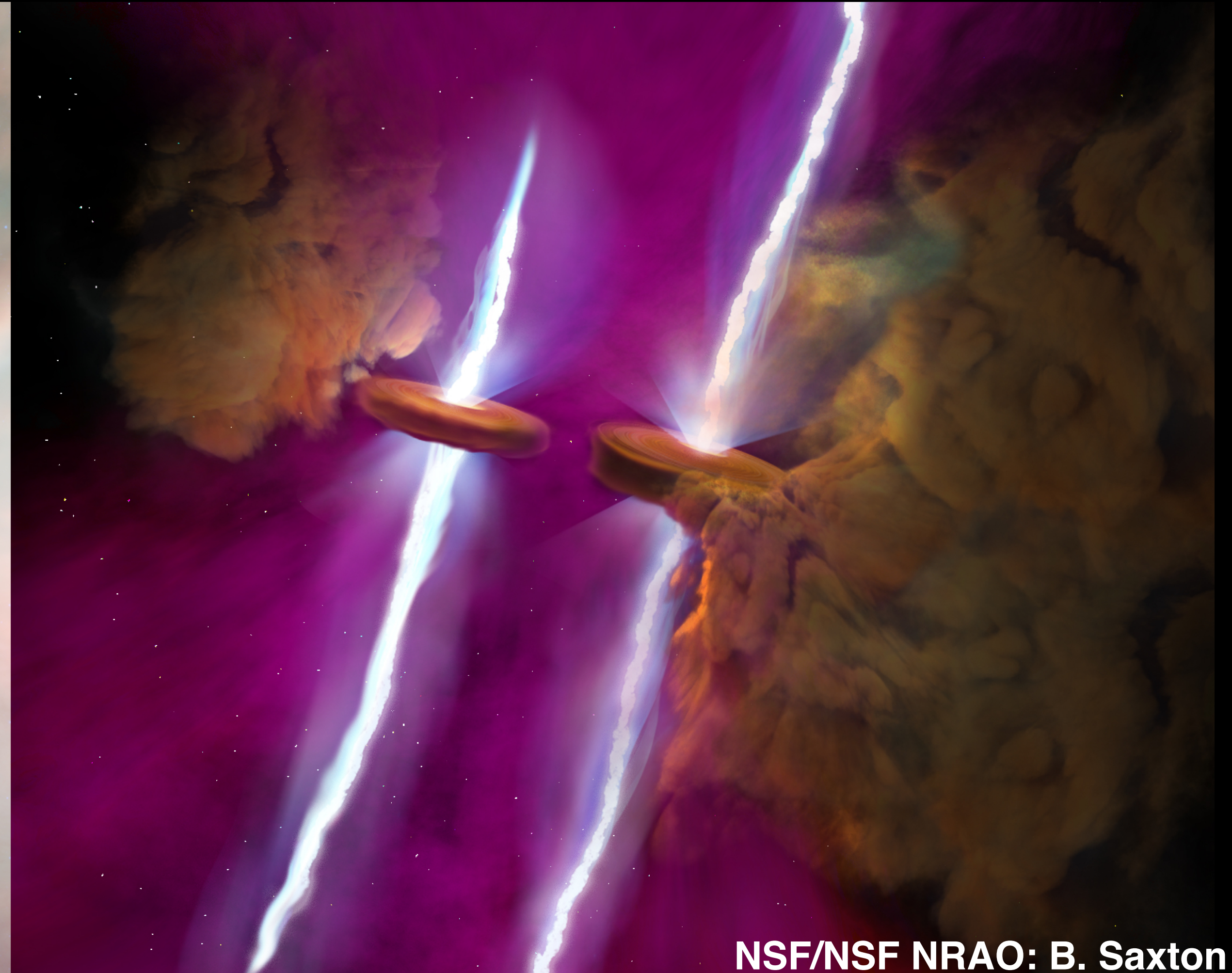
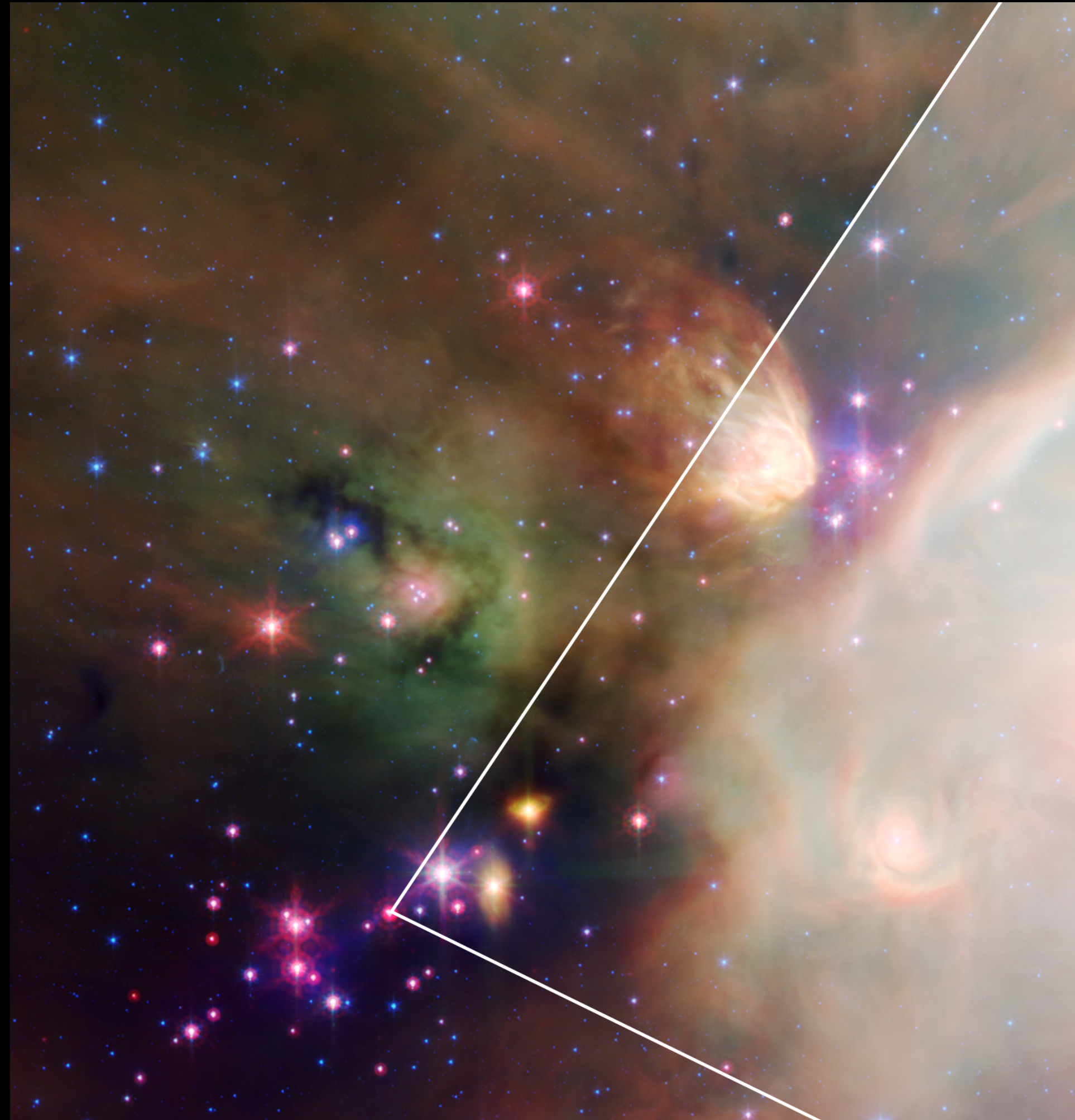


Twin Jets and Twin Disks: JWST and ALMA Discoveries in a Young Multiple System



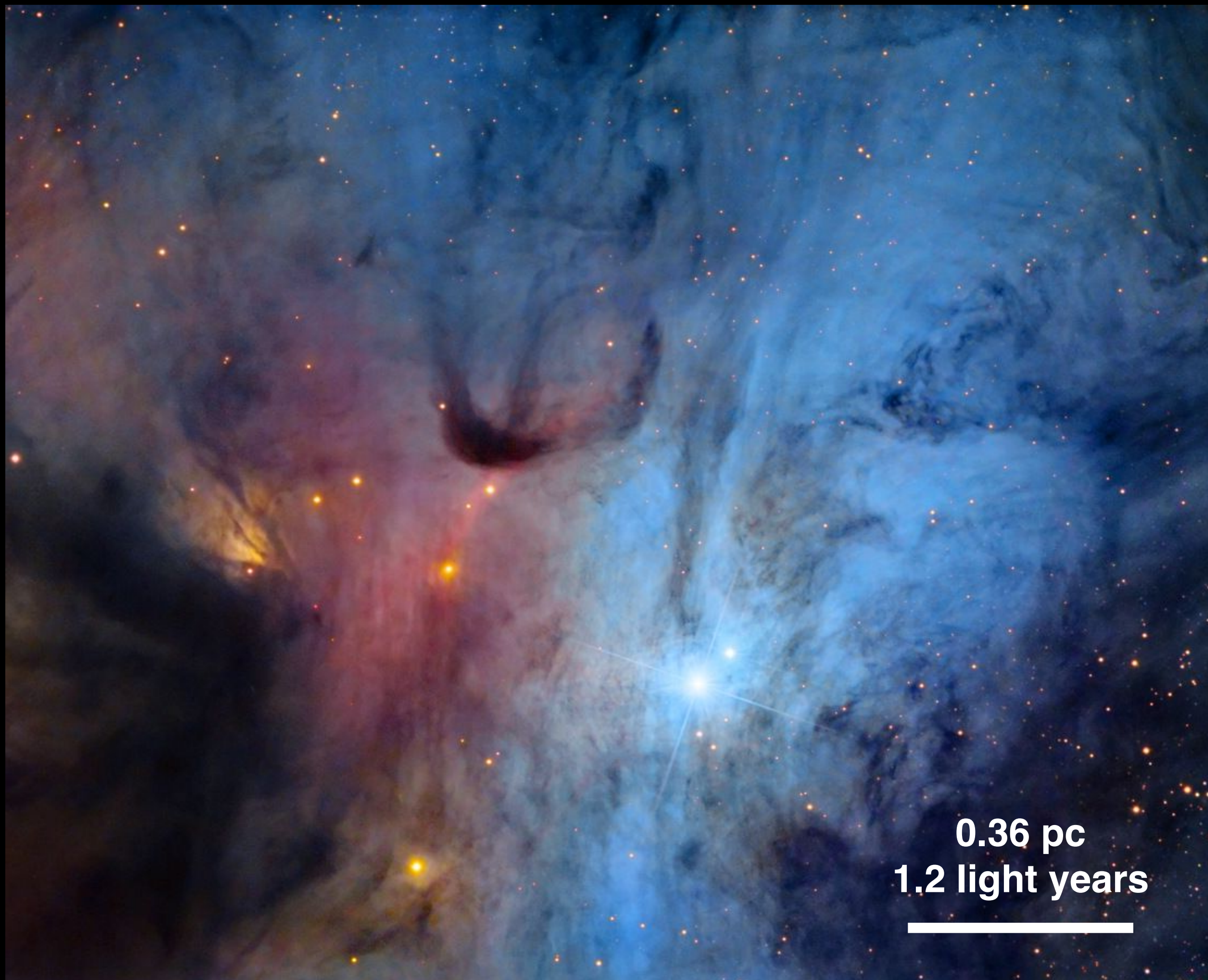
NASA/JPL-Caltech/L. Allen [Harvard-Smithsonian CfA] & D. Padgett (SSC-Caltech]

NSF/NSF NRAO: B. Saxton

Mary Barsony techtrek.mb@gmail.com

Collaborators: M. Ressler (JPL), V. Le Gouellec (NASA/ARC), L. Tychoniec & M. van Gelder (Leiden U.)

The Rho Oph Star-Forming Cloud



©Rolf Wahl Olsen

**Optical
from the ground**



NASA/JPL-Caltech/L. Allen [Harvard-Smithsonian CfA] & D. Padgett (SSC-Caltech)

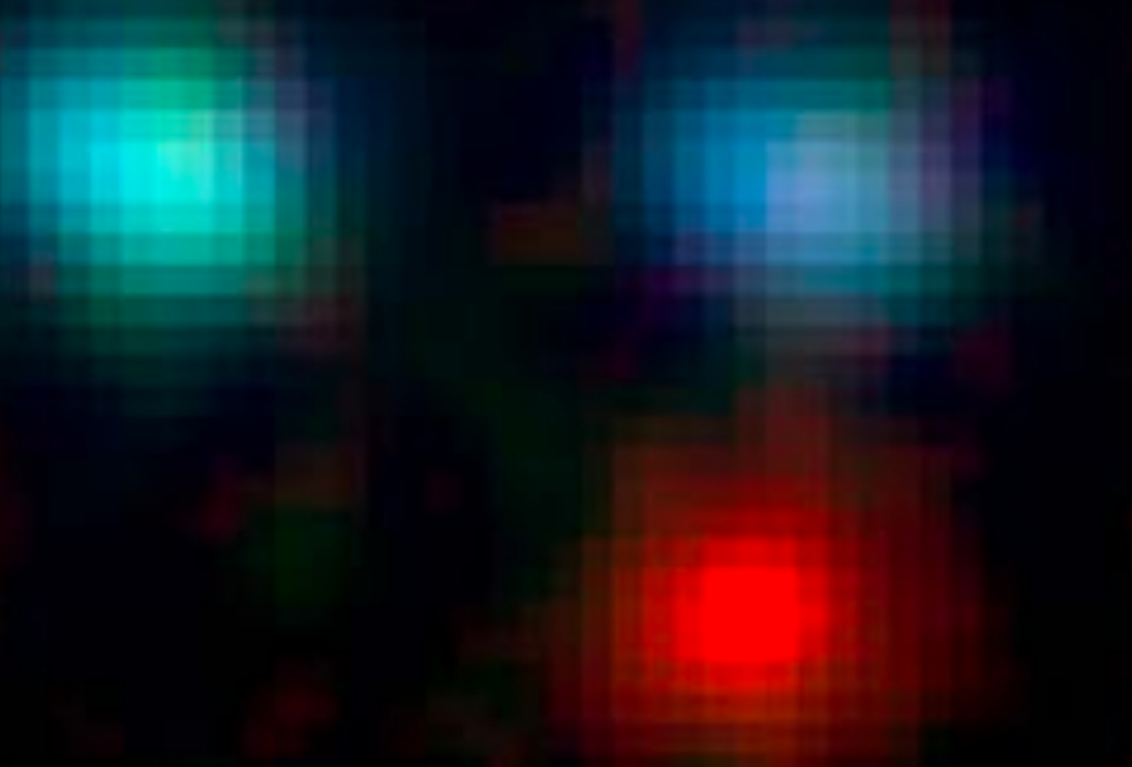
**Mid-Infrared
from Space**

JWST Discovers New Twin

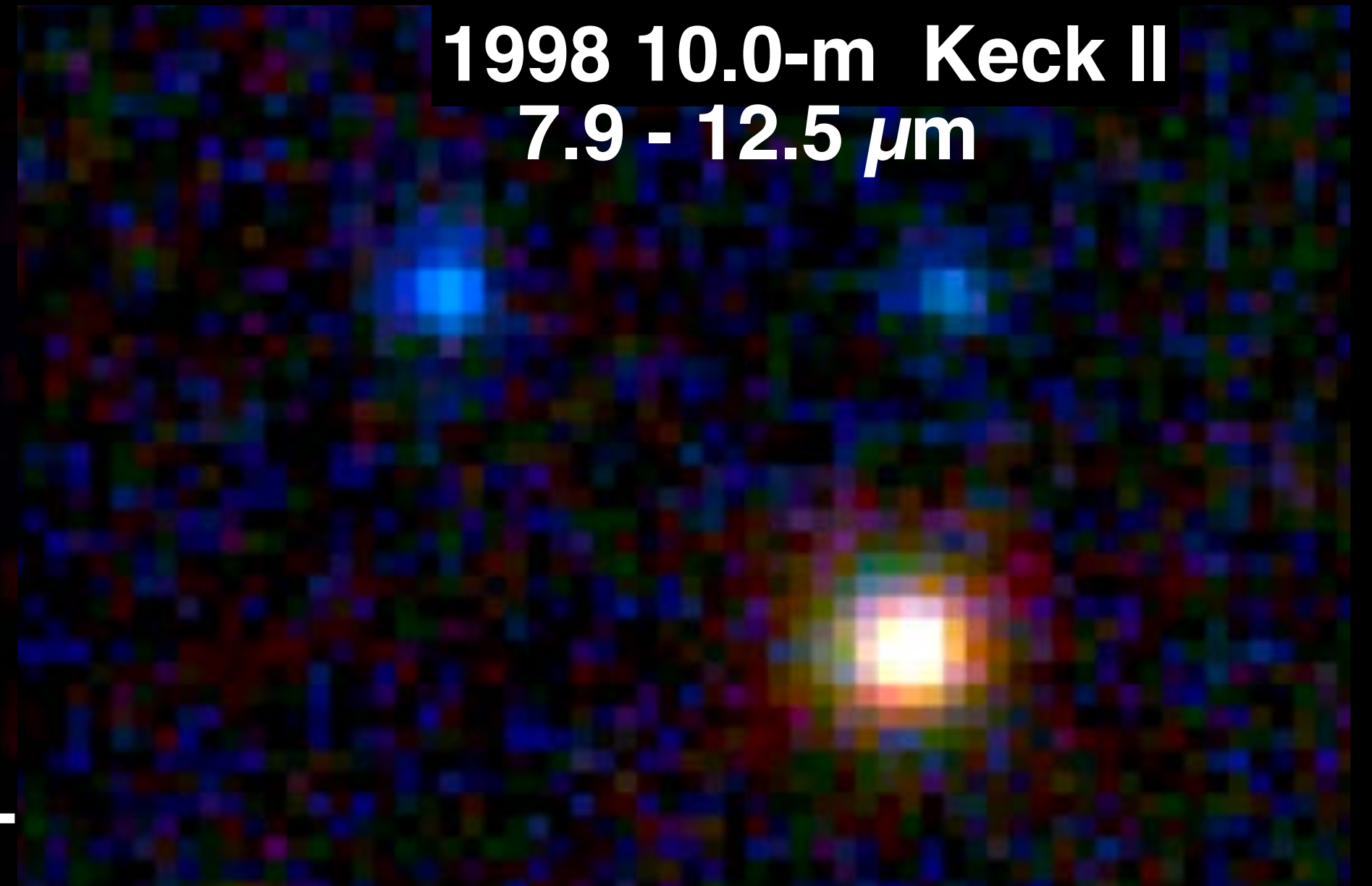
1990 3.8-m IRTF
1.6 μm



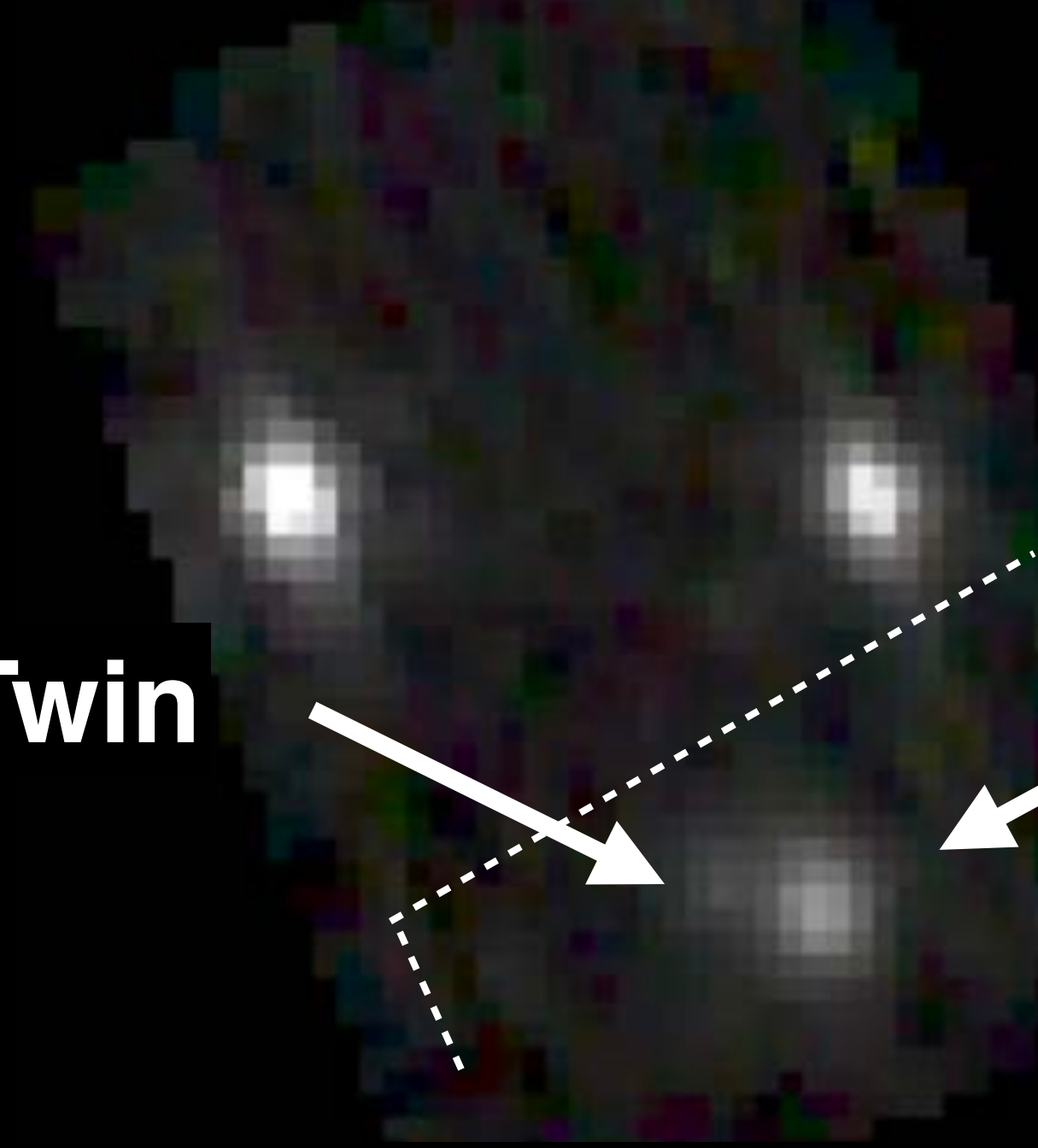
1998 5.0-m Palomar
1.6 - 3.5 μm



1998 10.0-m Keck II
7.9 - 12.5 μm



2023 6.5-m JWST
5.3 μm



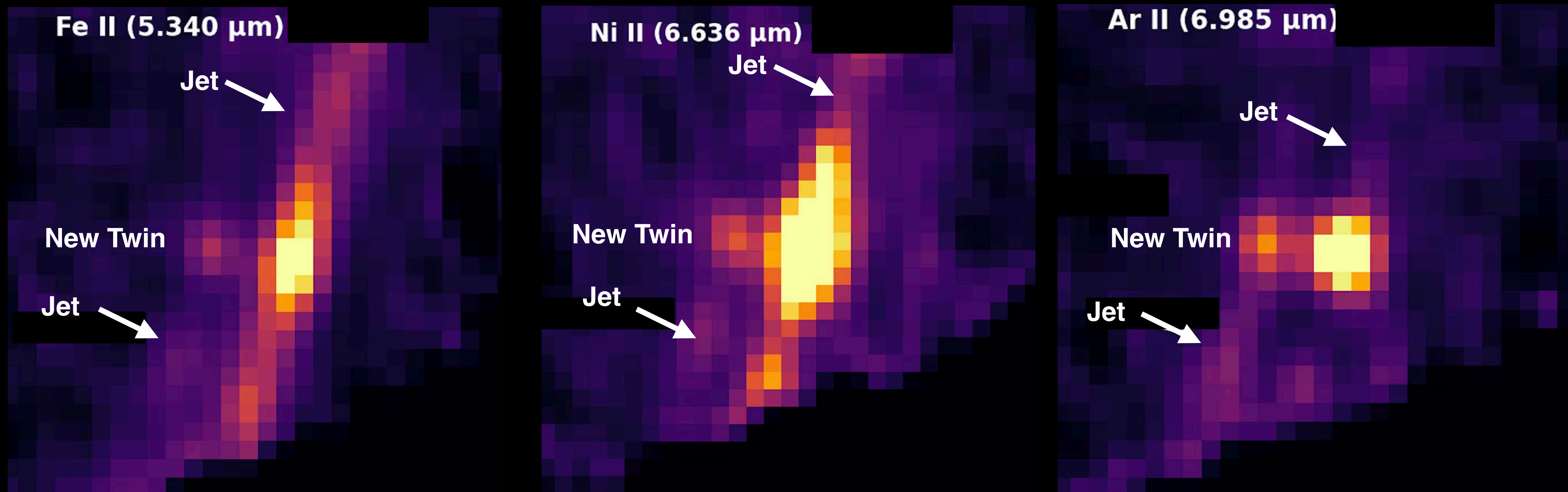
New Twin

Previously
Known Source

400 AU

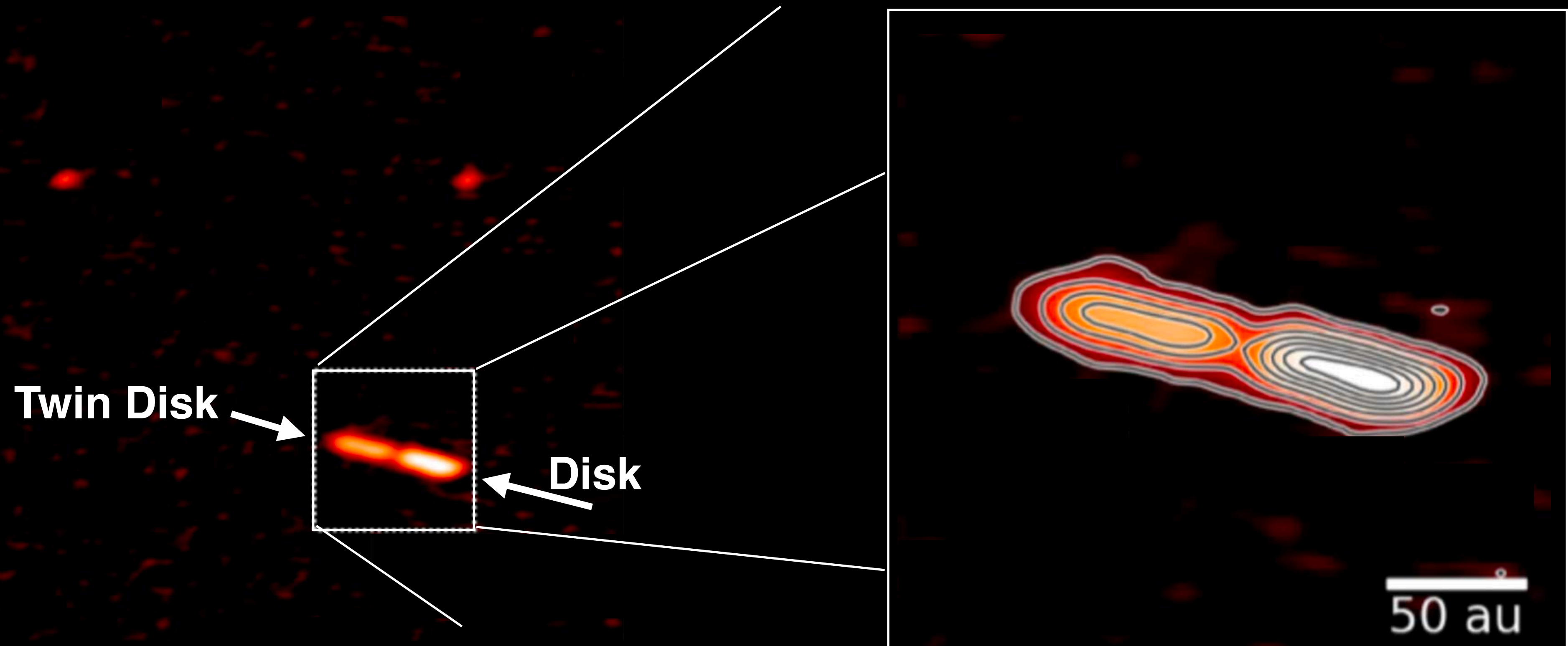


JWST DISCOVERS TWIN IONIZED JETS



—
70 AU

ALMA DISCOVERS TWIN EDGE-ON DISKS



JWST + ALMA DISCOVER TWIN JETS and TWIN DISKS

ALMA and JWST MIRI

ALMA

JWST MIRI Fe

JWST MIRI Ni

JWST MIRI Ar

New Twin's Disk

Disk of Previously Known Young Star

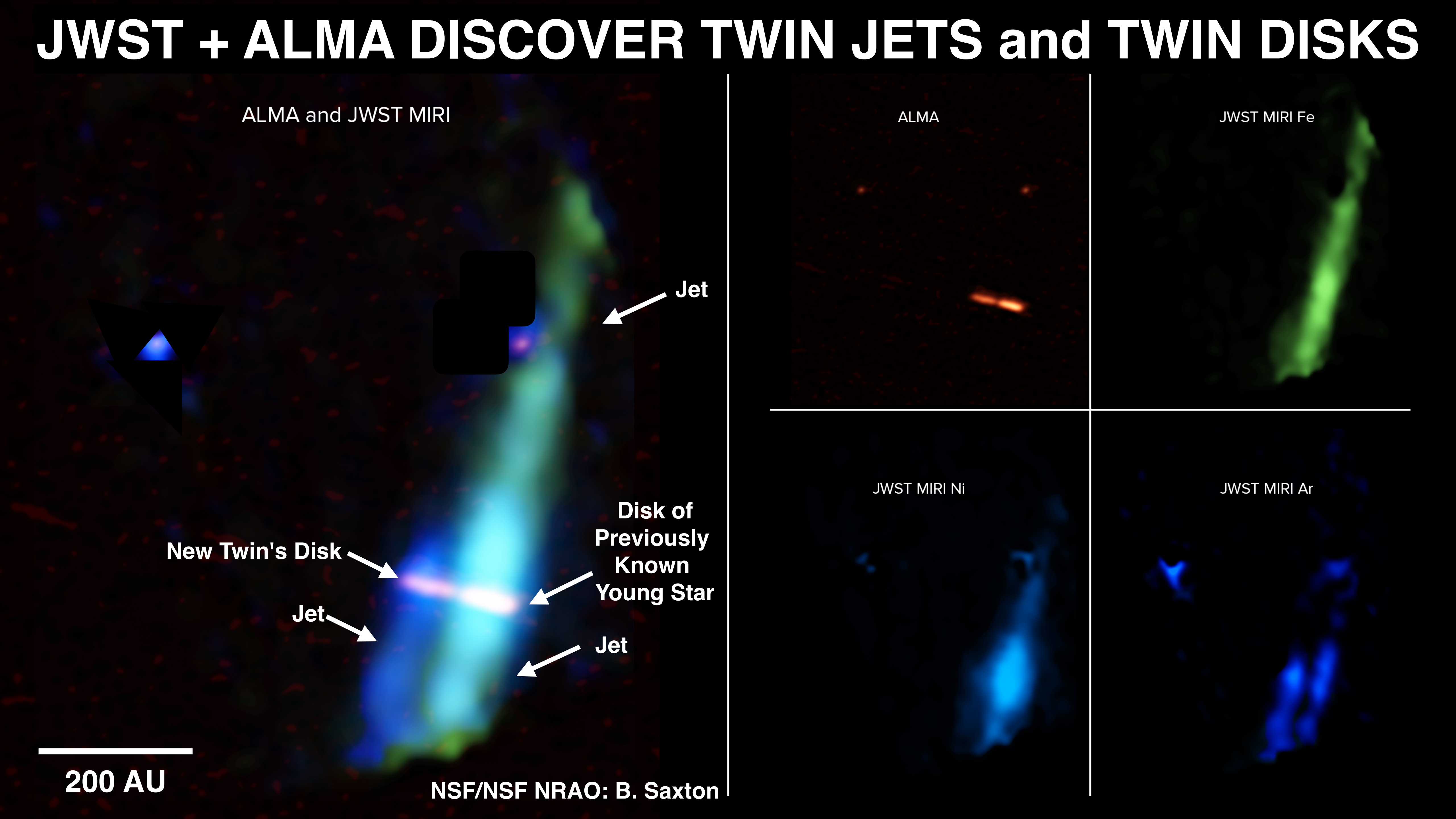
Jet

Jet

Jet

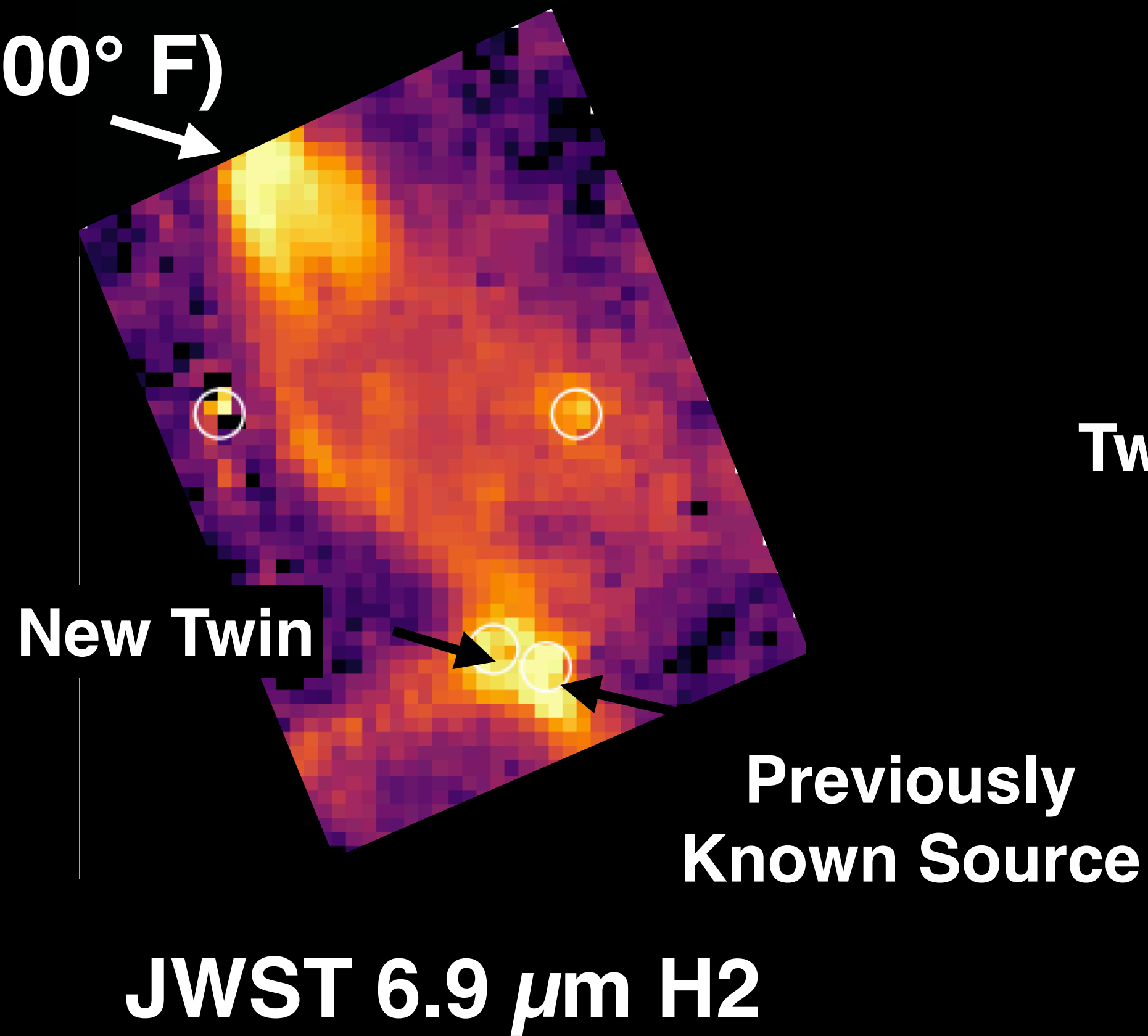
200 AU

NSF/NSF NRAO: B. Saxton



JWST Discovers Biconical Hot Winds, ALMA Discovers Leftover Cold Gas from Formation of the Young Multiple System

1600 K (2400° F)



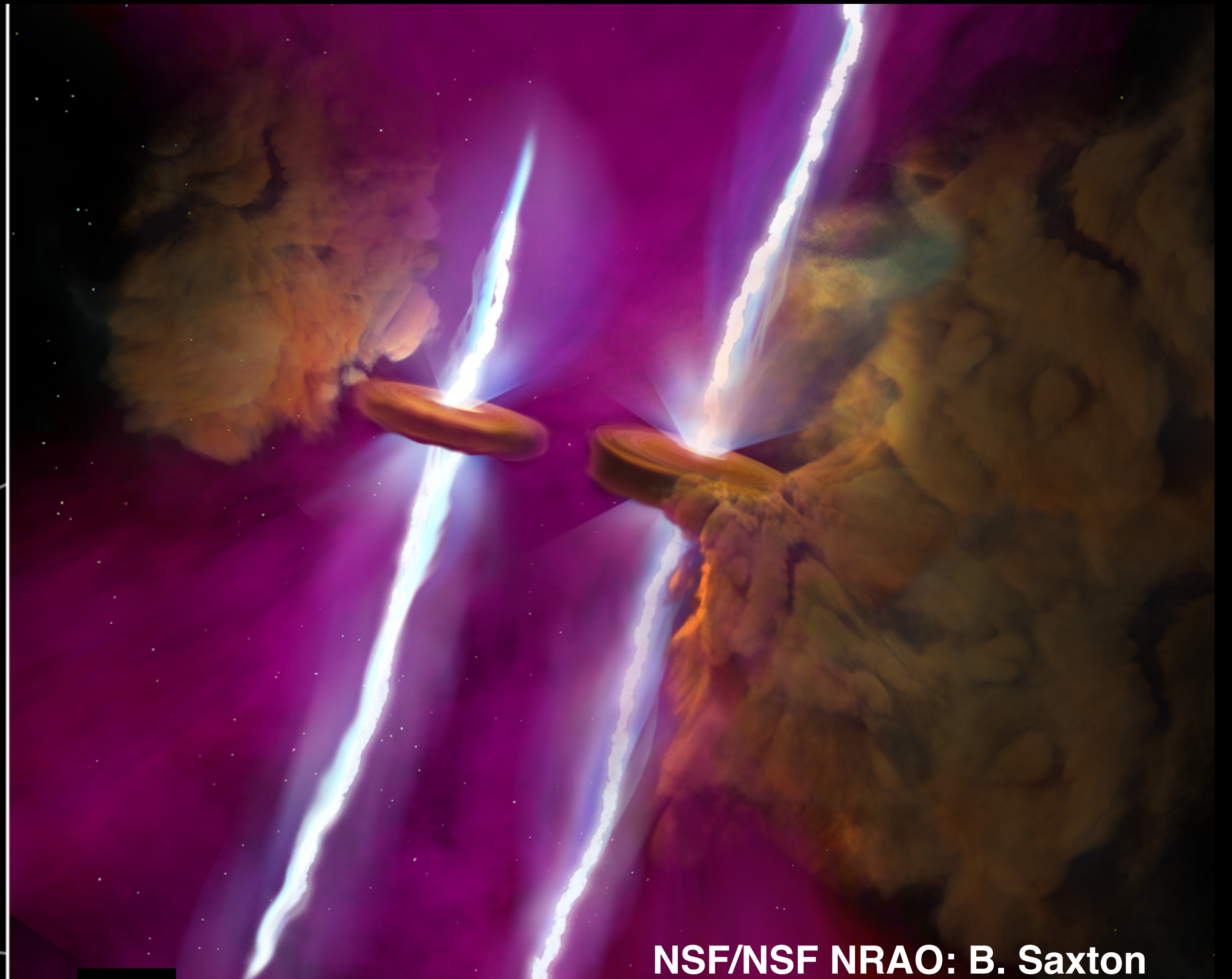
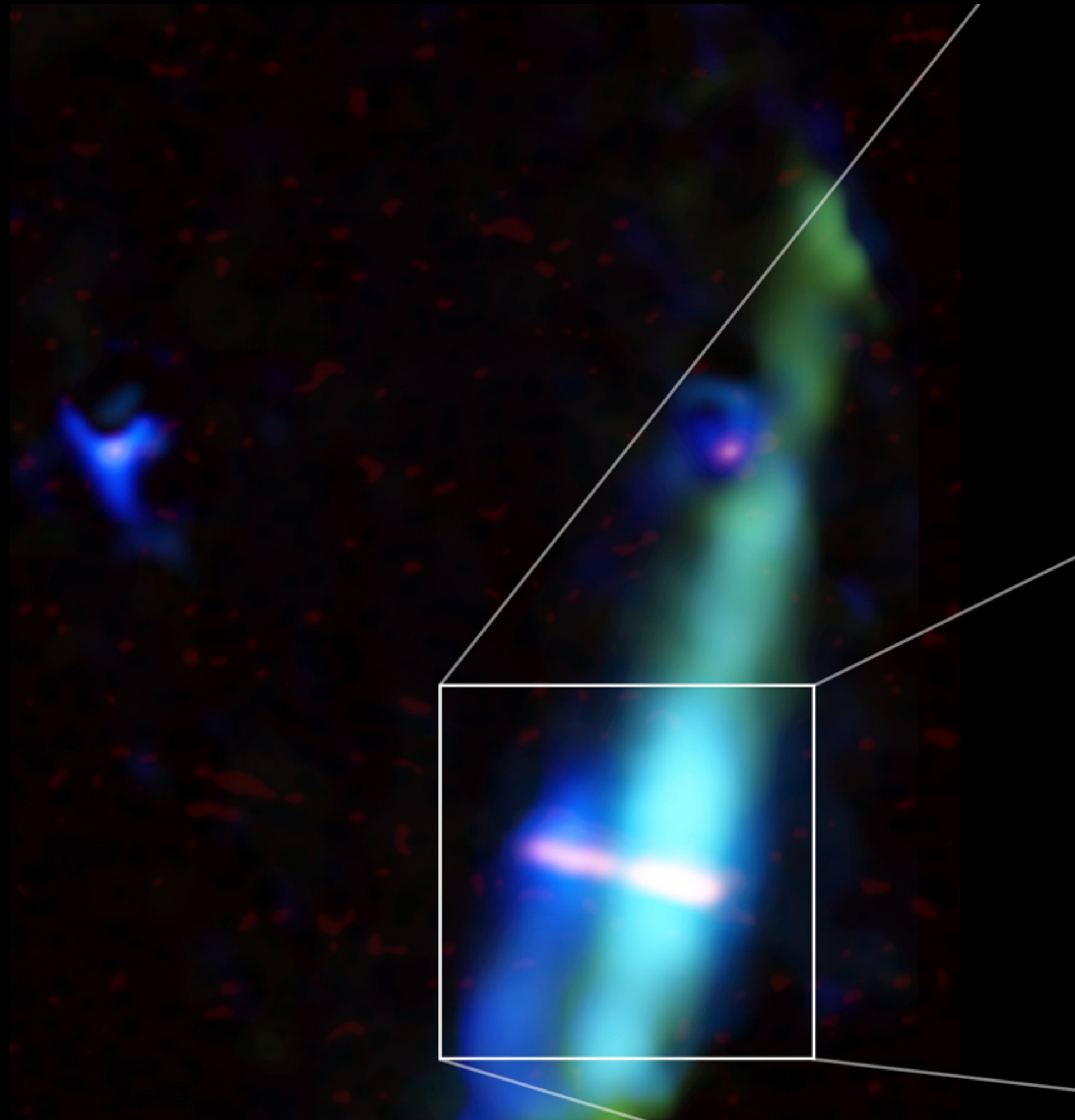
Twin Edge-on Disk

Edge-on Disk

ALMA 1.3mm C¹⁸O

200 AU

JWST + ALMA Synergy: Twin Jets and Twin Disks in a Young Multiple System



Mary Barsony
techtrek.mb@gmail.com

Oral Session 413.01
Hall of Ideas I

10:00 AM Thursday, 13 June 2023

Collaborators: M. Ressler (JPL), V. Le Gouellec (NASA/ARC), L. Tychoniec & M. van Gelder (Leiden U.)