

Orion Session: chair's comments

- Plug my own data
- State the obvious
- What can the Great Observatories do together?

Spitzer/IRAC image of
NGC 2023 and the Horsehead
Nebula in the Orion B cloud

Spitzer/IRAC Orion Molecular Cloud Survey

NGC 2068/2071
(Orion B)



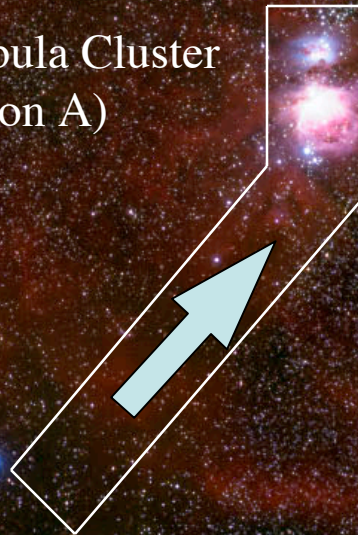
NGC 2024/2023
(Orion B)



Orion Nebula Cluster
(Orion A)



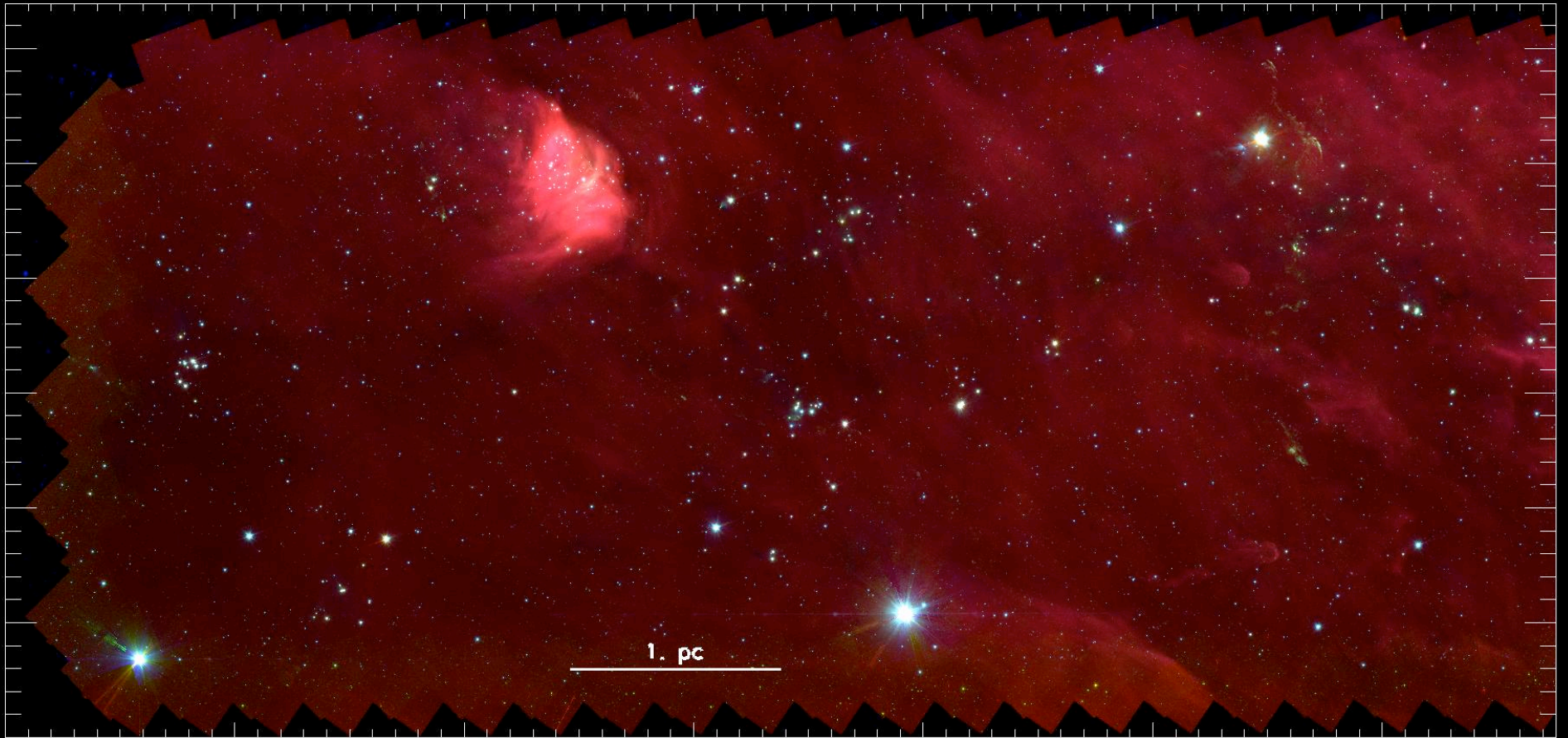
L1641
(Orion A)



- 5.6 Sq. Degrees
- 4x12 second IRAC images per position
- 2 second and subarray maps of Trapezium and NGC 2024
- MIPS Mapping of entire IRAC field
- Collaboration between IRAC and MIPS GTO team
- All data now taken.

Photographic image by W. H. Wang

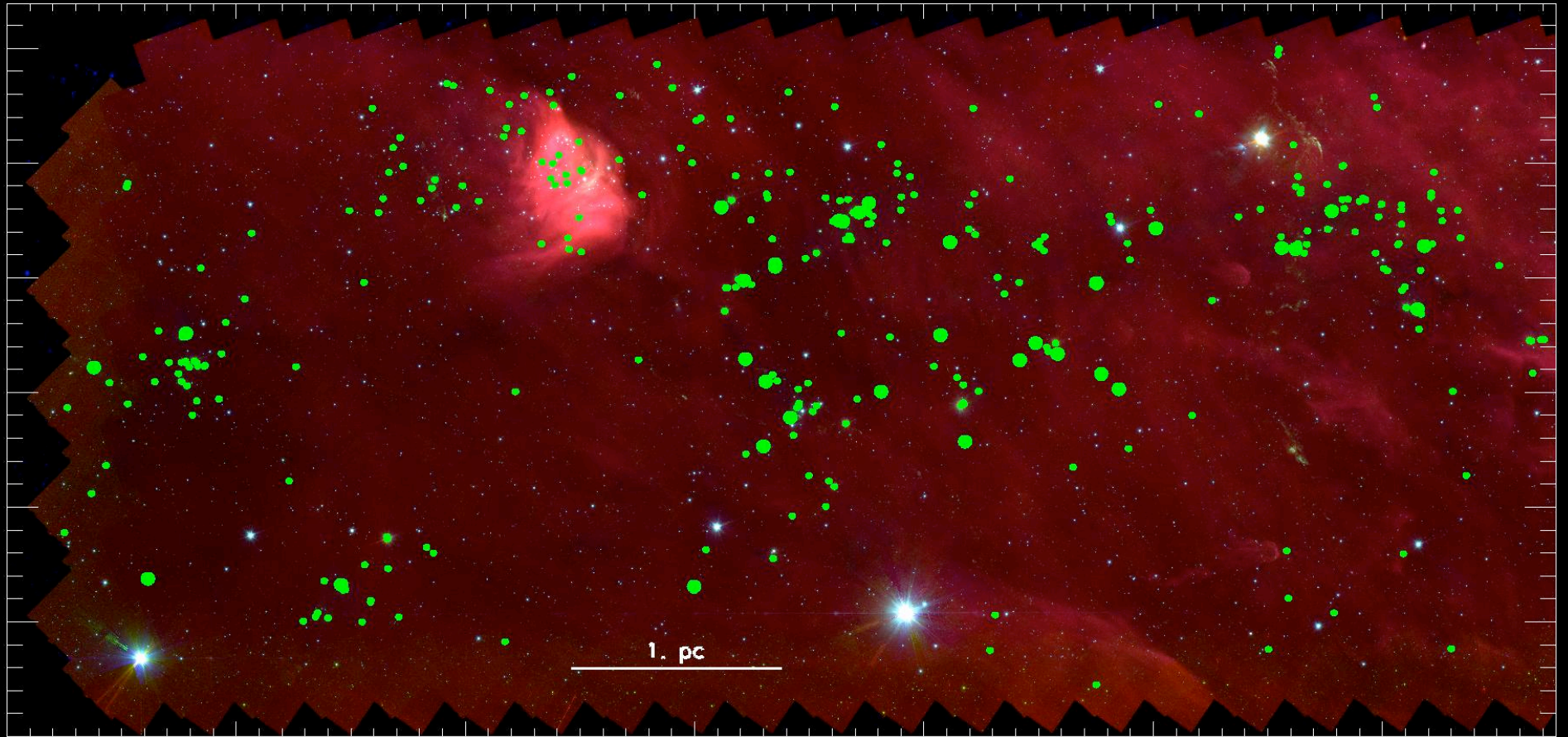
L1641 Cloud Images



Red: 8 micron, Green: 4.5 micron, Blue: 3.6 micron

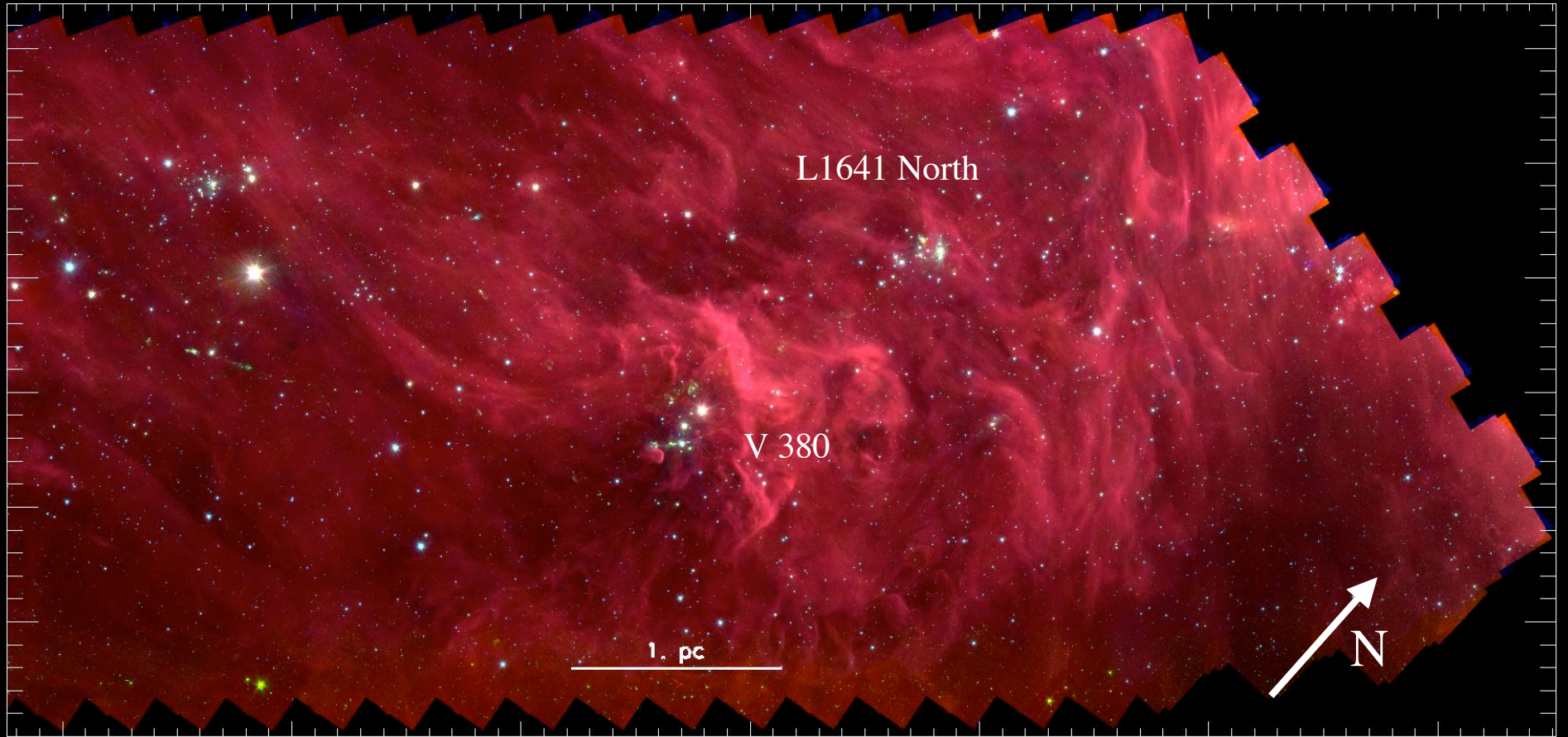
L1641 Cloud Images

Small Green Circles: IR-ex source, Big Circles: Protostars



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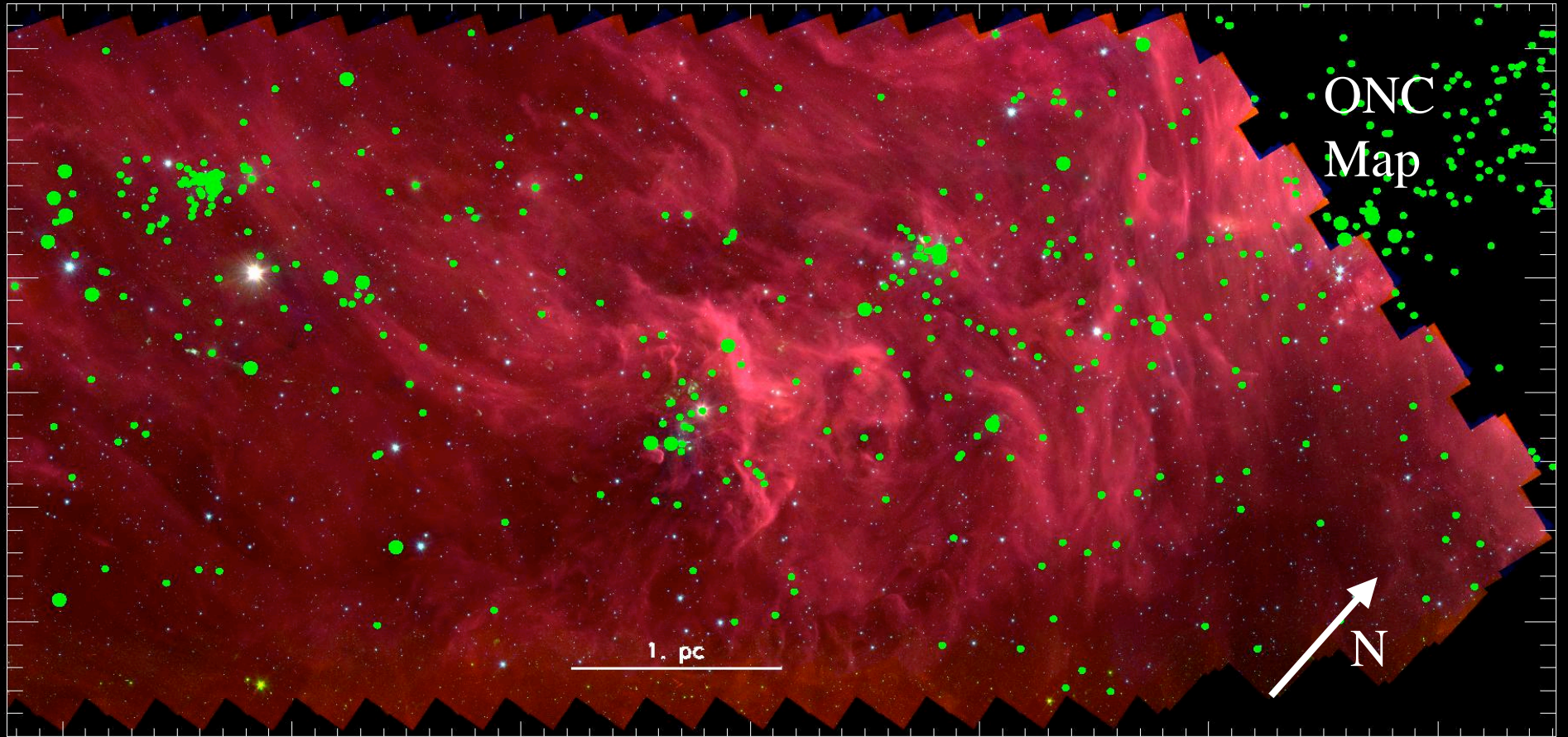
L1641 Cloud Images



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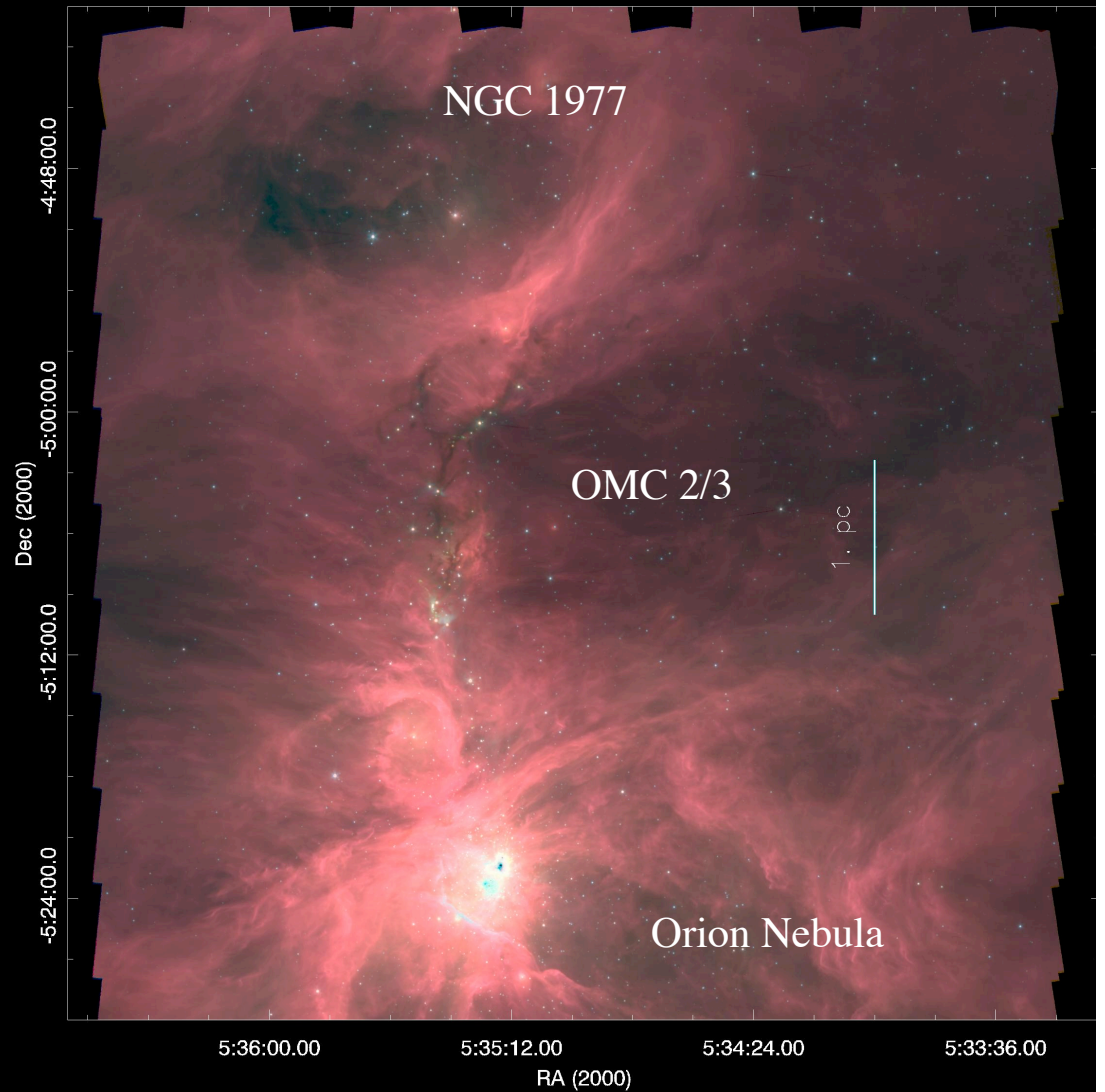
L1641 Cloud Images

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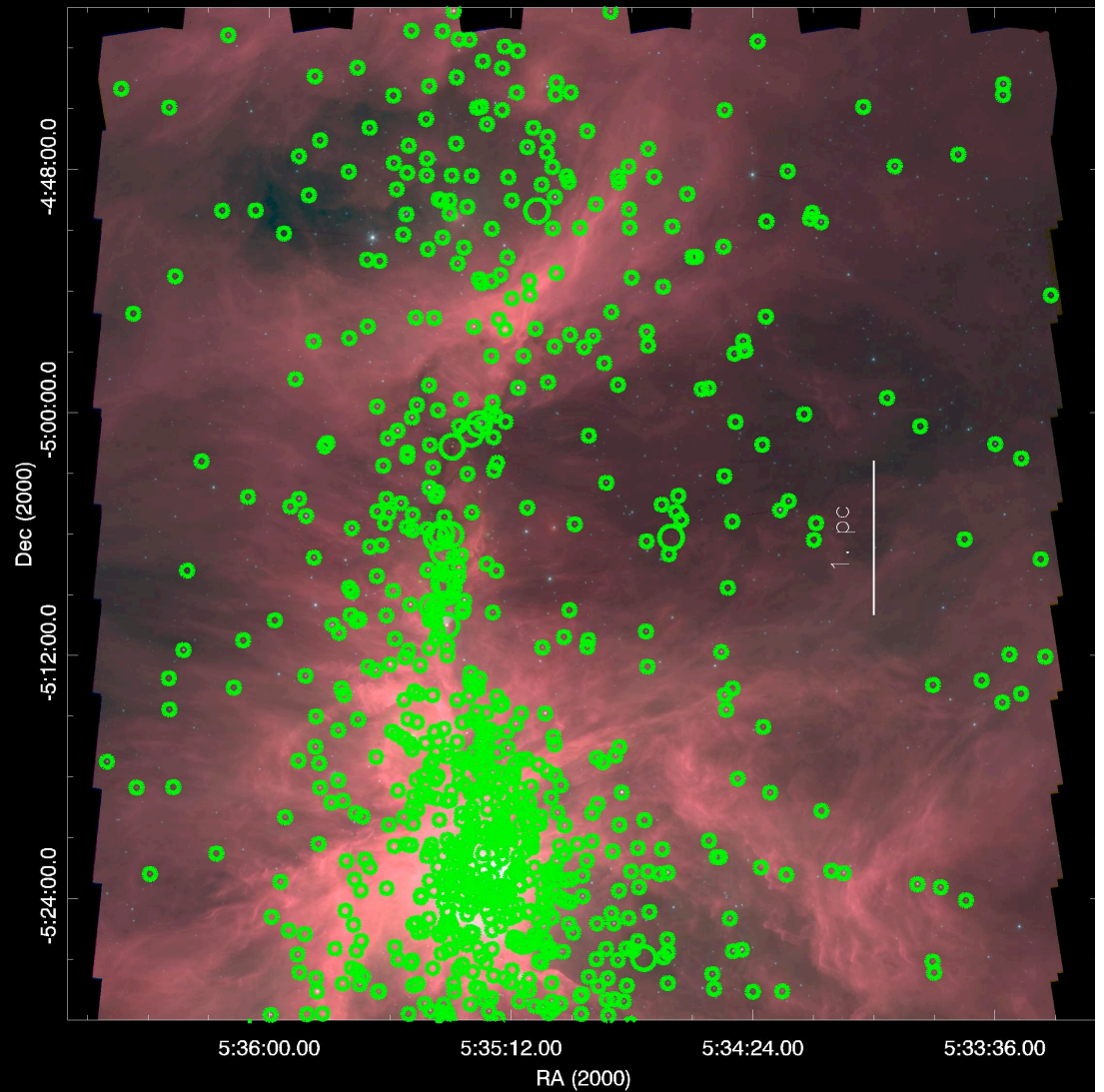
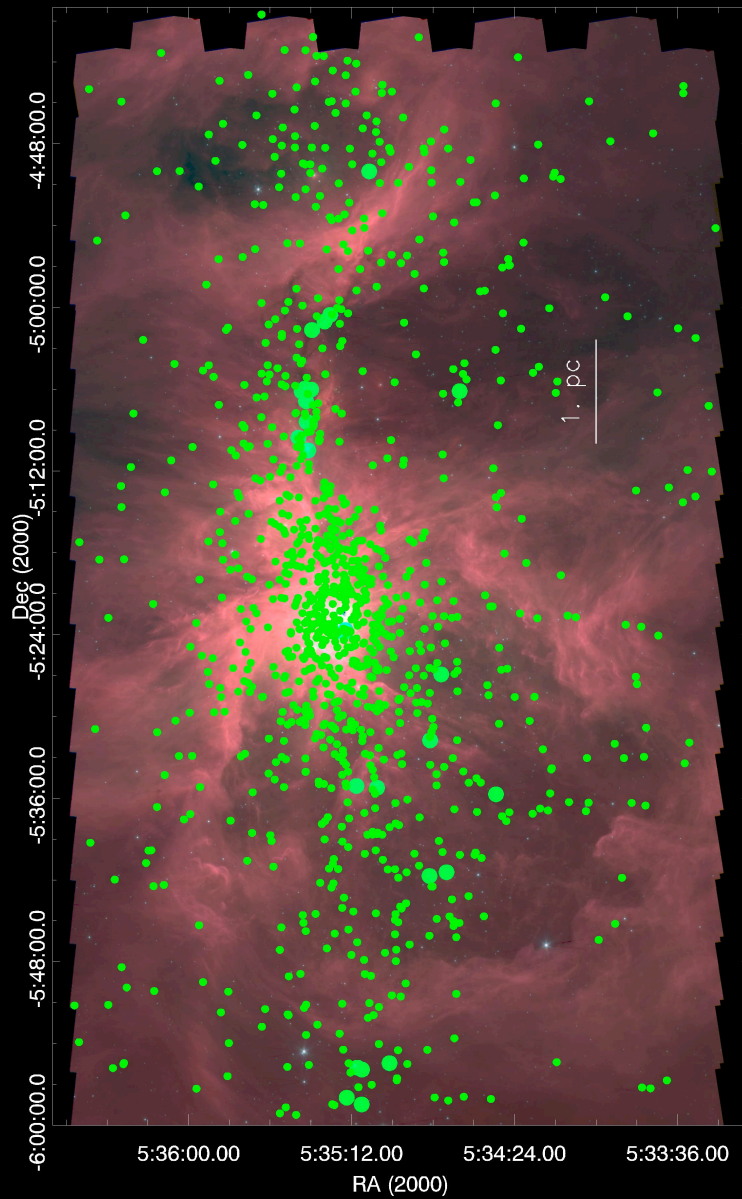
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The Orion Nebula Cluster

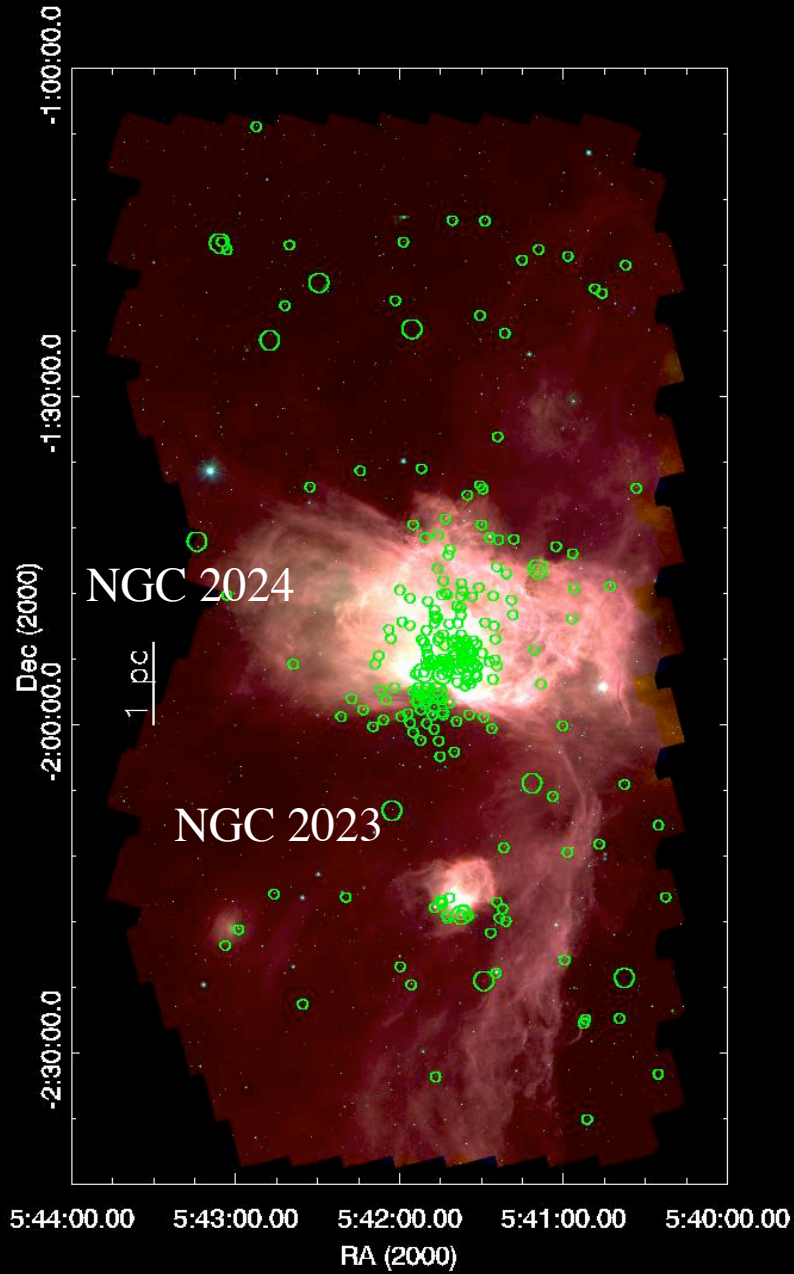


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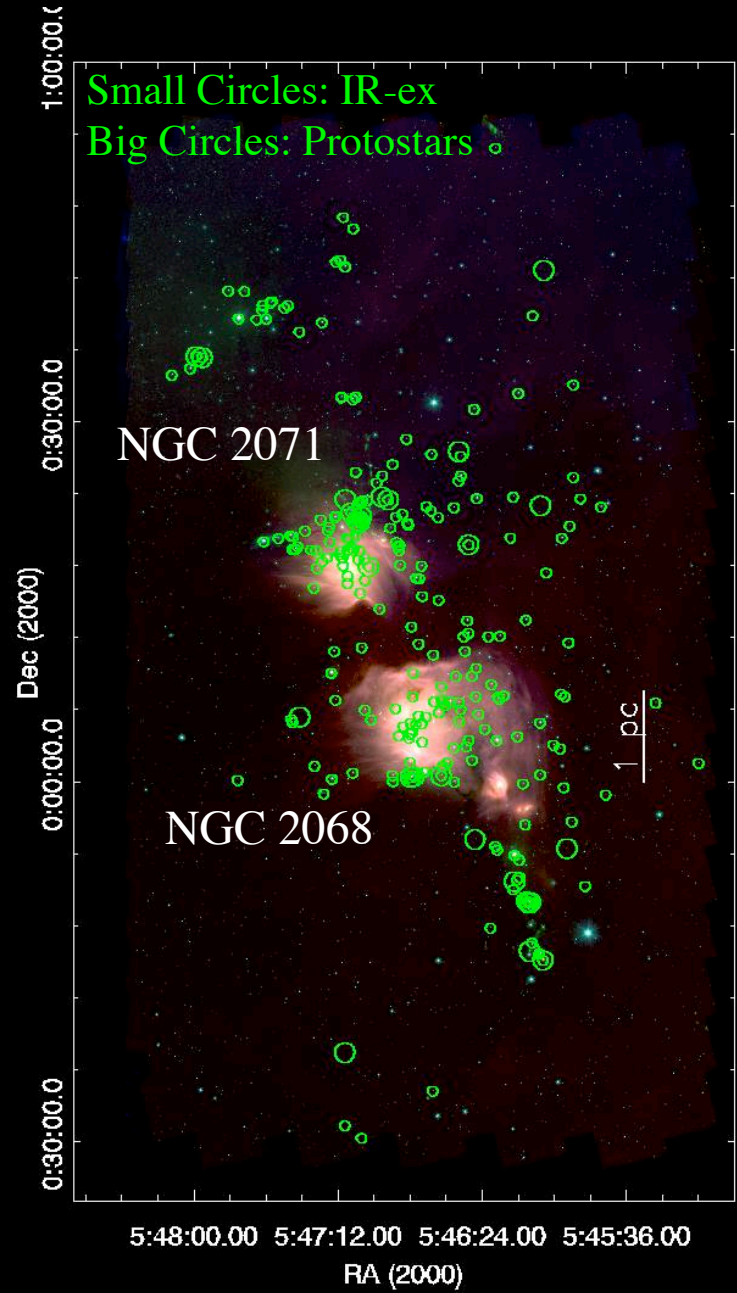
The Orion Nebula Cluster



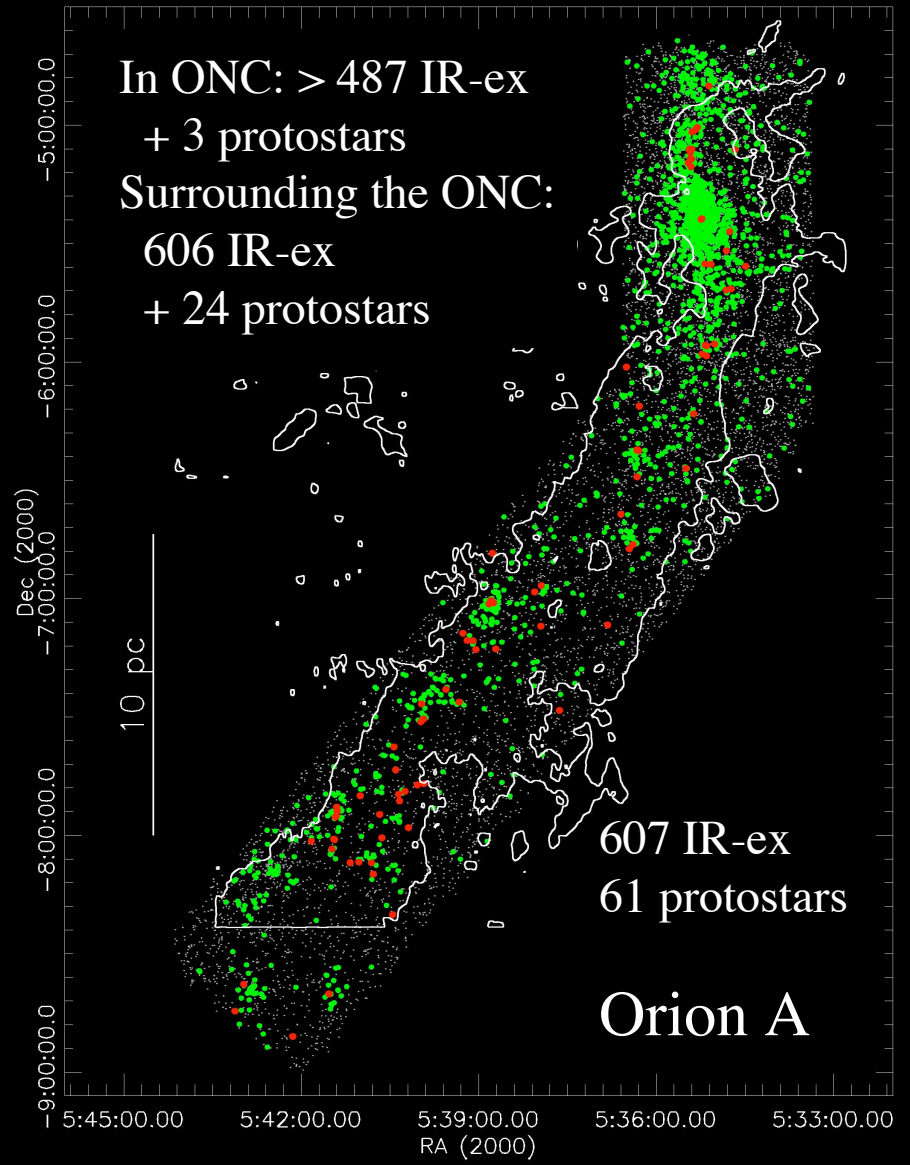
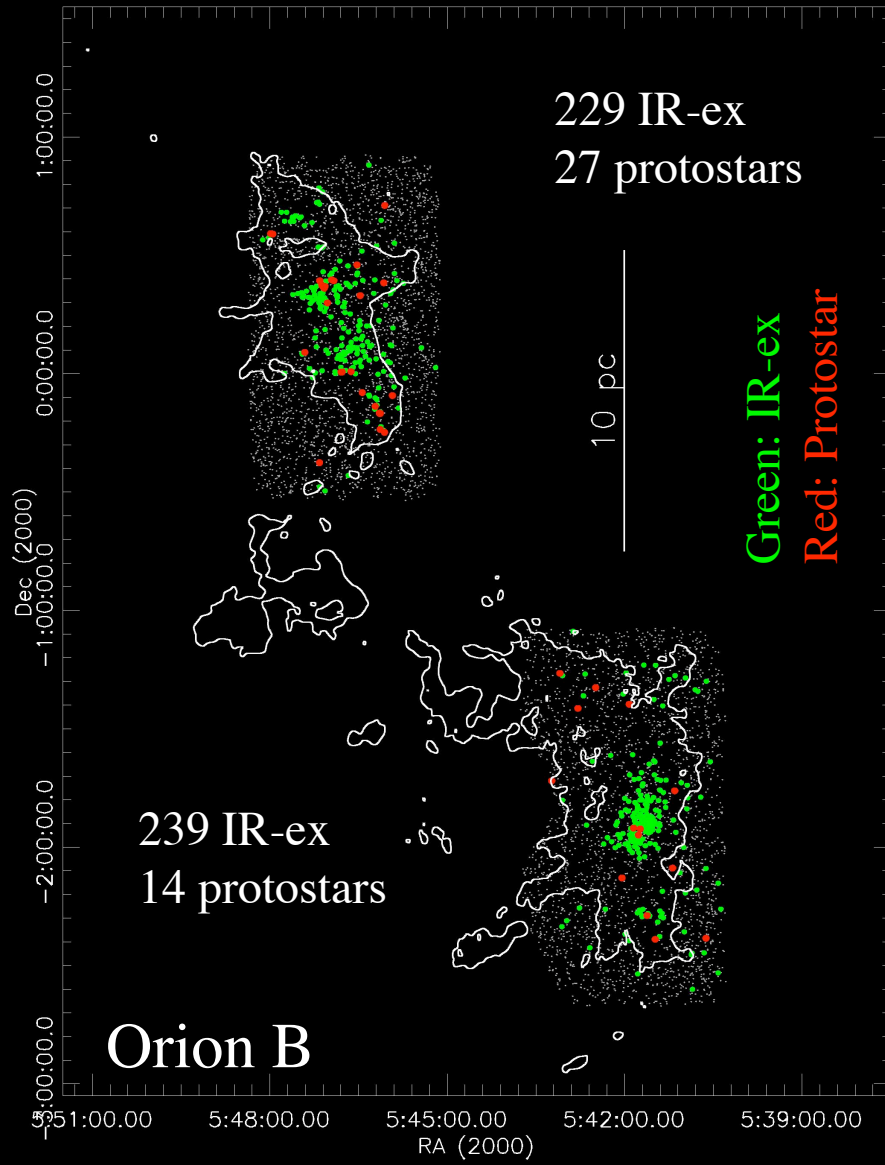
Orion B Cloud



8 micron 4.5 micron 3.6 micron

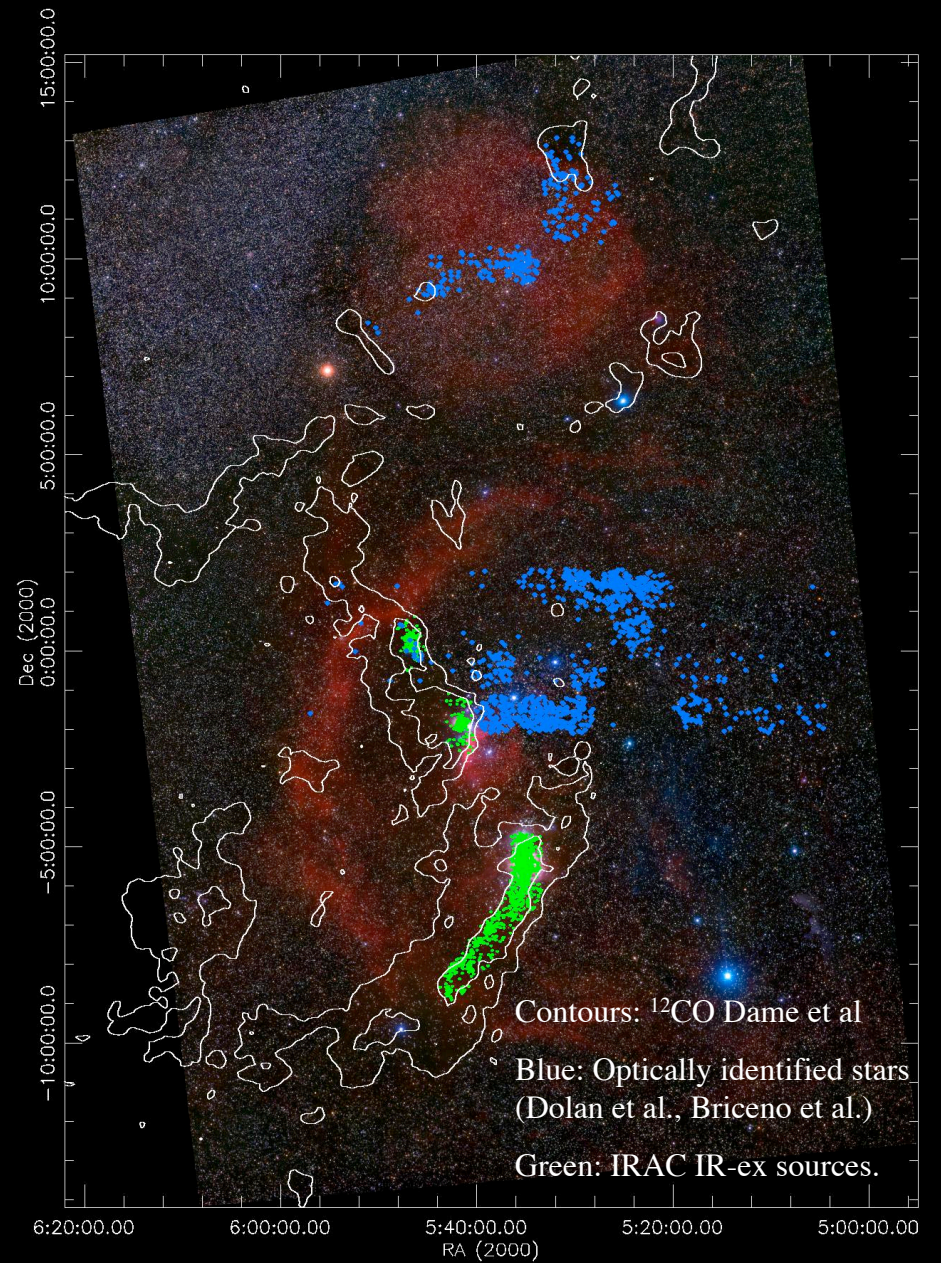
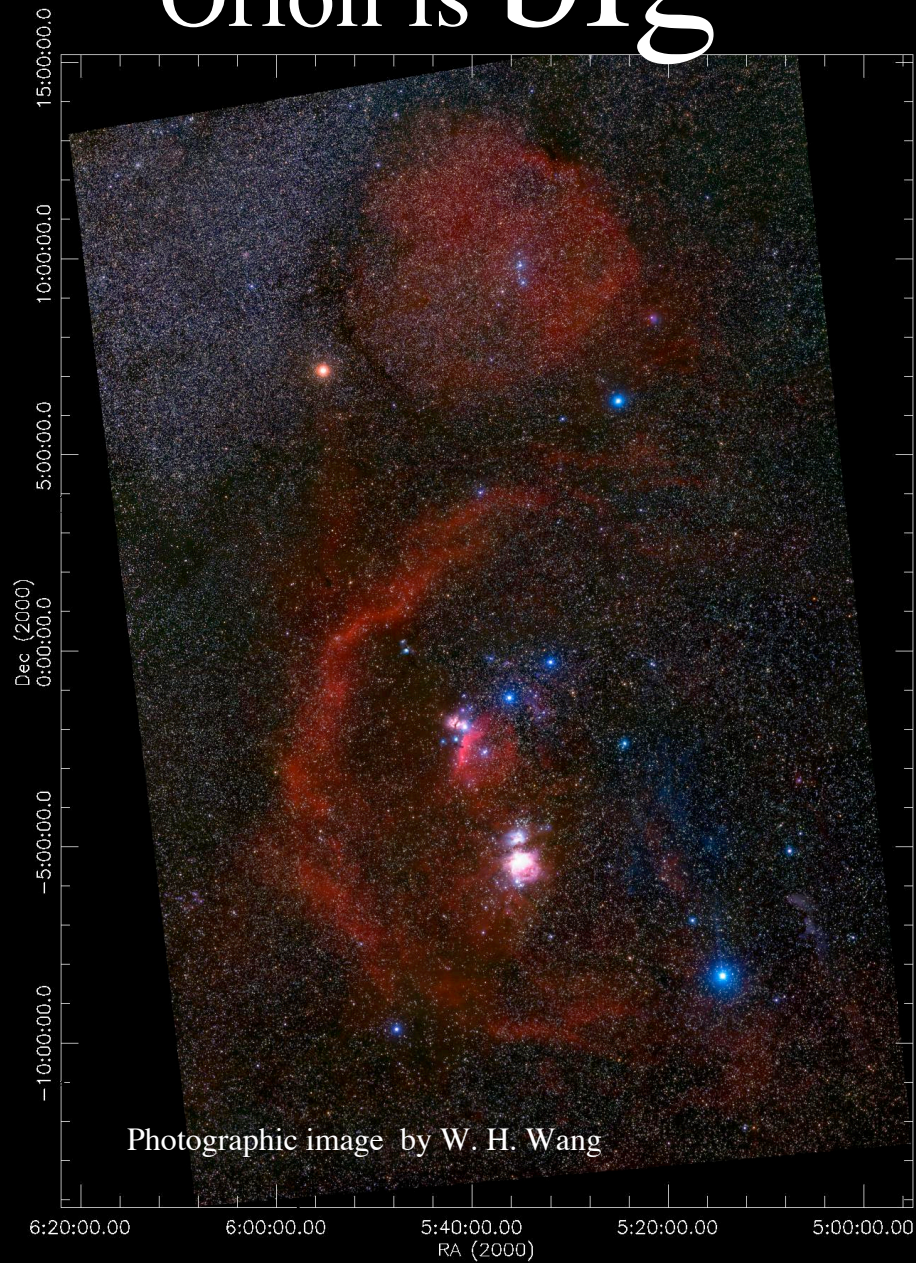


Comparing the the Orion A and Orion B Clouds



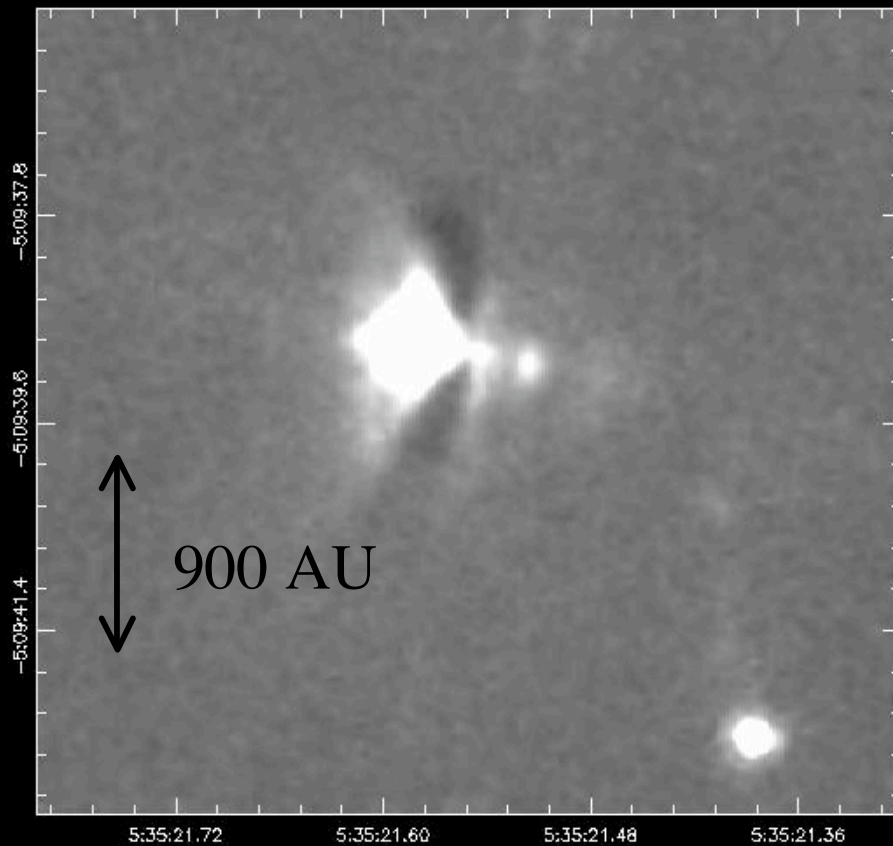
Contours: Bell labs ¹³CO map

Orion is big



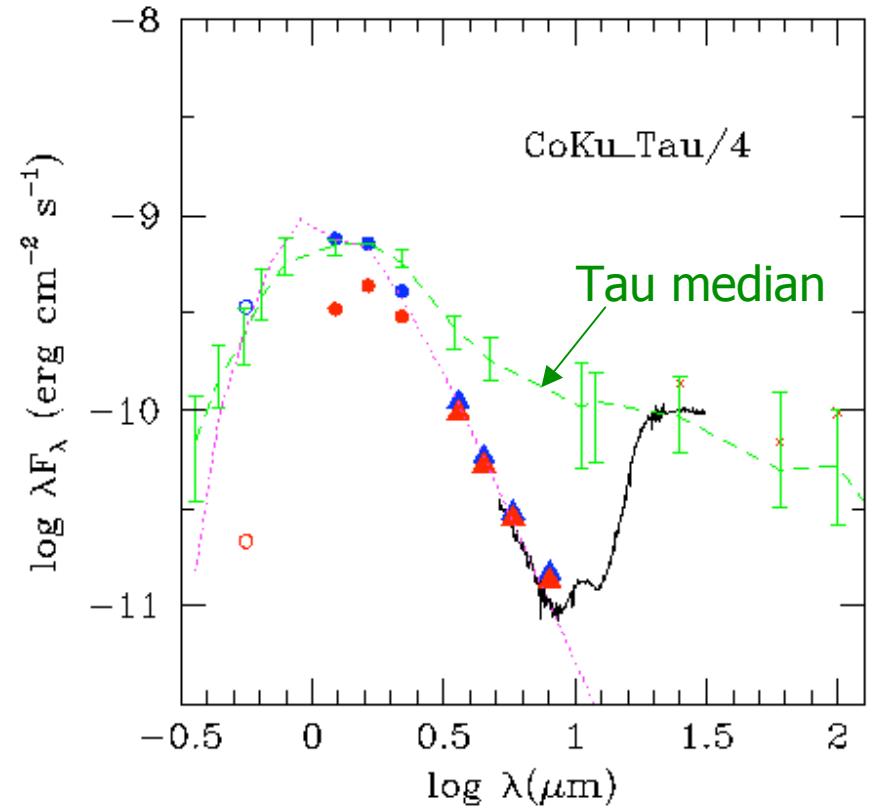
Spitzer and HST

HST: Outer Disks



Smith et al 2005

Spitzer: Inner Disk

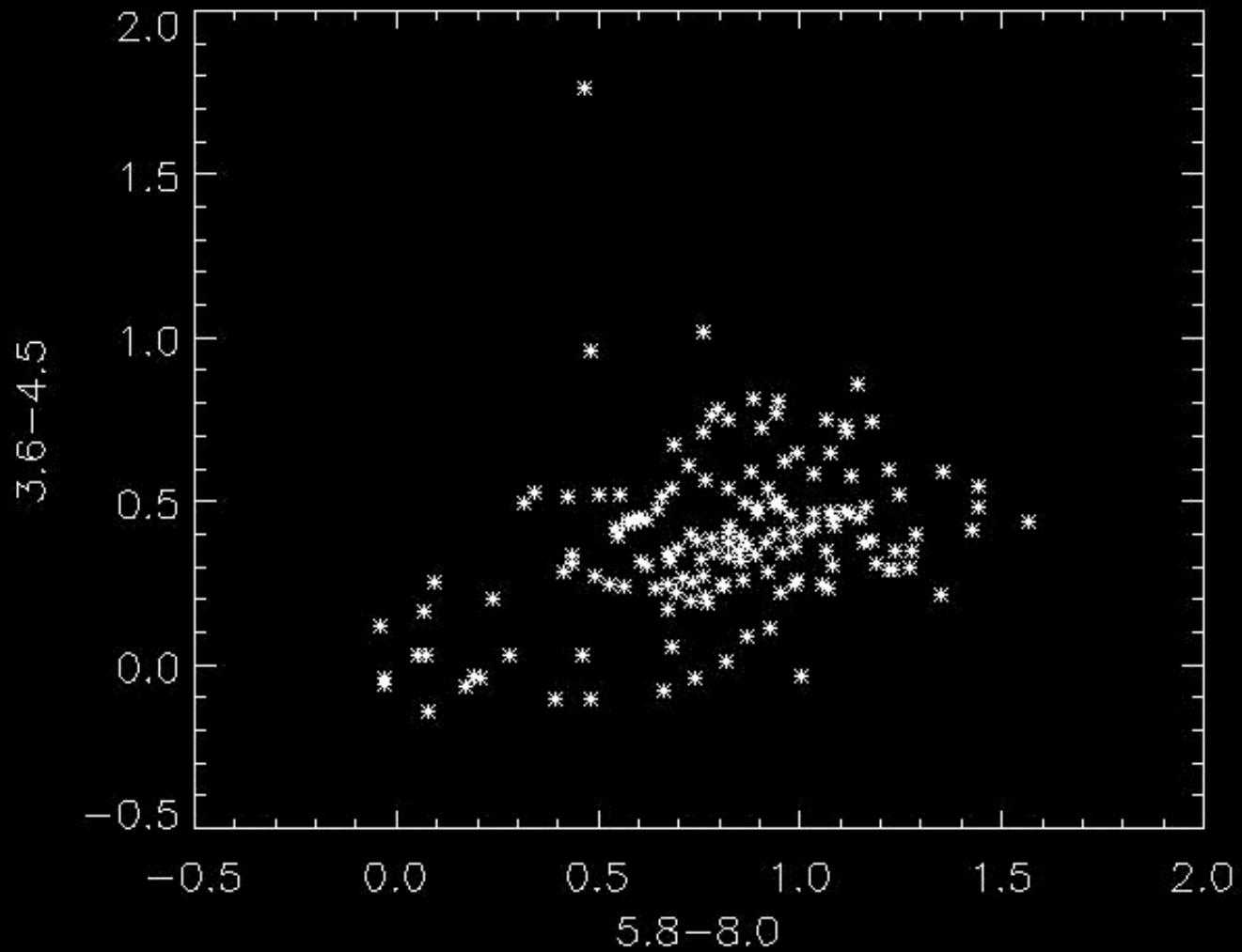


Forrest et al. 2004 ApJS 154

Mid-IR emission from inner disk wall at $r \sim 10$ AU. D' Alessio et al. 2004

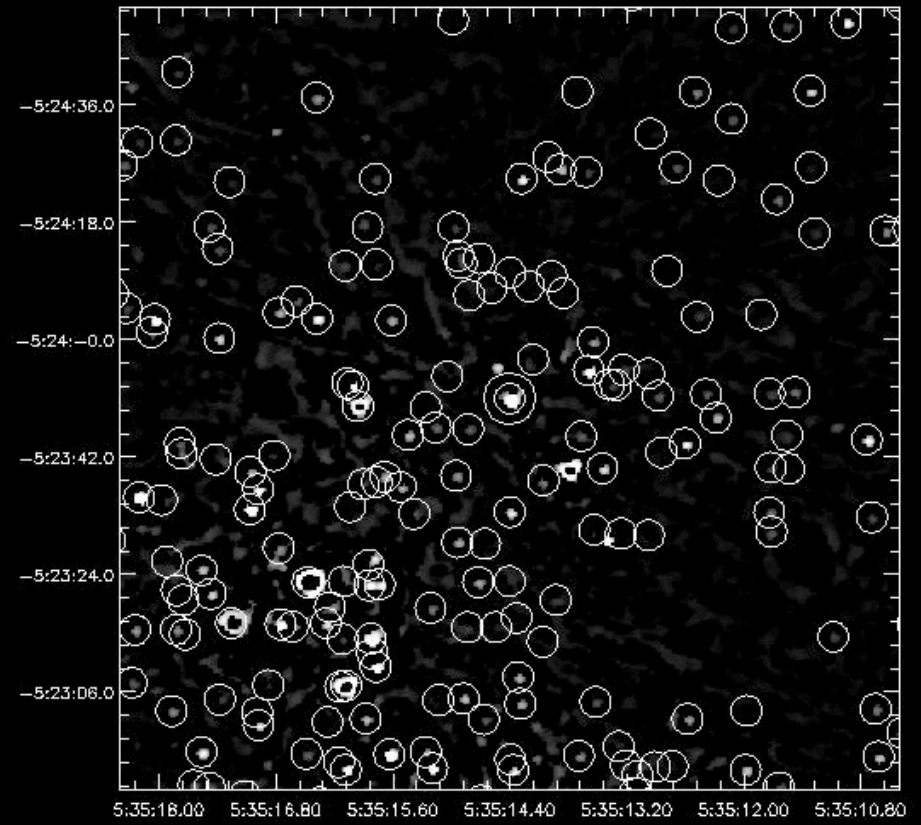
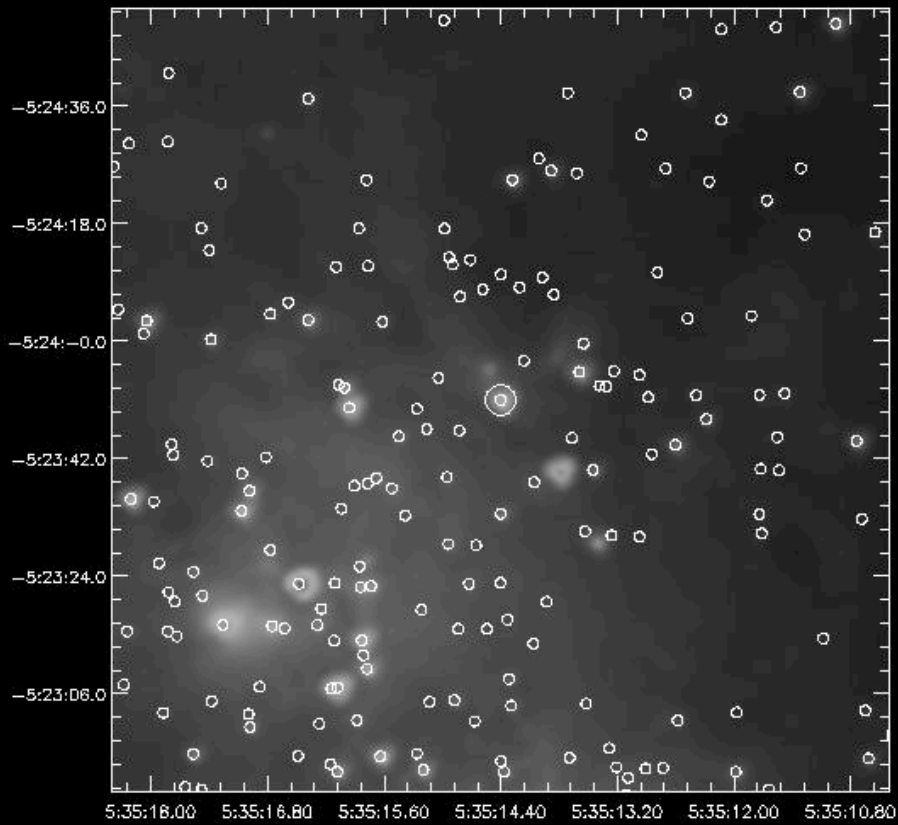
Spitzer and Chandra

IRAC Colors of Coup Sources



Spitzer and Chandra

Orion south: IRAC with COUP sources



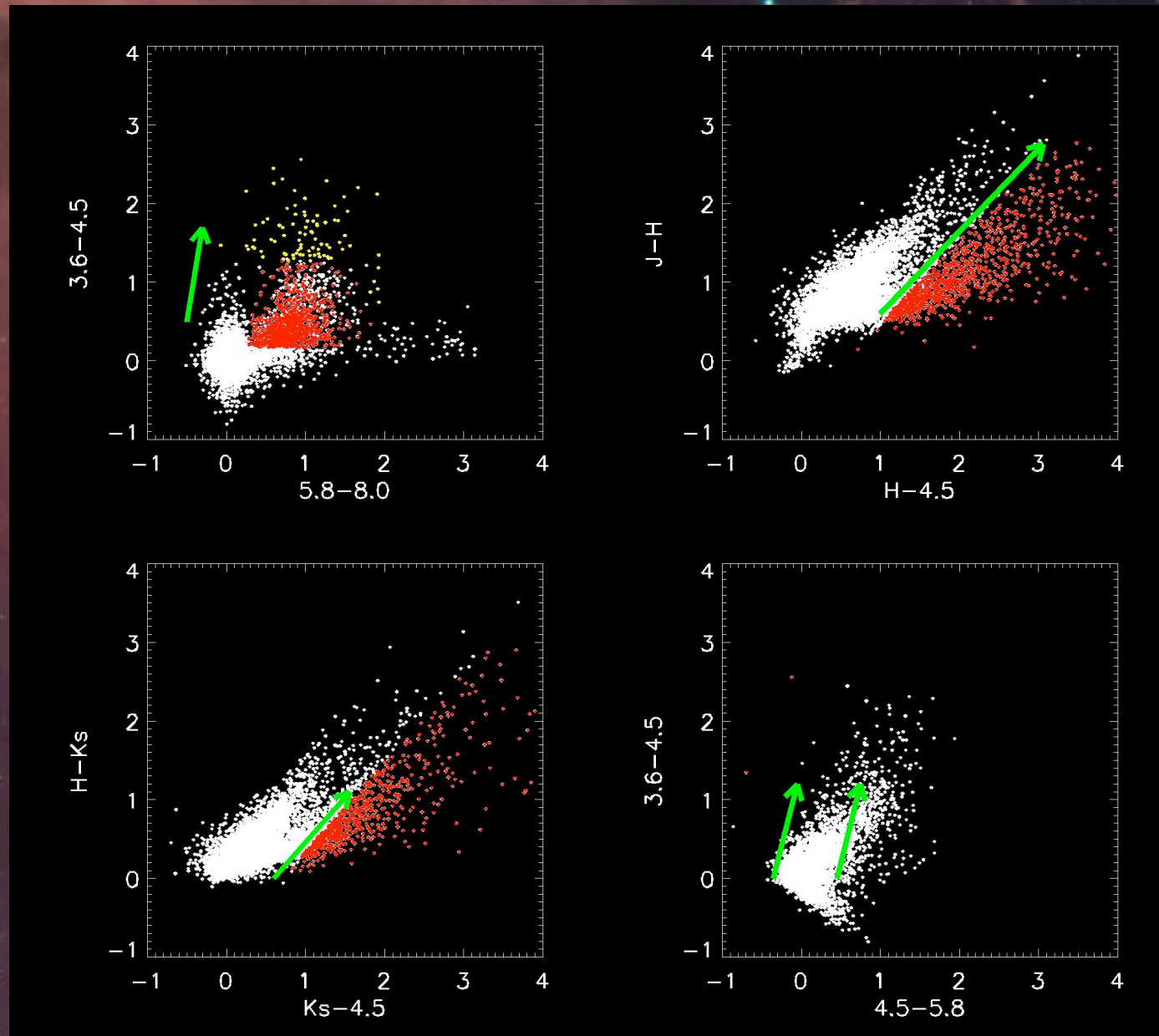
Identification of Infrared Excess

Using three diagrams, infrared excess sources are identified.

Proto-stellar candidates are identified from IRAC 4-color diagram.

Red: IR excess source

Yellow: Protostar candidate



Orion A Molecular Cloud Survey

NGC 2068/2071
(Orion B)



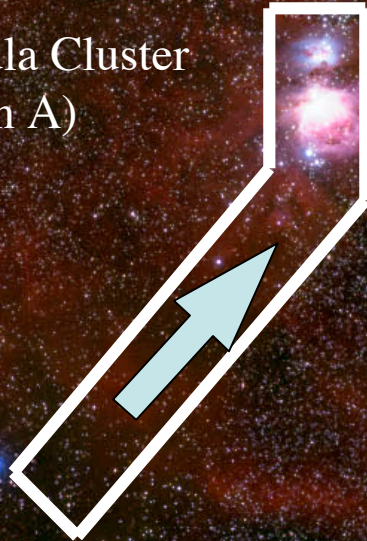
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(Orion A)

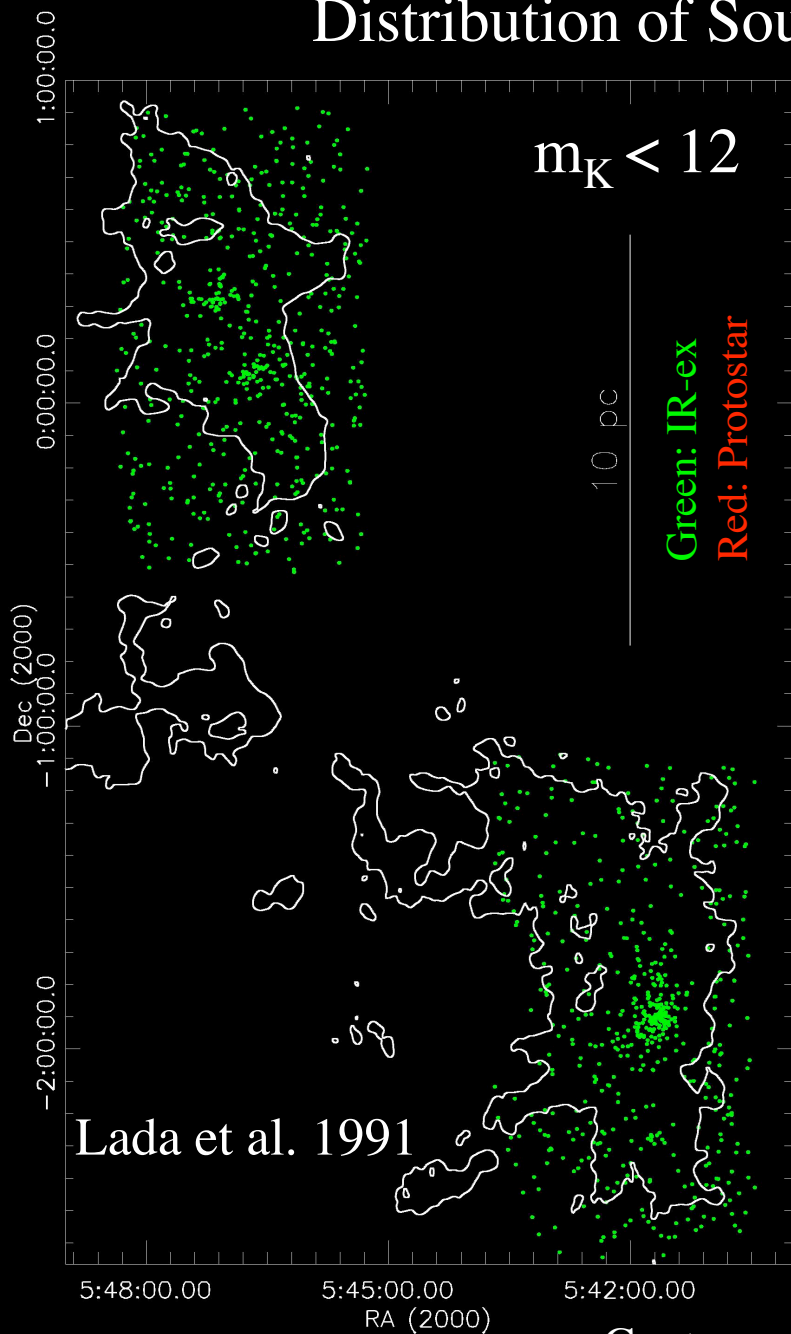


L1641
(Orion A)

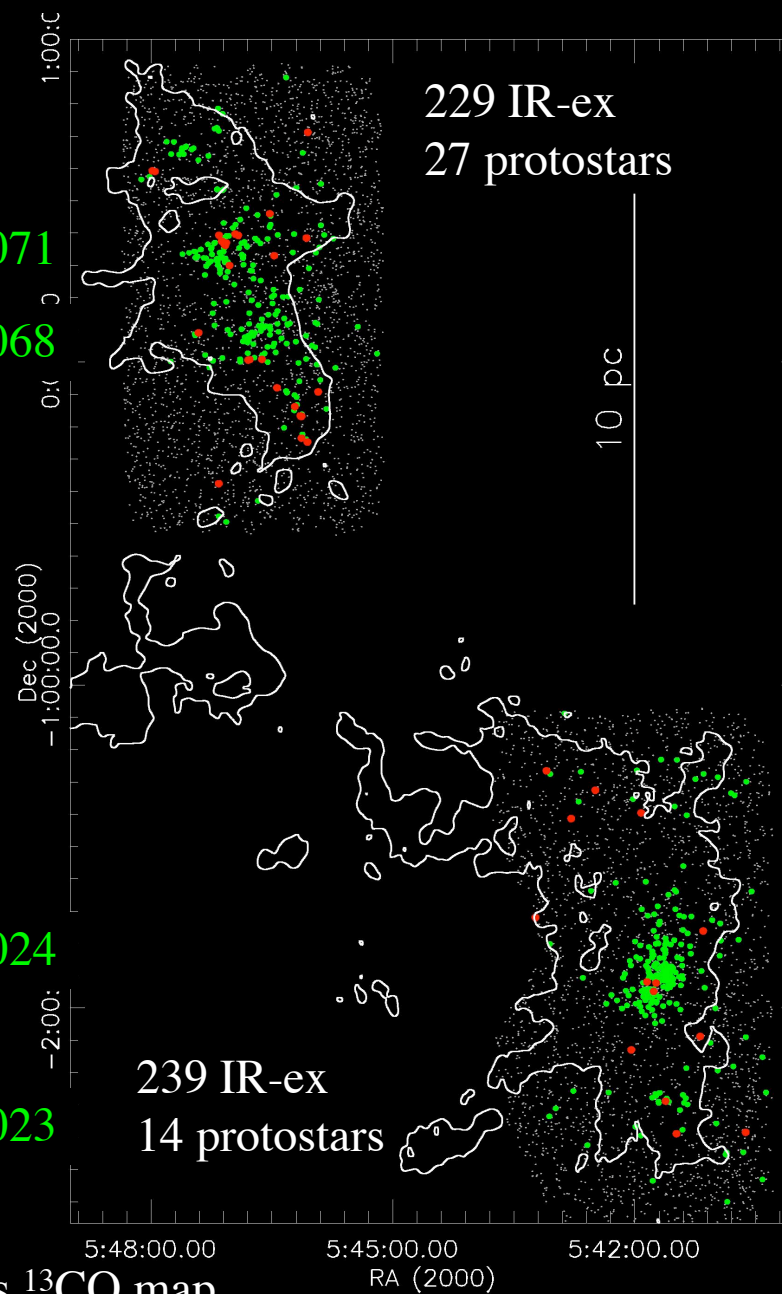


Photographic image by W. H. Wang

Distribution of Sources in the Orion B Cloud



NGC 2071
NGC 2068



NGC 2024
NGC 2023

Contours: Bell labs ^{13}CO map