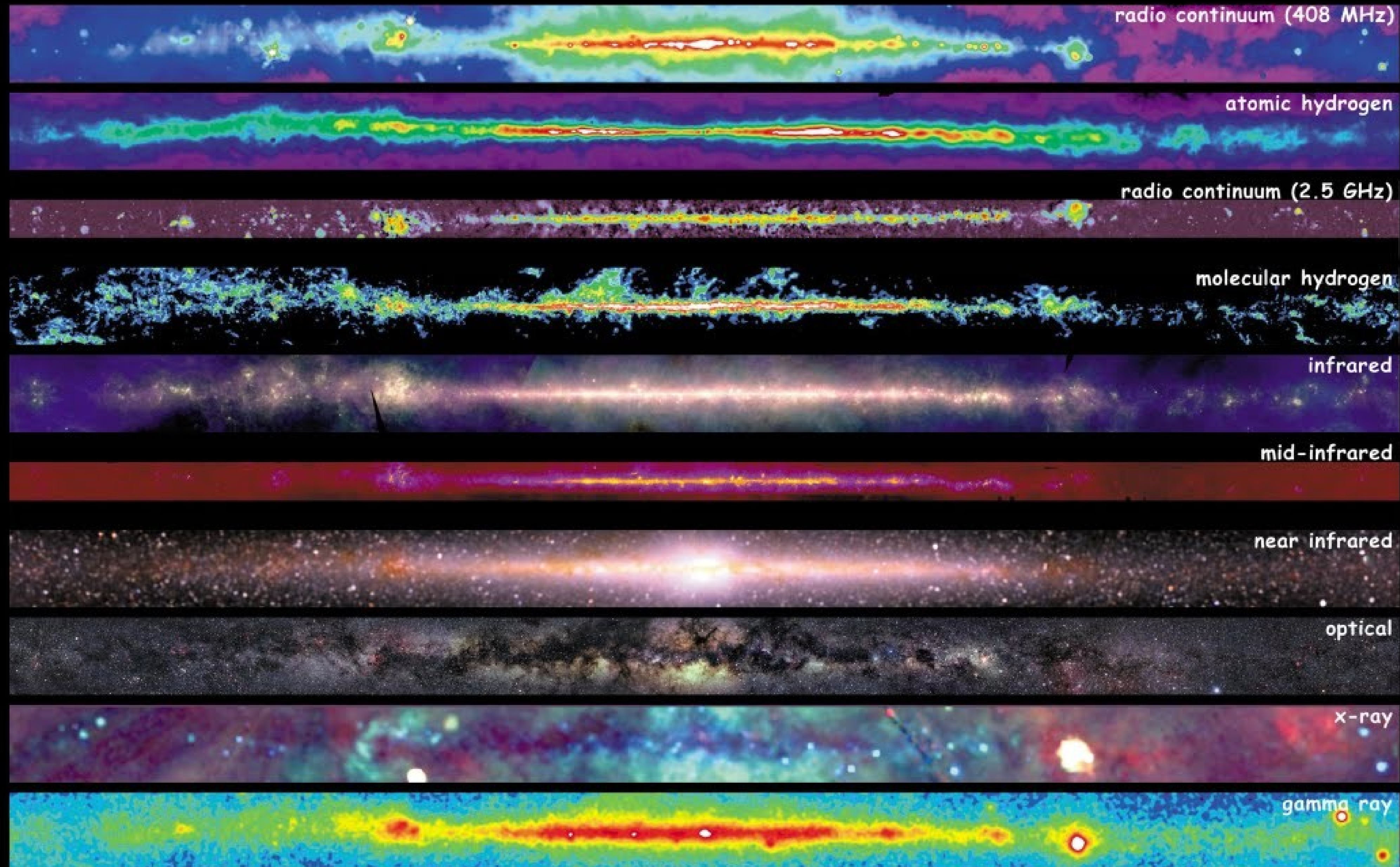


Our Milky Way



The Milky Way Galaxy



x

We are here



the Galactic center is here

We are here

the Galactic center is here

8,000 parsecs away

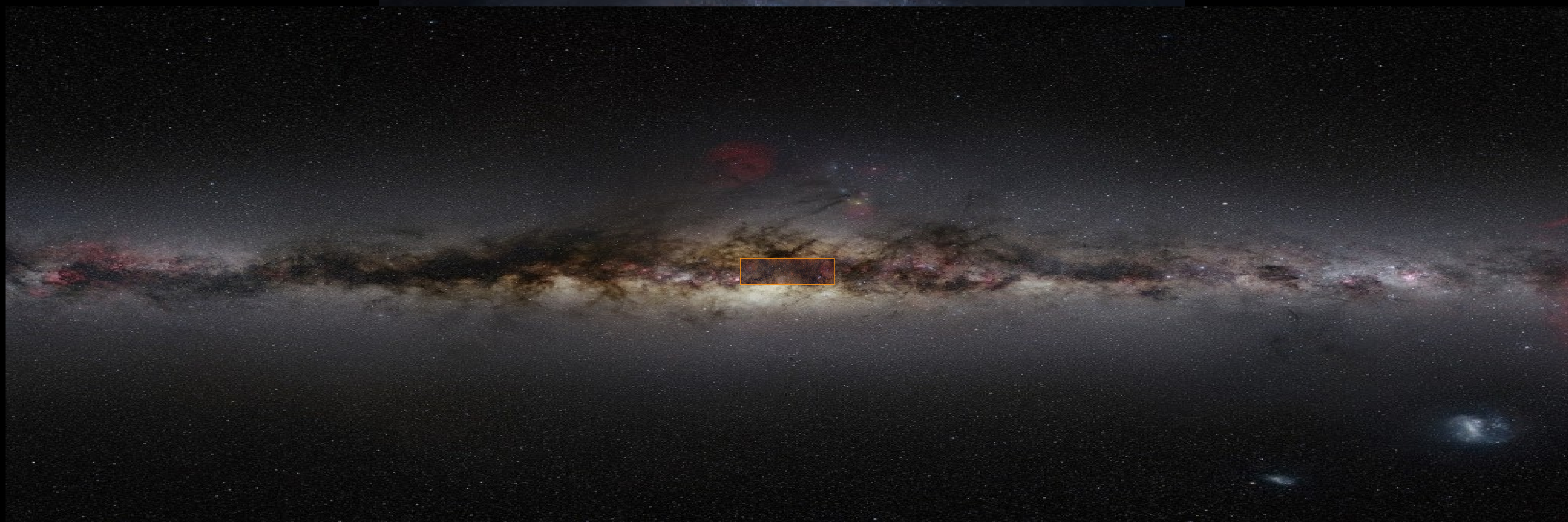
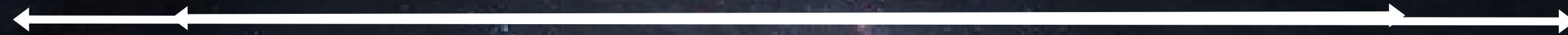
We are here



30,000 pc



90,000 ly



Central Molecular Zone

100 pc

✕ Sgr A

8 pc

Radio

Sgr A East

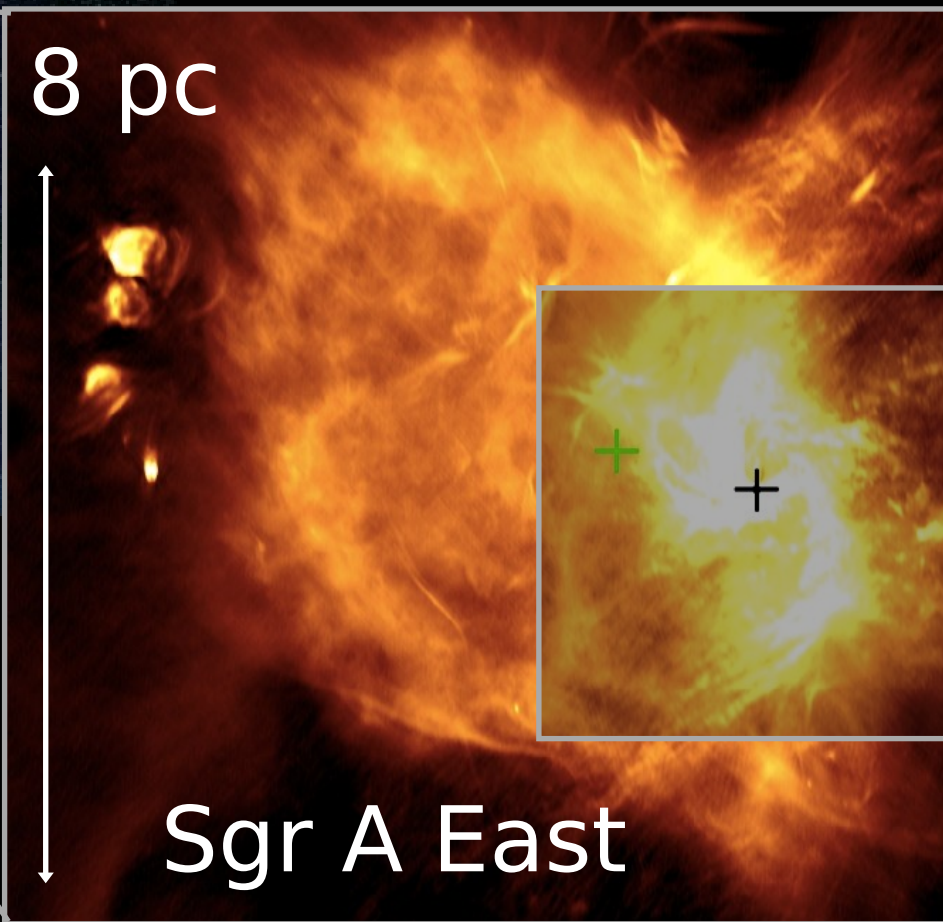
+

+

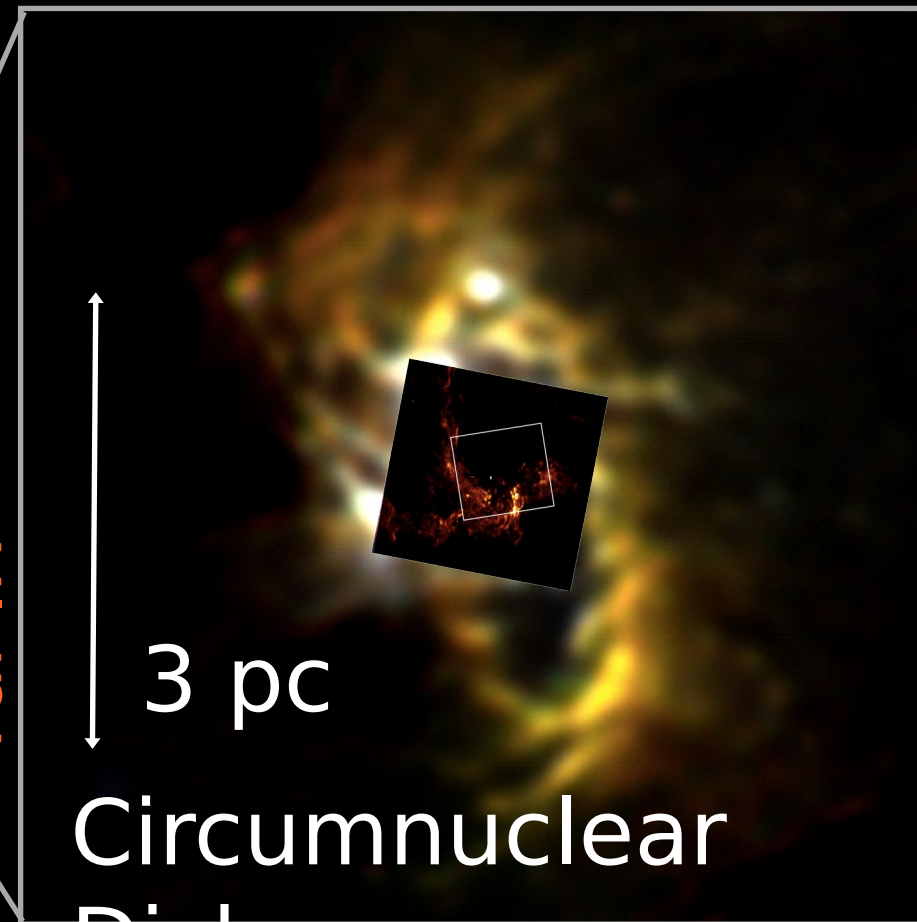
Central Molecular Zone

100 pc

x



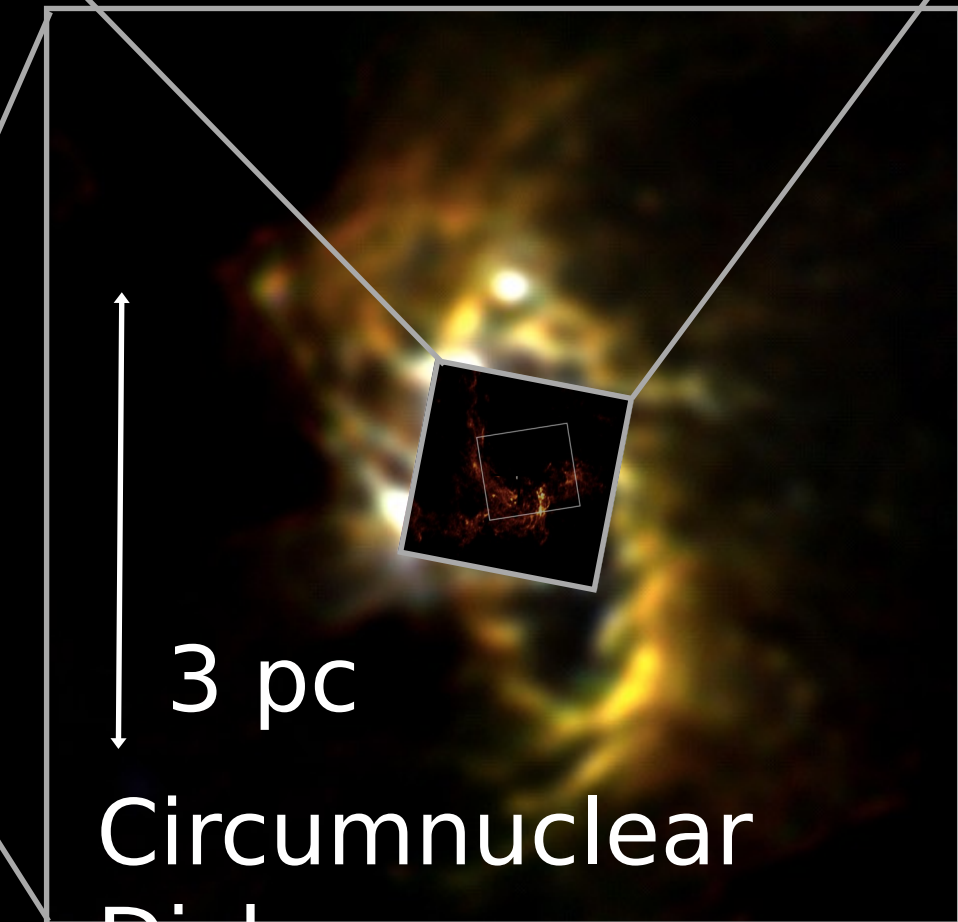
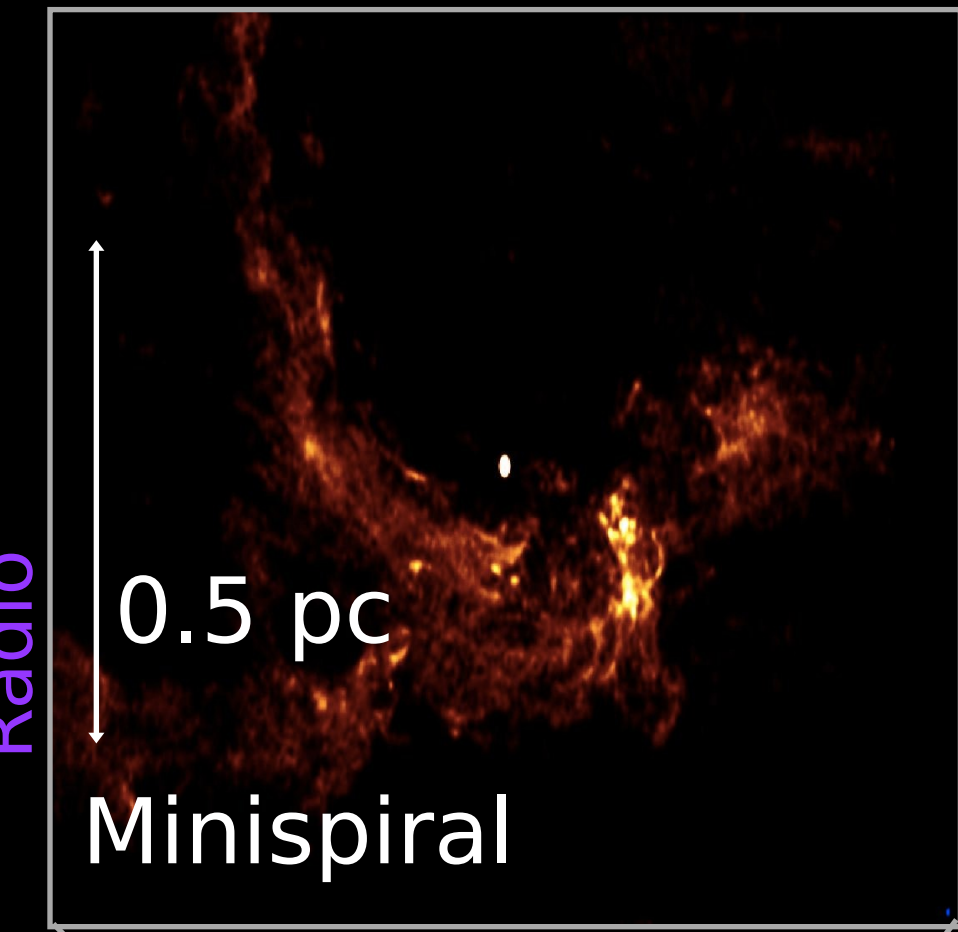
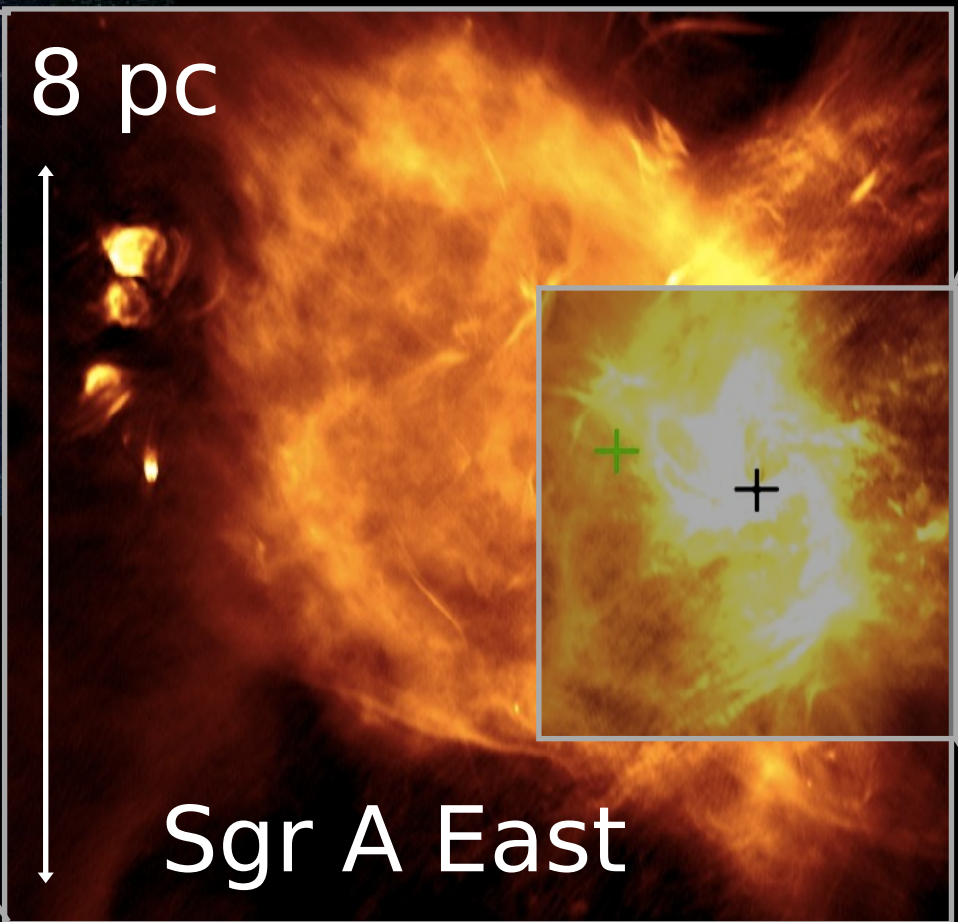
Far-IR



Central Molecular Zone

100 pc

x



Central Molecular Zone

100 pc

Infrared

0.15 pc

Sgr A*

Central lightyear

0.5 pc

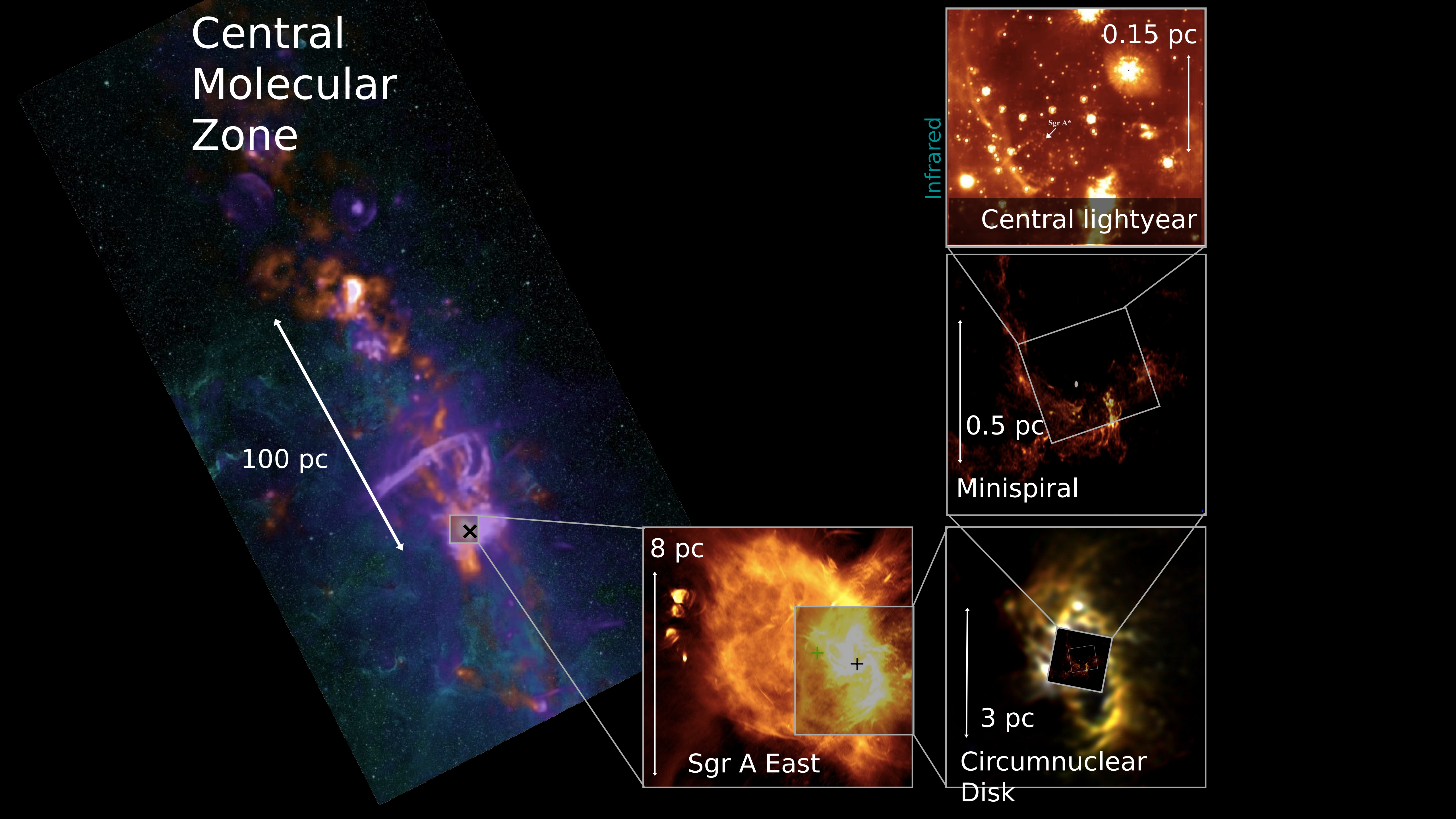
Minispiral

8 pc

Sgr A East

3 pc

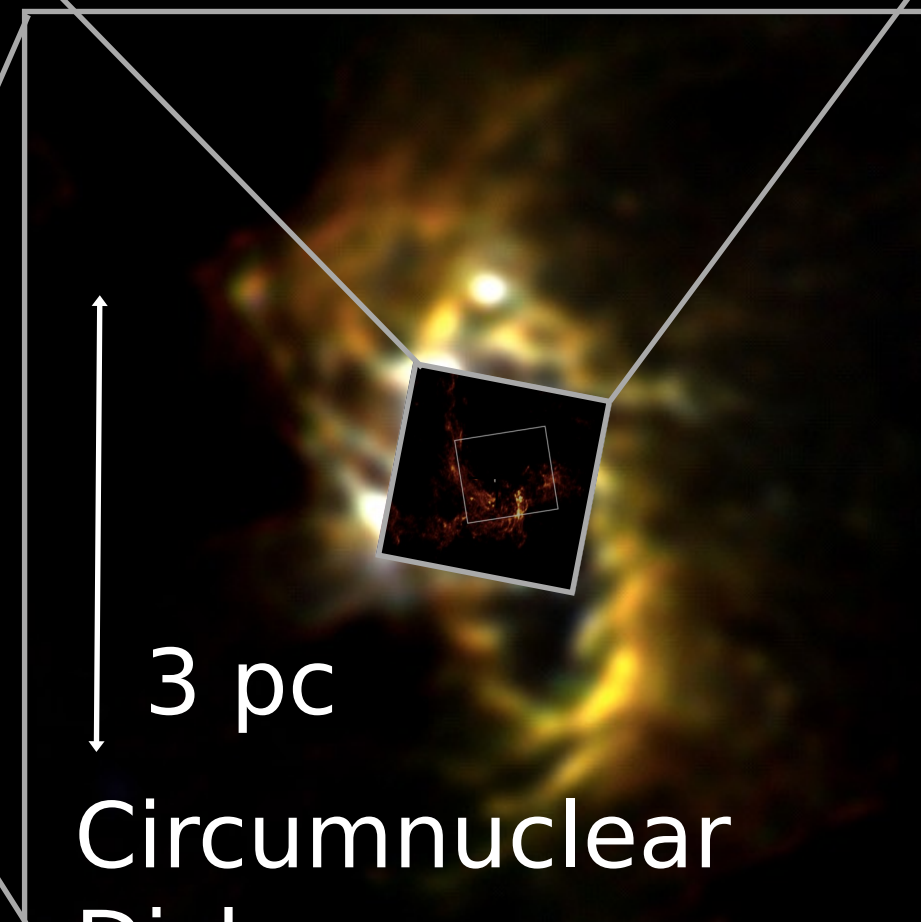
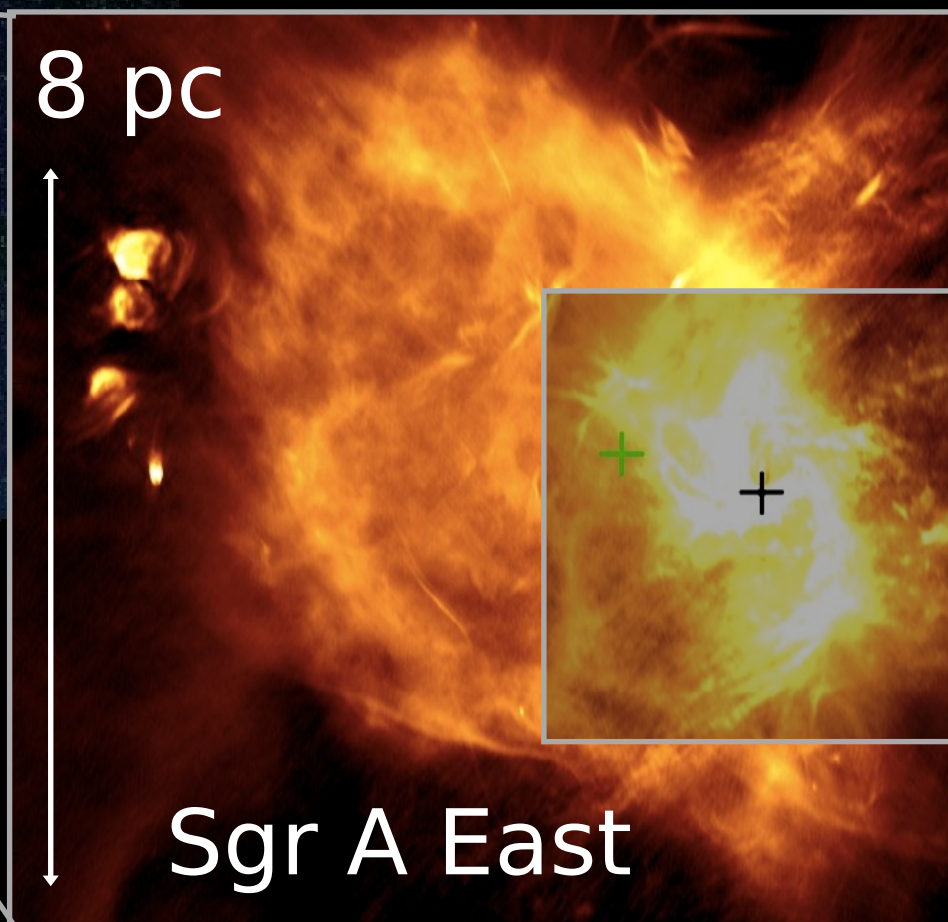
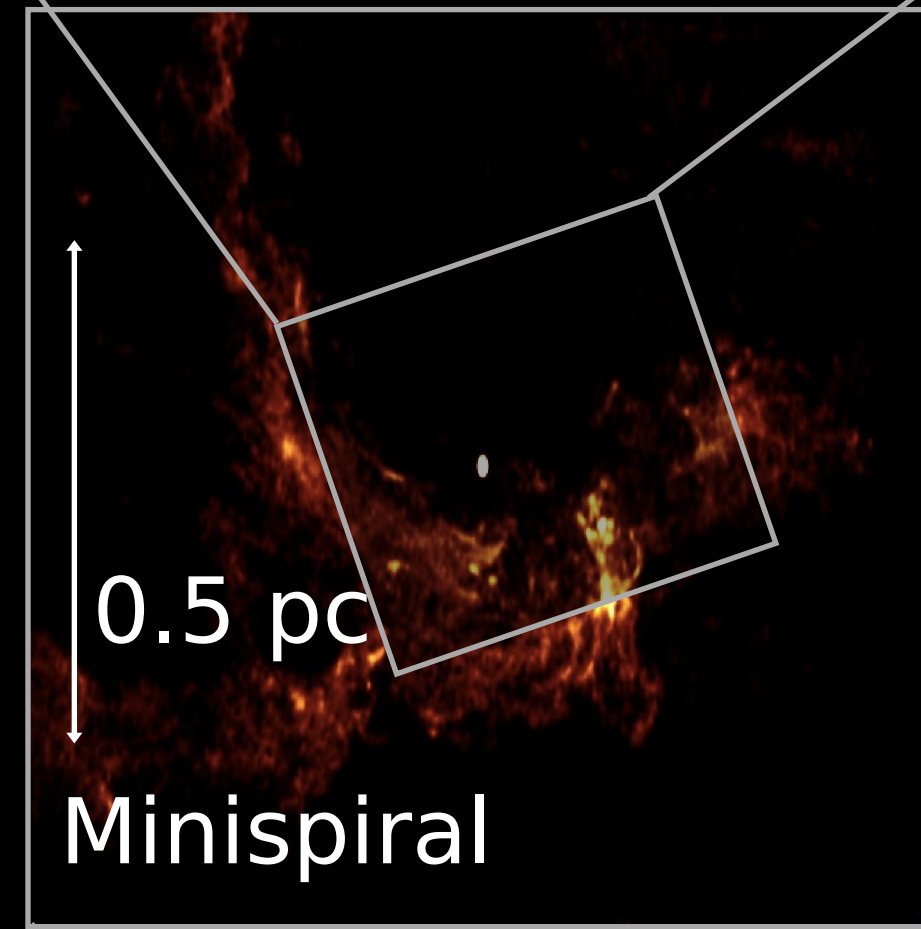
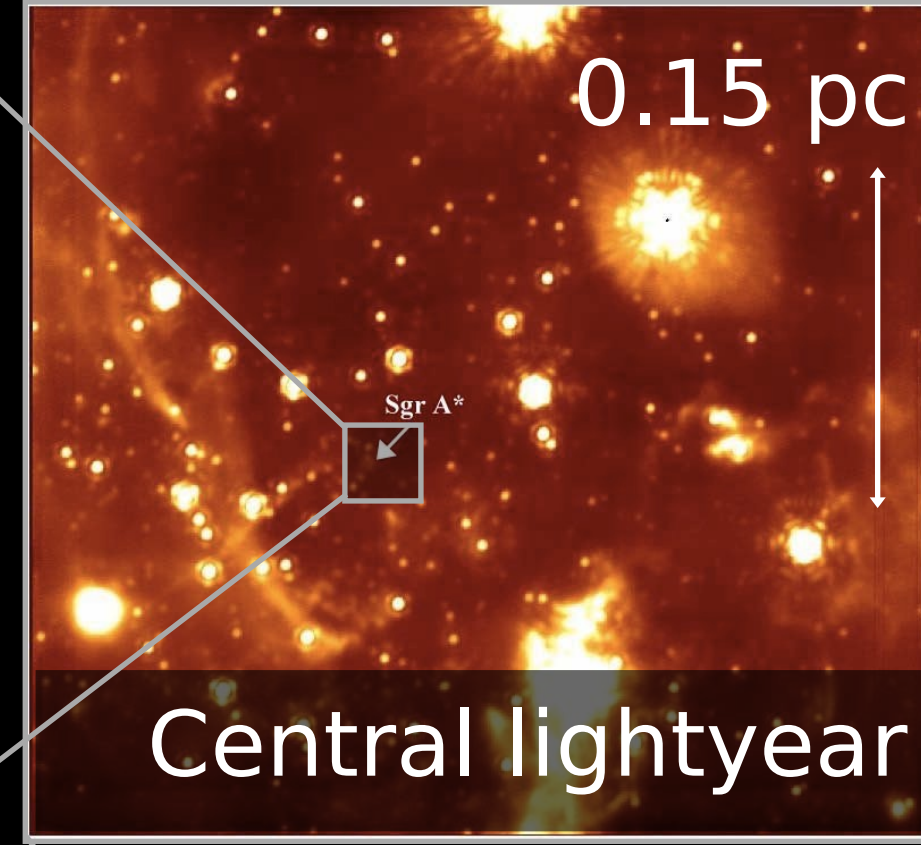
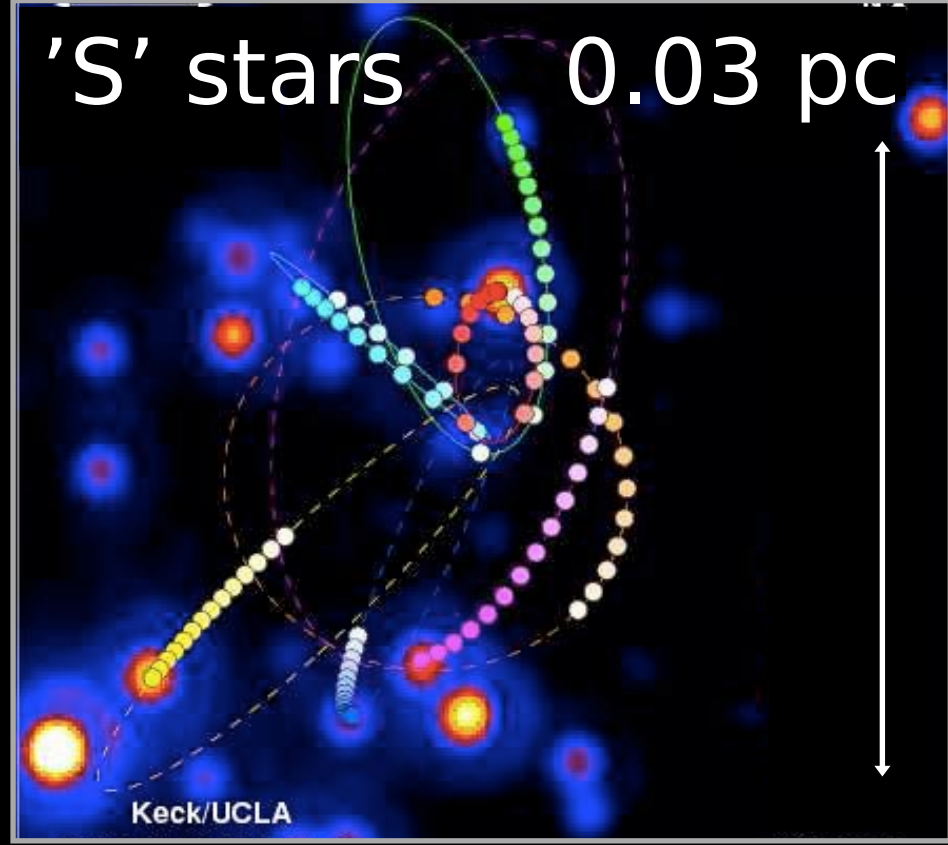
Circumnuclear
Disk



Central Molecular Zone

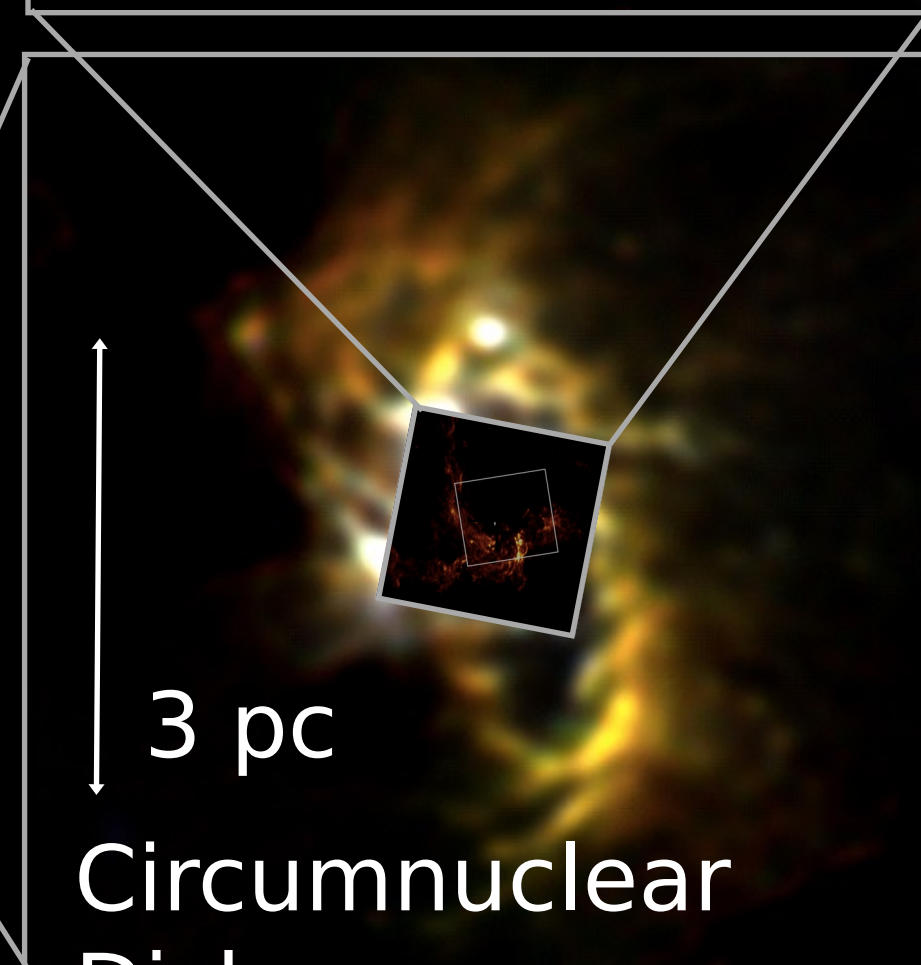
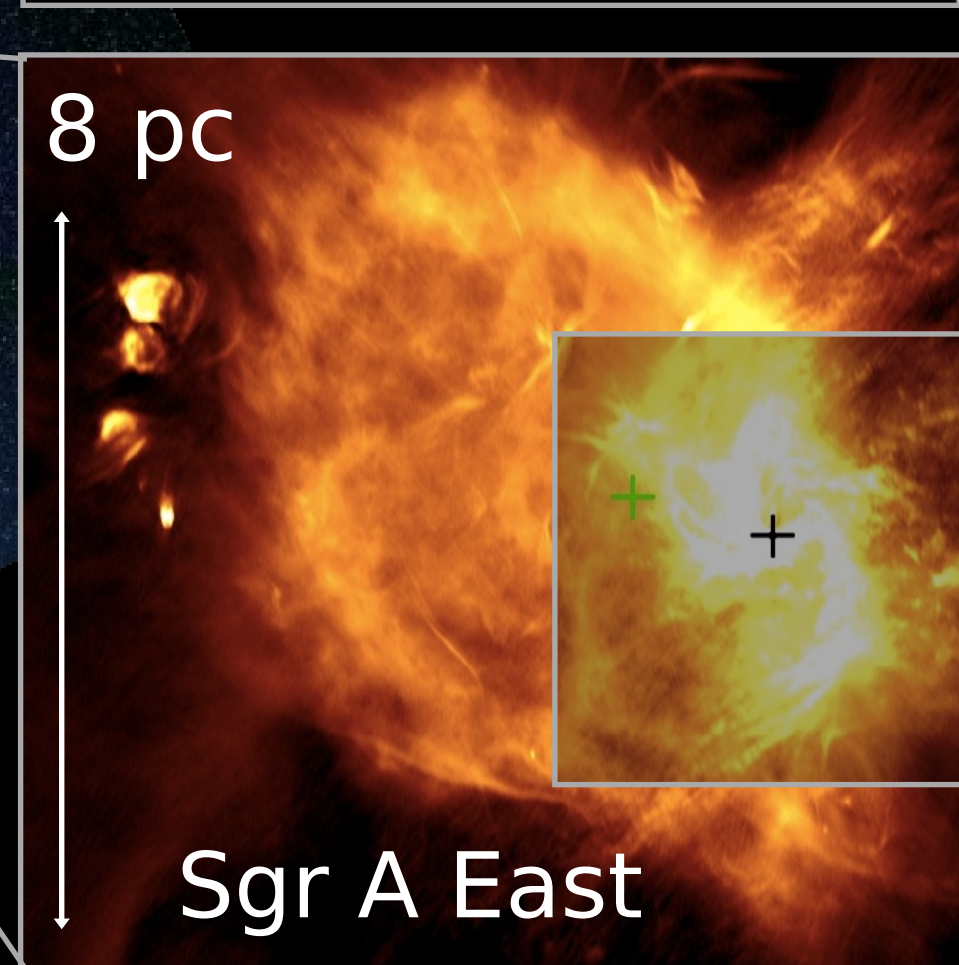
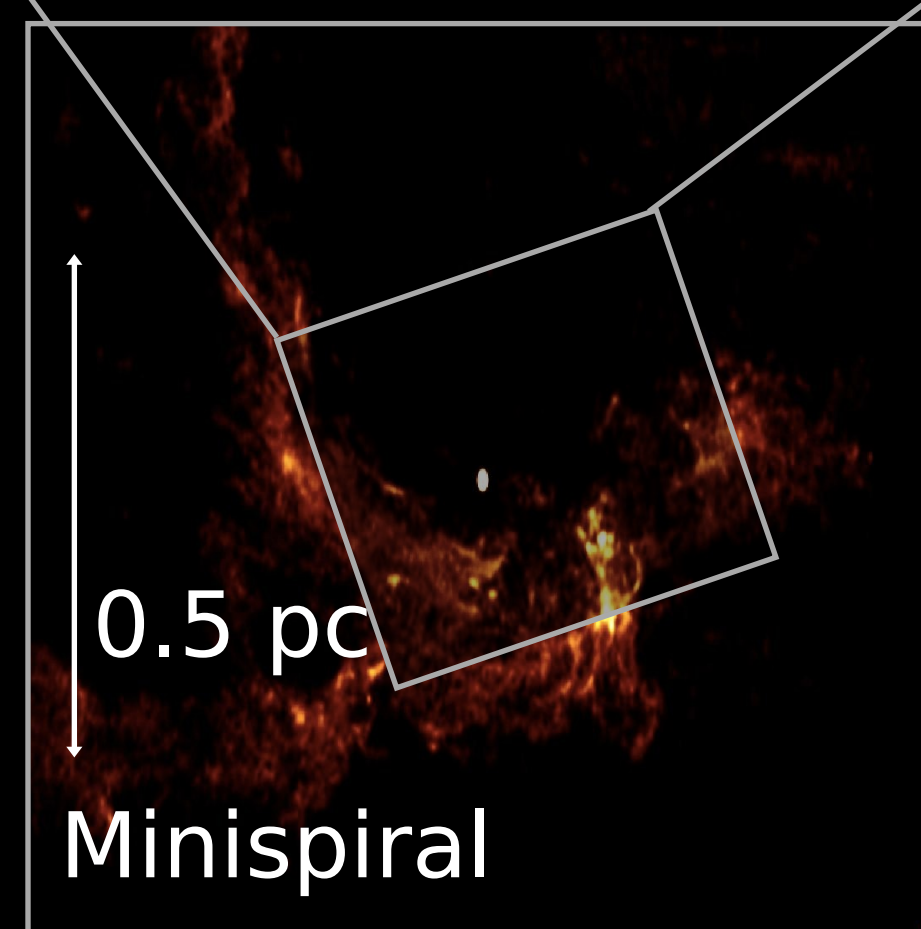
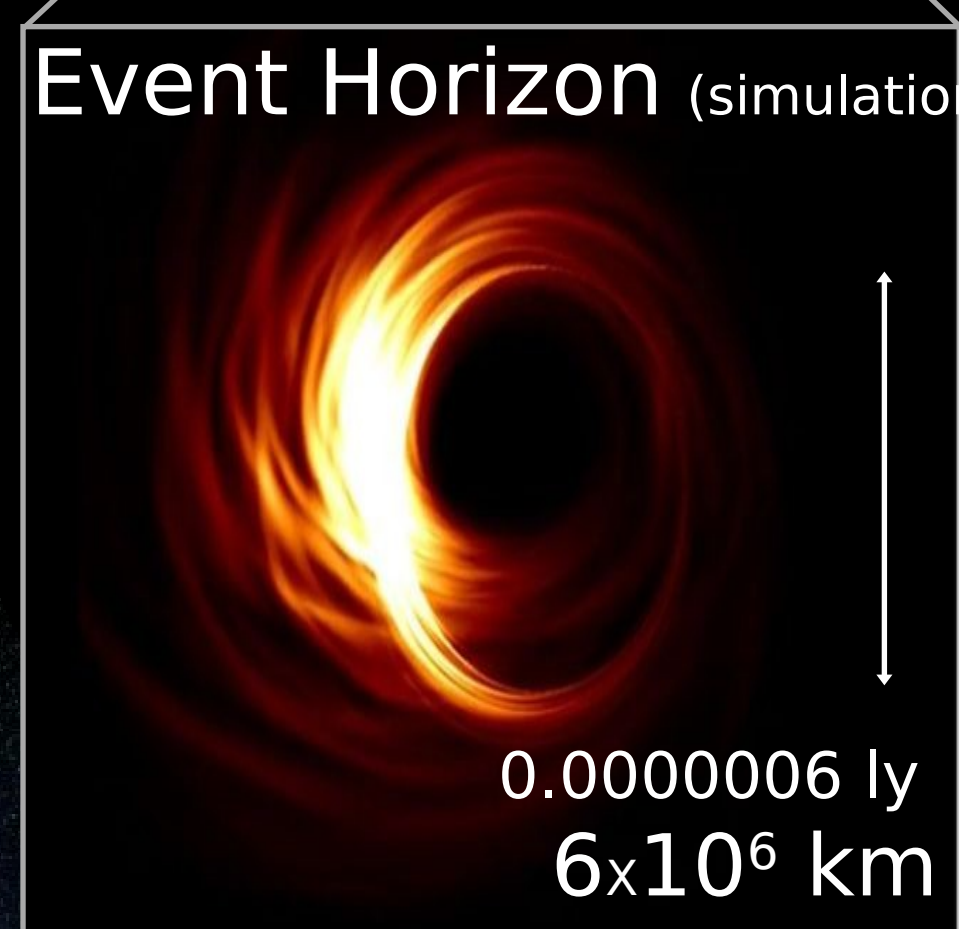
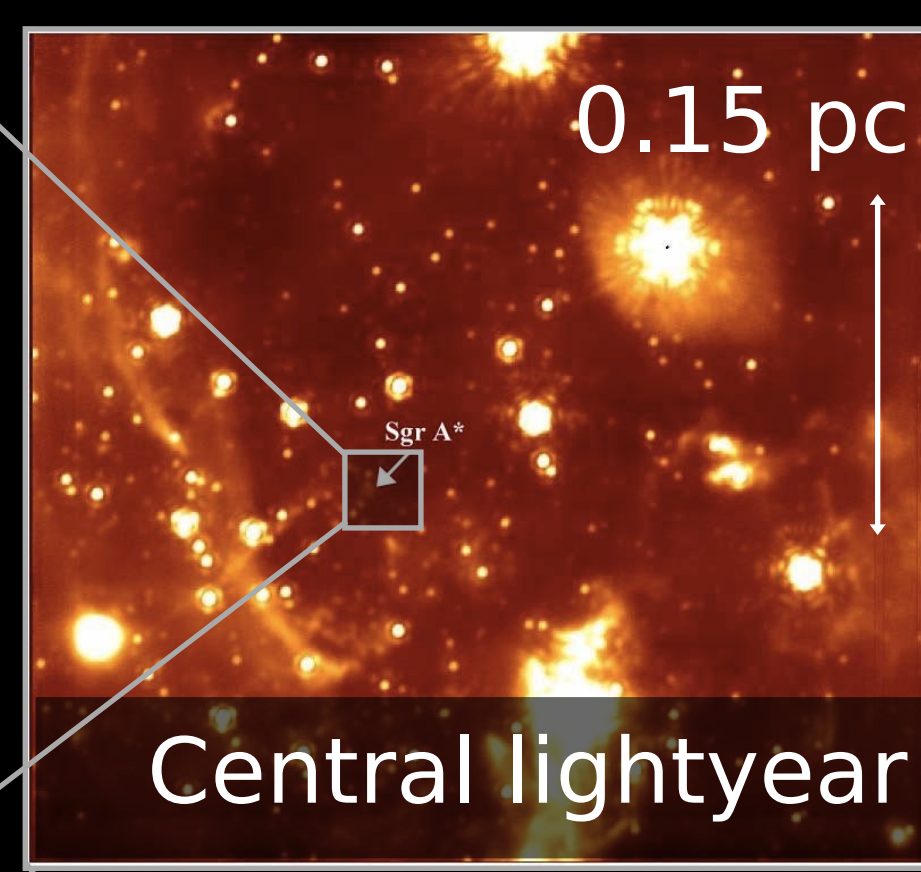
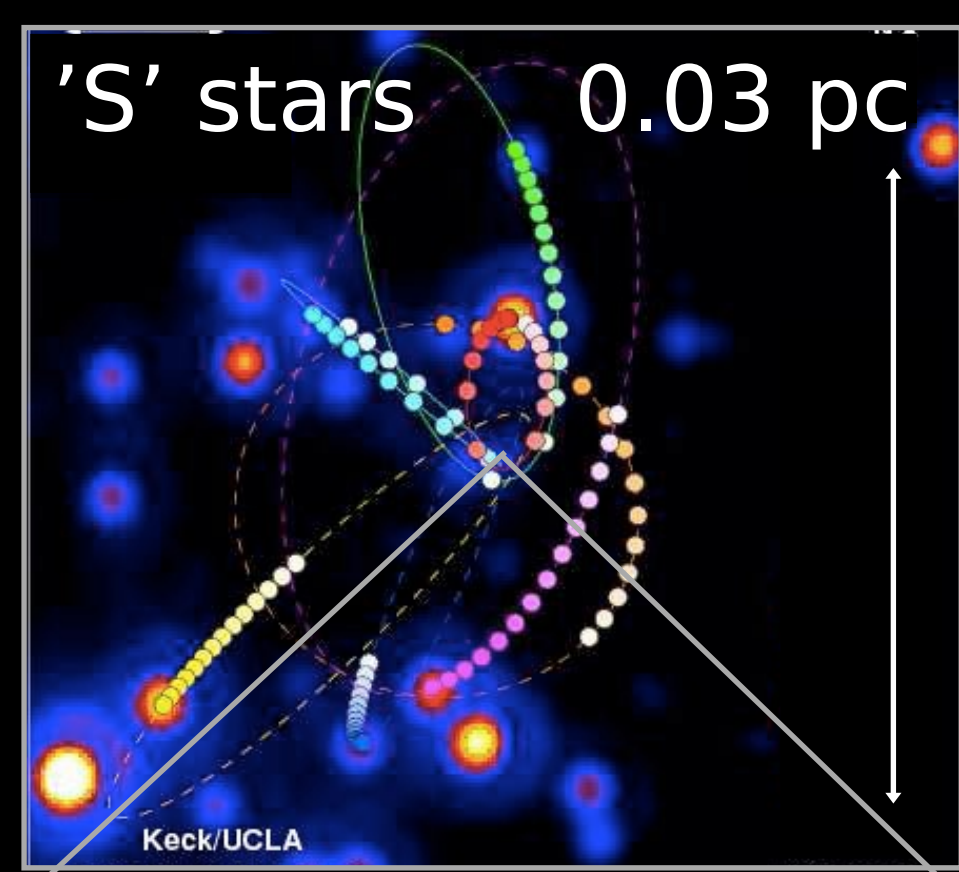
100 pc

Infrared

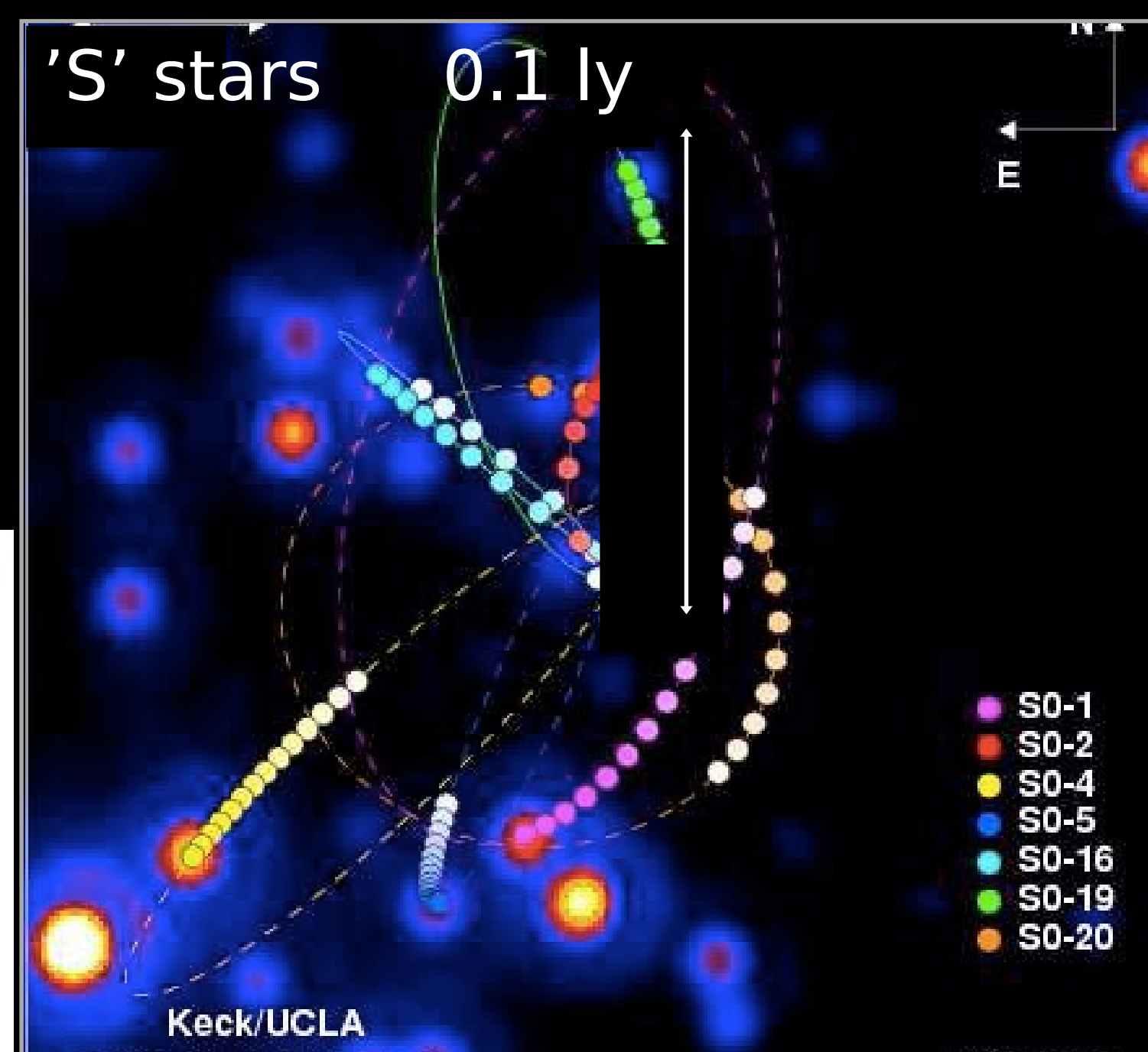
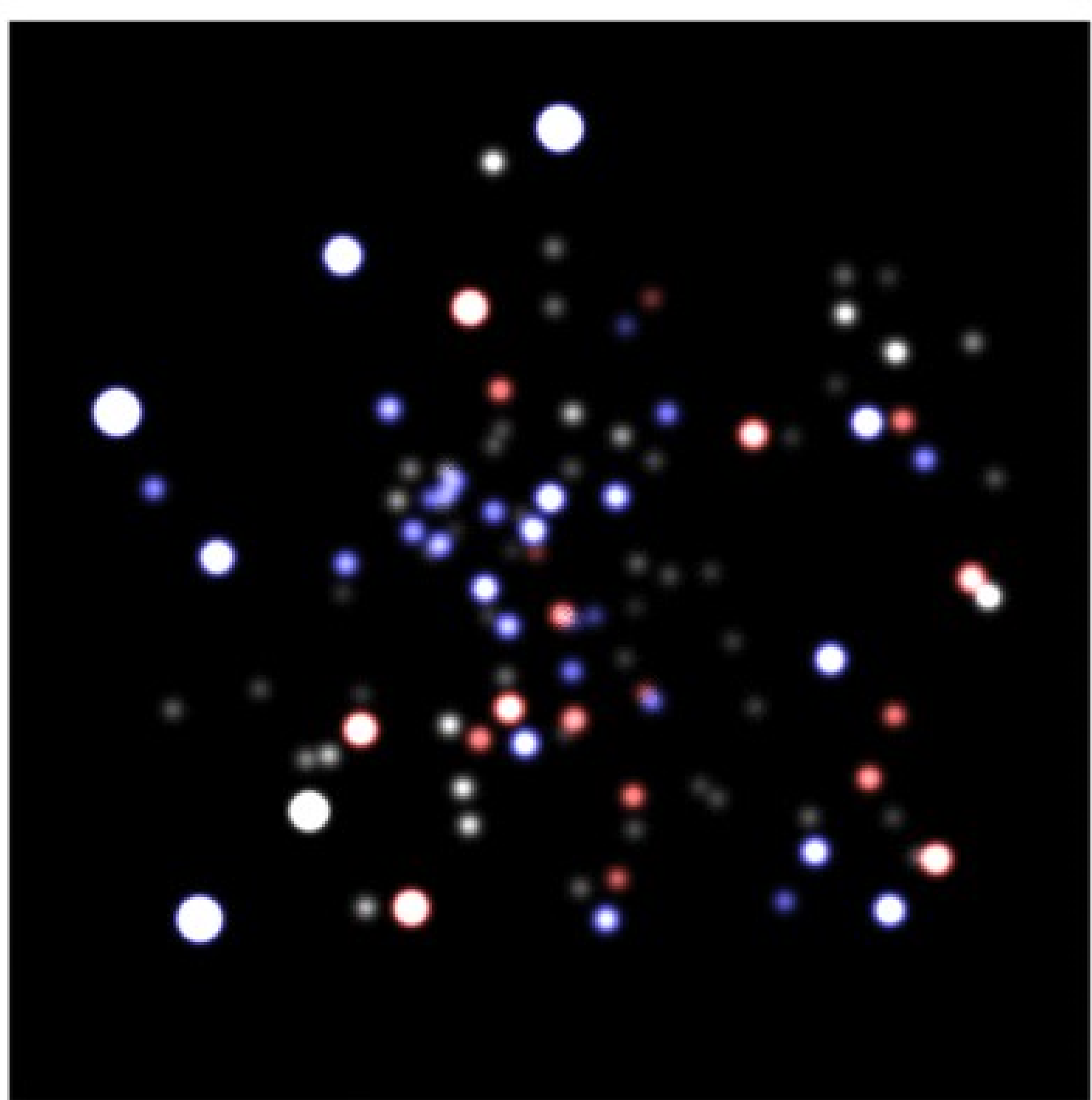


Central Molecular Zone

100 pc



2020 Nobel Prize in Physics



Andrea Ghez
The Nobel Prize in Physics 2020

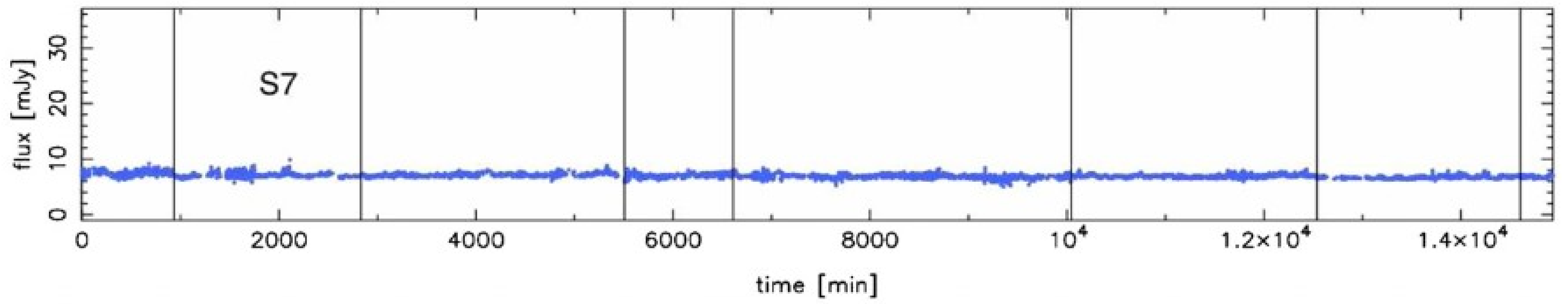
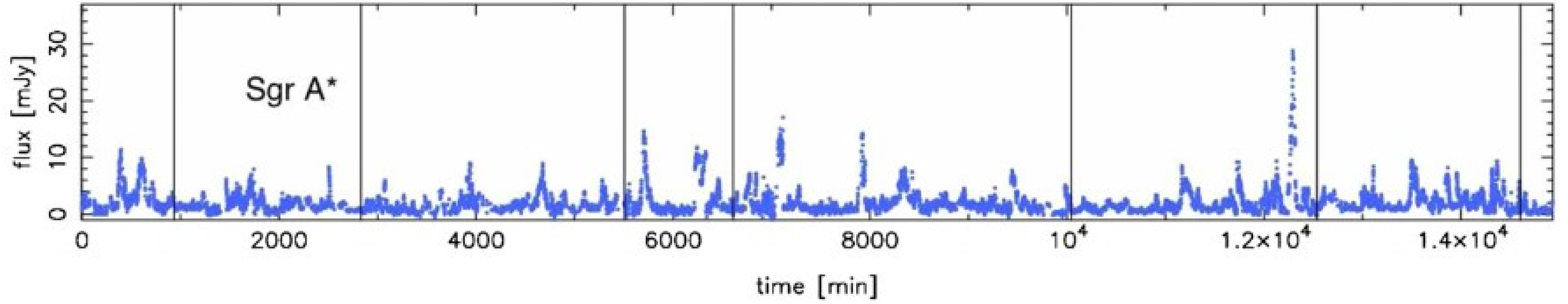
Born: 16 June 1965, New York, NY, USA

Affiliation at the time of the award: University of California, Los Angeles, CA, USA

Prize motivation: "for the discovery of a supermassive compact object at the centre of our galaxy."

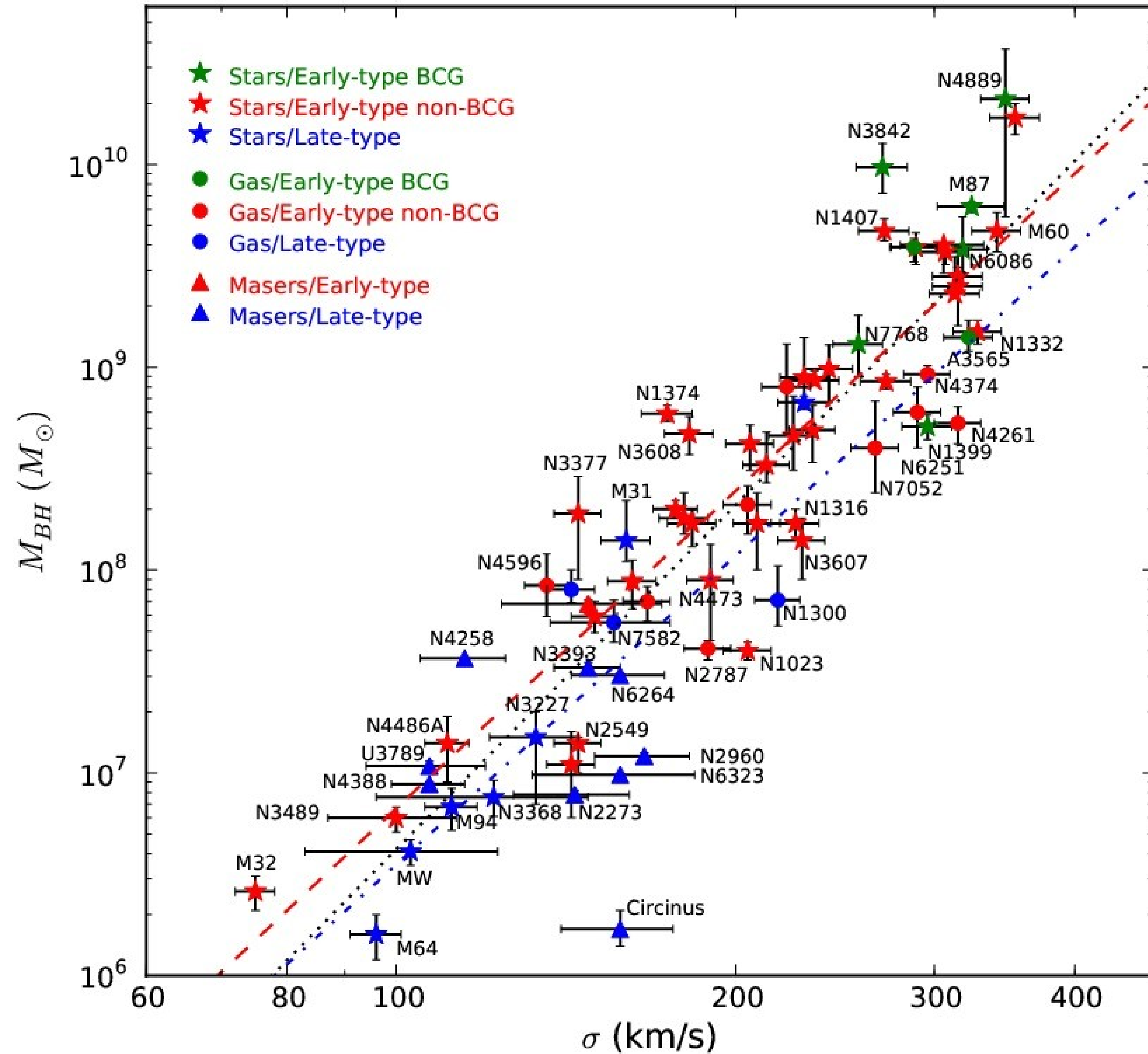
Prize share: 1/4

Infrared Flux (Brightness) Variations of Sgr A*:



“M-sigma” Relation

Mass of Supermassive Black Hole



Spread in Bulge Star's Velocities