A Hands-on Workshop with JWST-UVIT

MIRI-IFU Analysis of NGC 4051

Presented by

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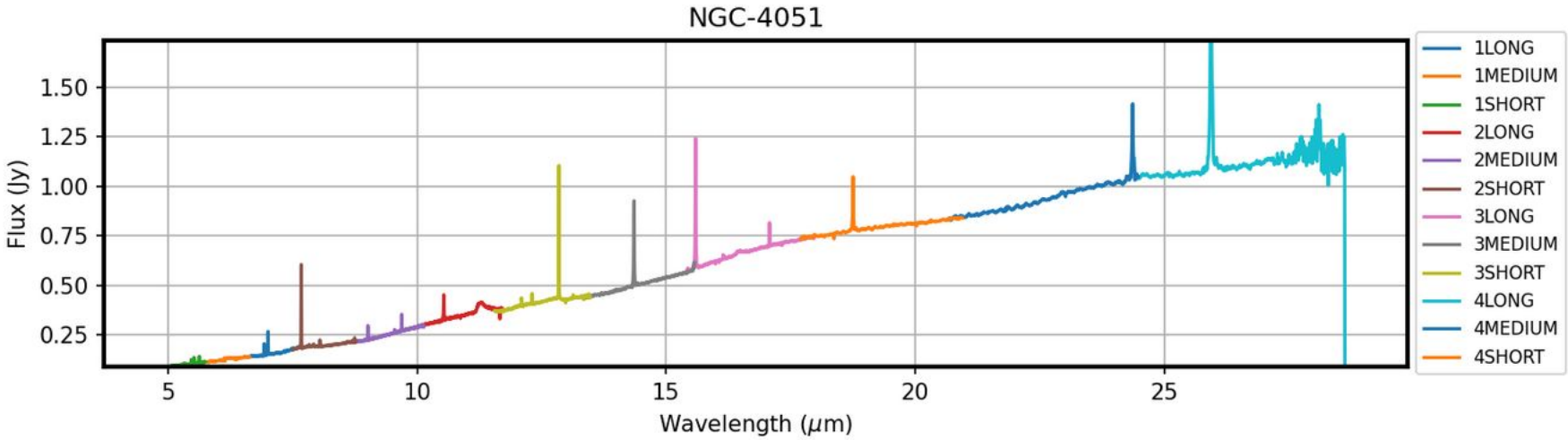
The Object:

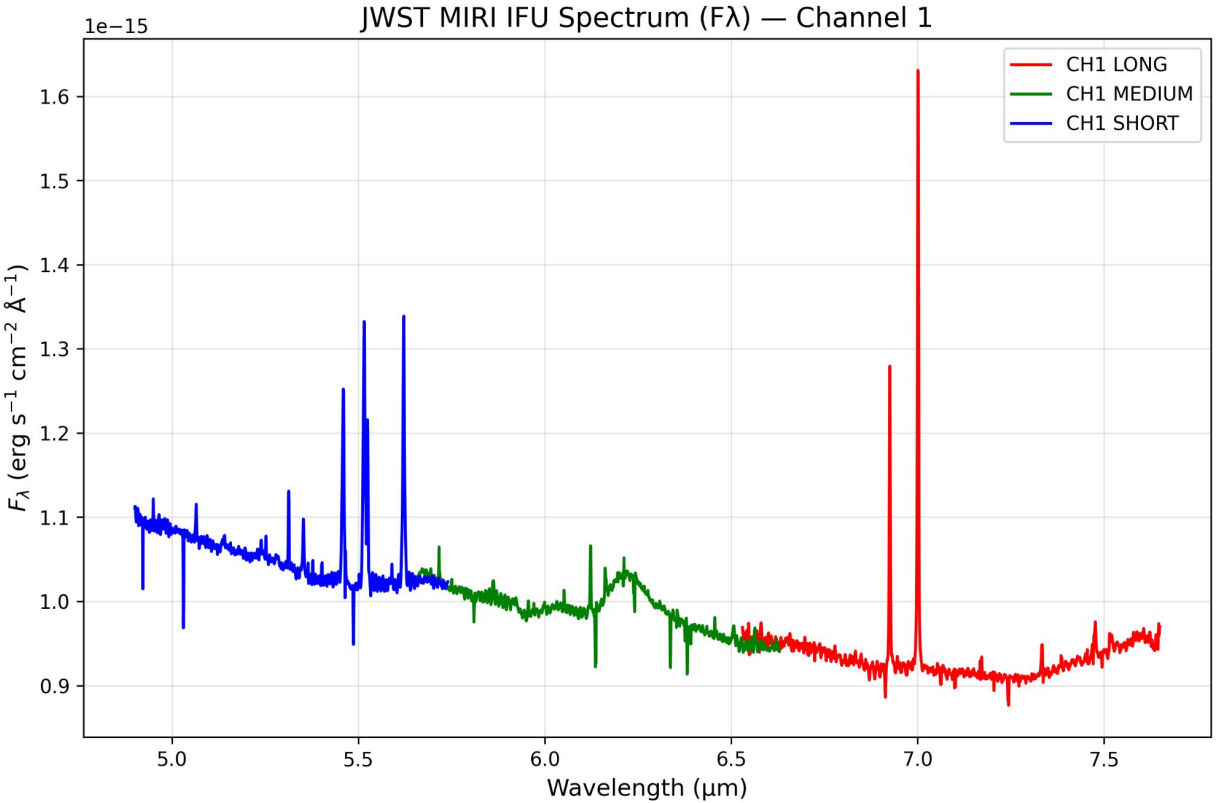
1. NGC4051 is a Seyfert 1, intermediate galaxy located in the constellation Canes Venatici.
2. RA: 180.7900833°, Dec: +44.5313°.
3. Redshift: 0.0023

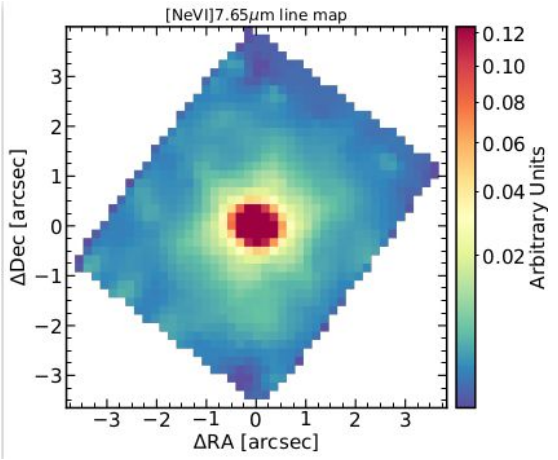
The Data:

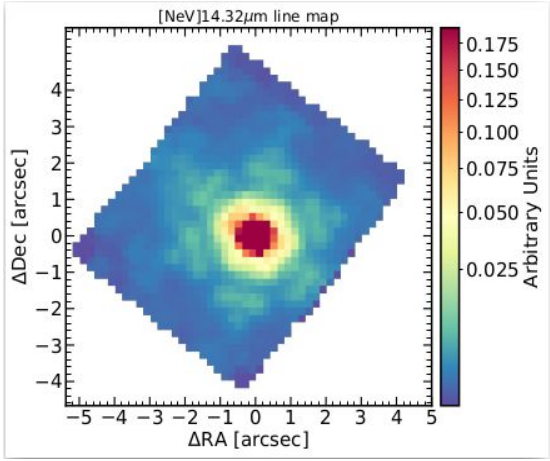
1. IFU MIRI data released on 2025-11-05.
2. Observation Id: 3535
3. Optimized for extended source.

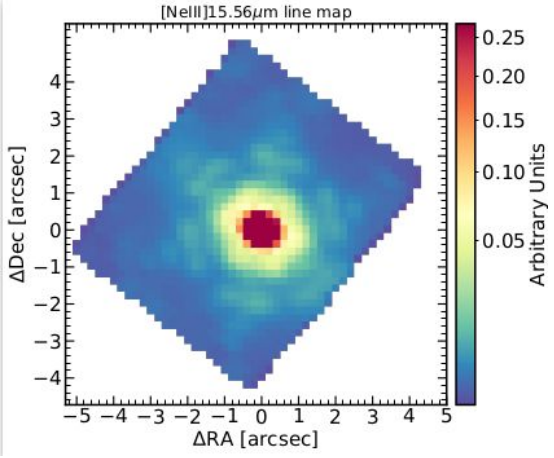
Data Reduction and Analysis:




JWST MIRI IFU Spectrum (Fλ) — Channel 1
1e−15
CH1 LONG
CH1 MEDIUM
CH1 SHORT
F_λ (erg s^{-1} cm^{-2} Å^{-1})
Wavelength (μm)
1.6
1.5
1.4
1.3
1.2
1.1
1.0
0.9
5.0
5.5
6.0
6.5
7.0
7.5


[NeVI]7.65μm line map
ΔDec [arcsec]
ΔRA [arcsec]
Arbitrary Units
0.12
0.10
0.08
0.06
0.04
0.02


[NeV]14.32μm line map
ΔDec [arcsec]
ΔRA [arcsec]
Arbitrary Units
0.175
0.150
0.125
0.100
0.075
0.050
0.025


[NeIII]15.56μm line map
ΔDec [arcsec]
ΔRA [arcsec]
Arbitrary Units
0.25
0.20
0.15
0.10
0.05

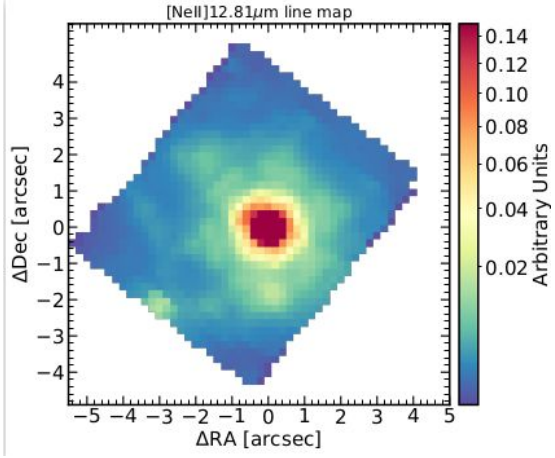

[NeII]12.81μm line map
ΔDec [arcsec]
ΔRA [arcsec]
Arbitrary Units
0.14
0.12
0.10
0.08
0.06
0.04
0.02

Table of parameters (Ionized Neon emission lines)

Parameters	Ne II (12.8 μm)	Ne III (15.56 μm)	Ne V (14.32 μm)	NeVI (7.65 μm)
Total flux (erg/s/cm2)	1.058e-13	1.224e-13	1.01e-13	1.67e-13
Flux narrow comp. (erg/s/cm2)	7.52e-14	5.59e-14	4.66e-14	9.69e-14
Flux broad comp. (erg/s/cm2)	3.06e-14	6.85e-14	5.42e-14	7.025e-14
FWHM narrow comp. (km/s)	146.1	181.3	211.8	235.8
Flux broad comp. (km/s)	471.0	475.6	531.0	471.0
Velocity offset broad comp. (km/s)	11.9	40.1	26.5	14.1

Thank You!