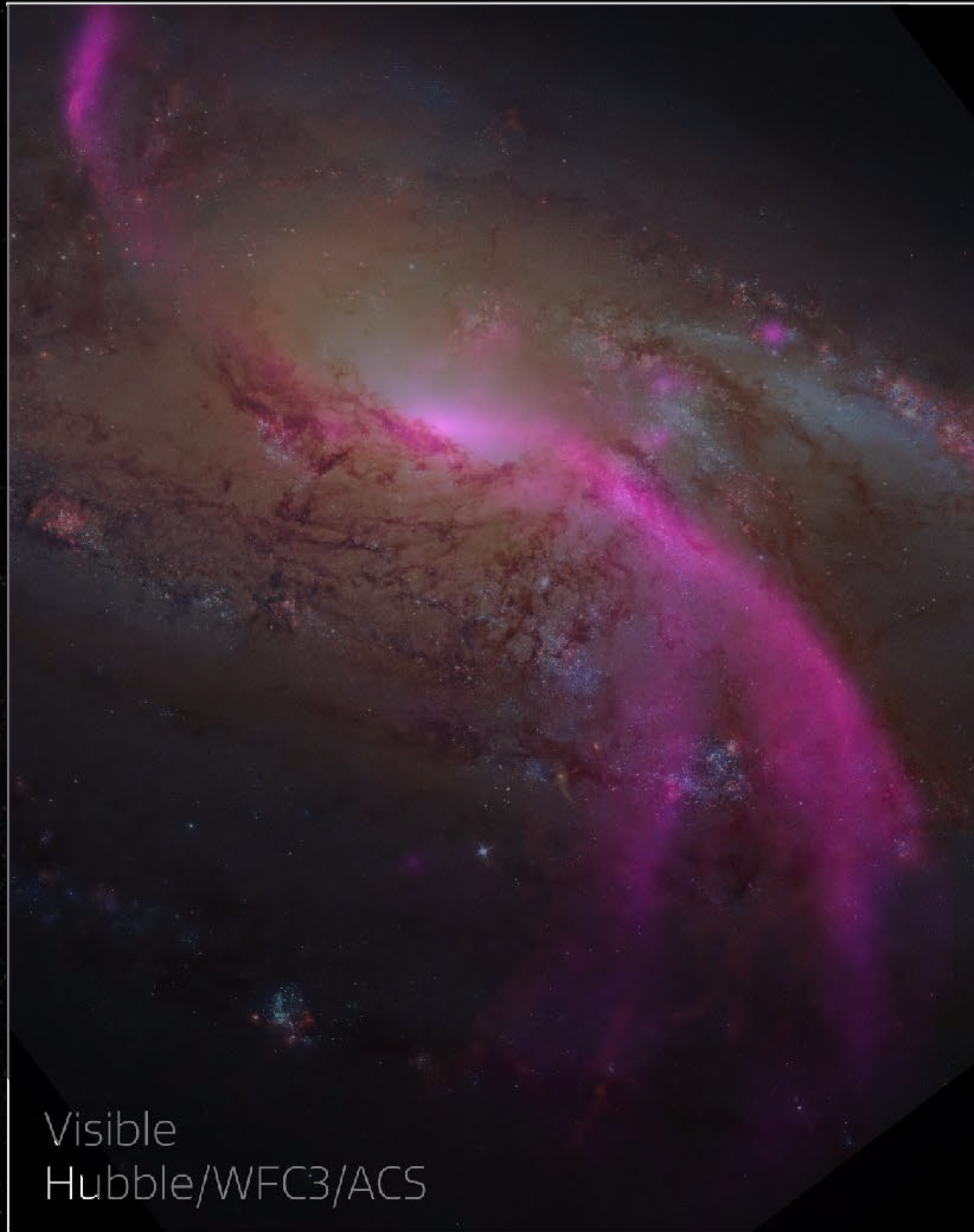
NGC 4258

M87

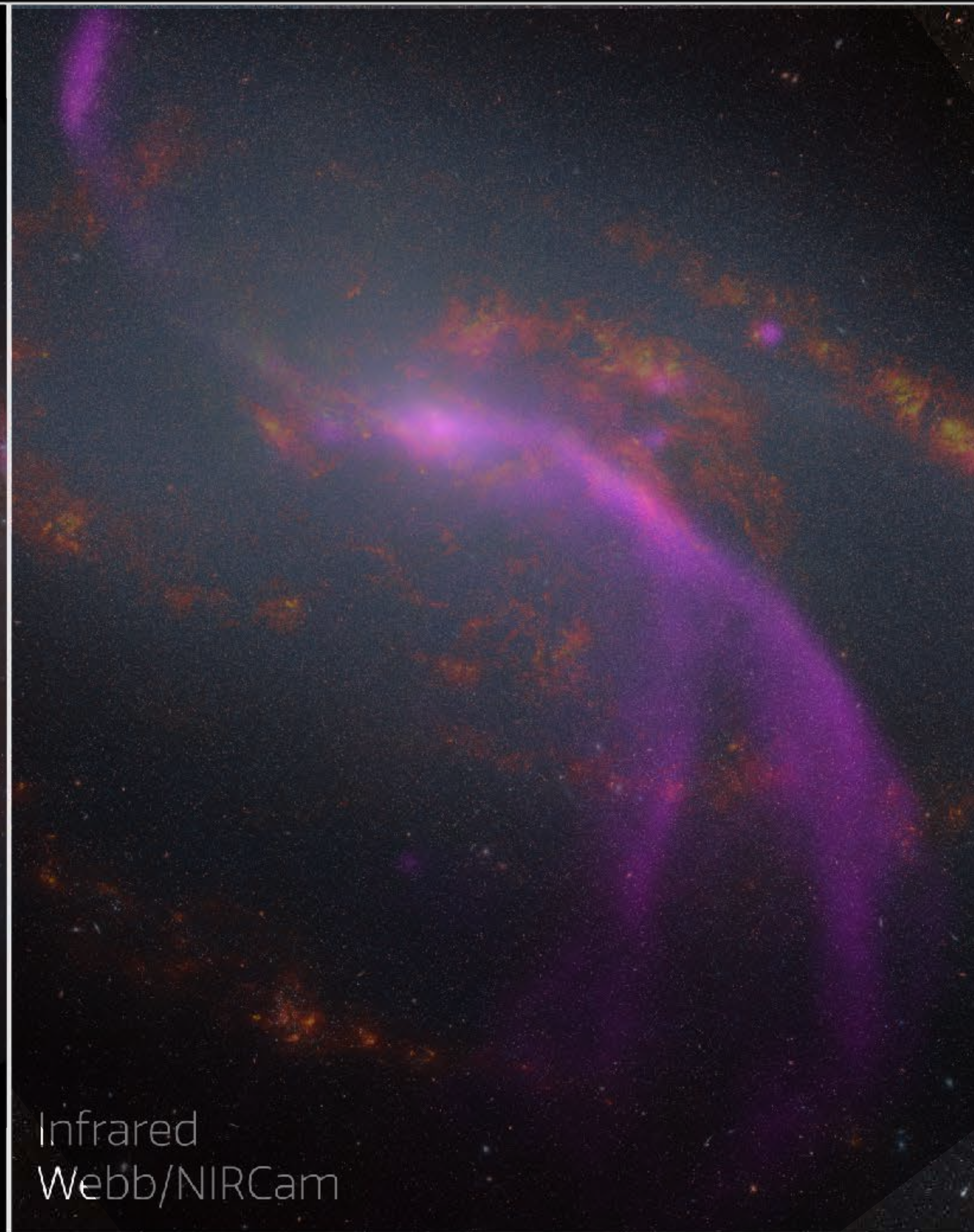
wind origin

jet origin

Extended radio doesn't always mean a jet



Visible  
Hubble/WFC3/ACS



Infrared  
Webb/NIRCam