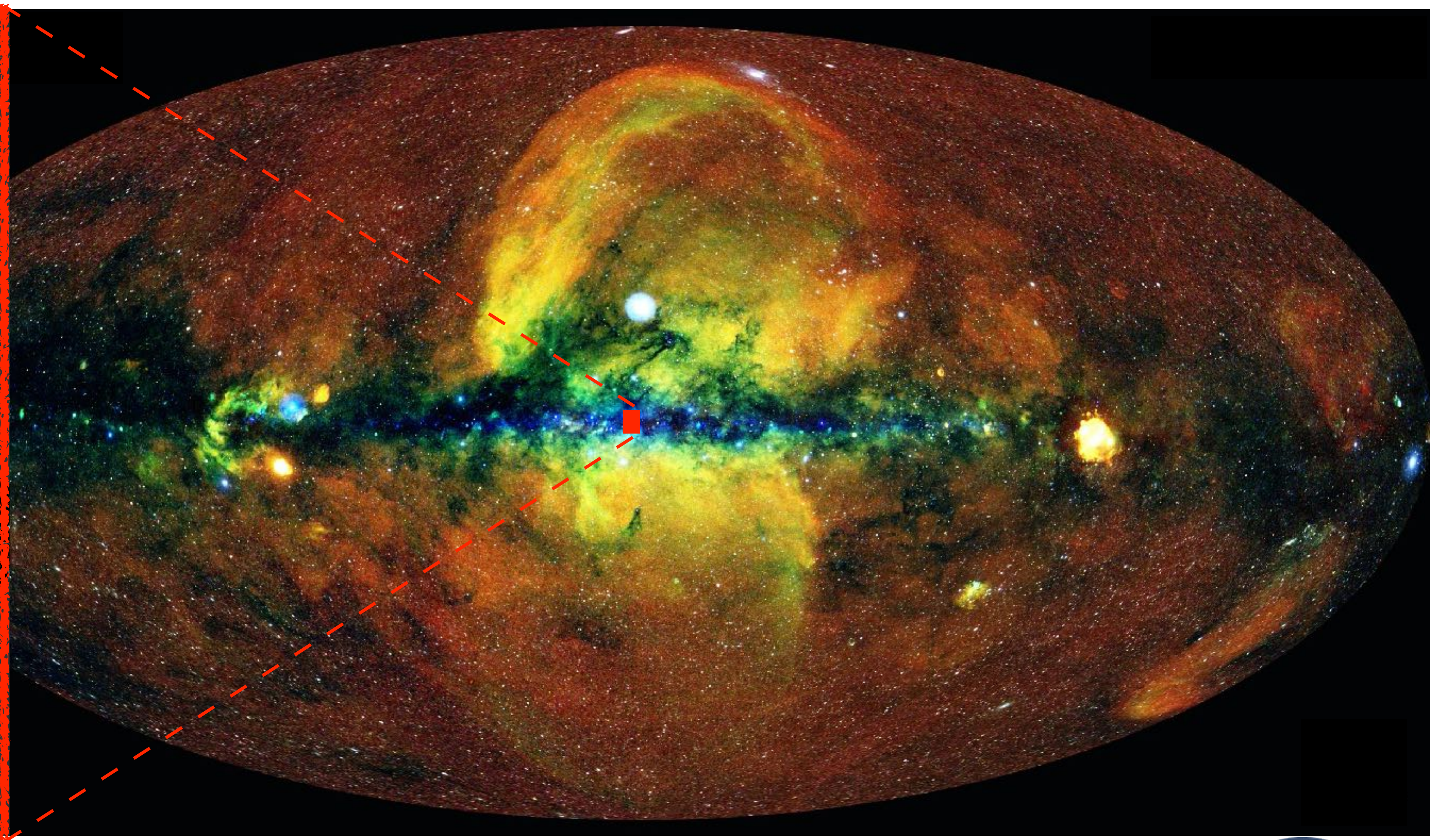
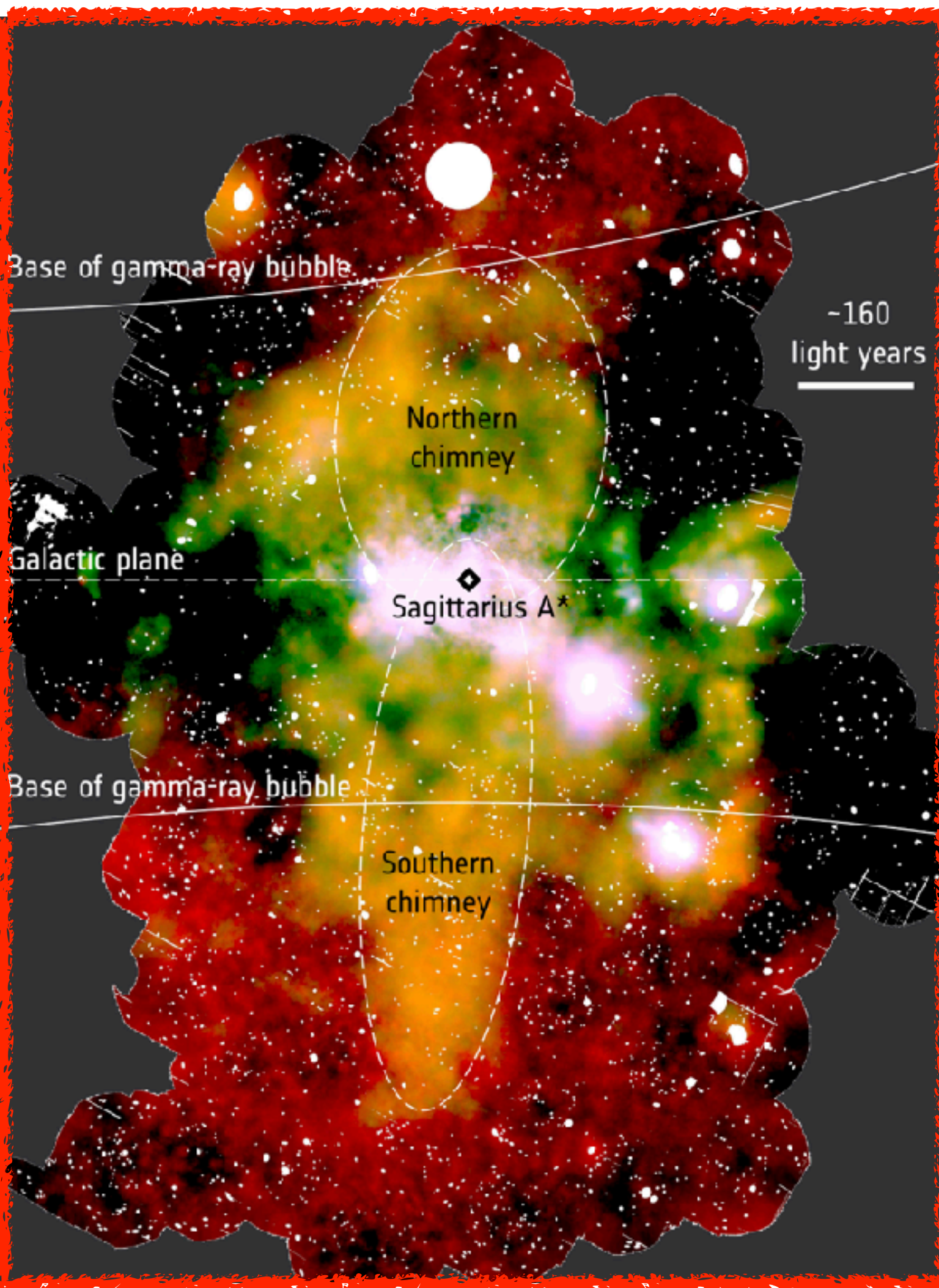


HotMilk: The hot phase of the Milky Way

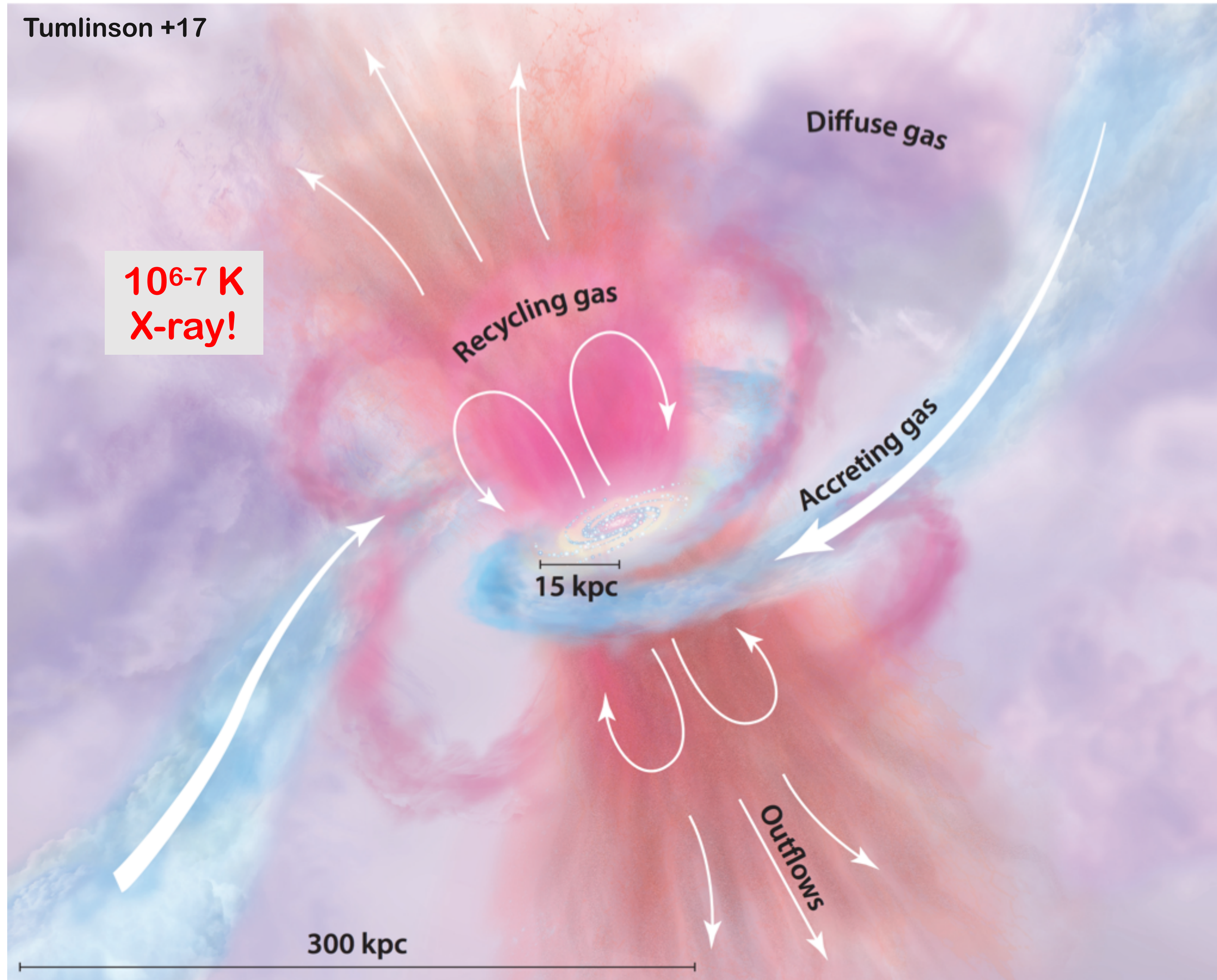


How do galaxies evolve?



NGC 7331 Hubble

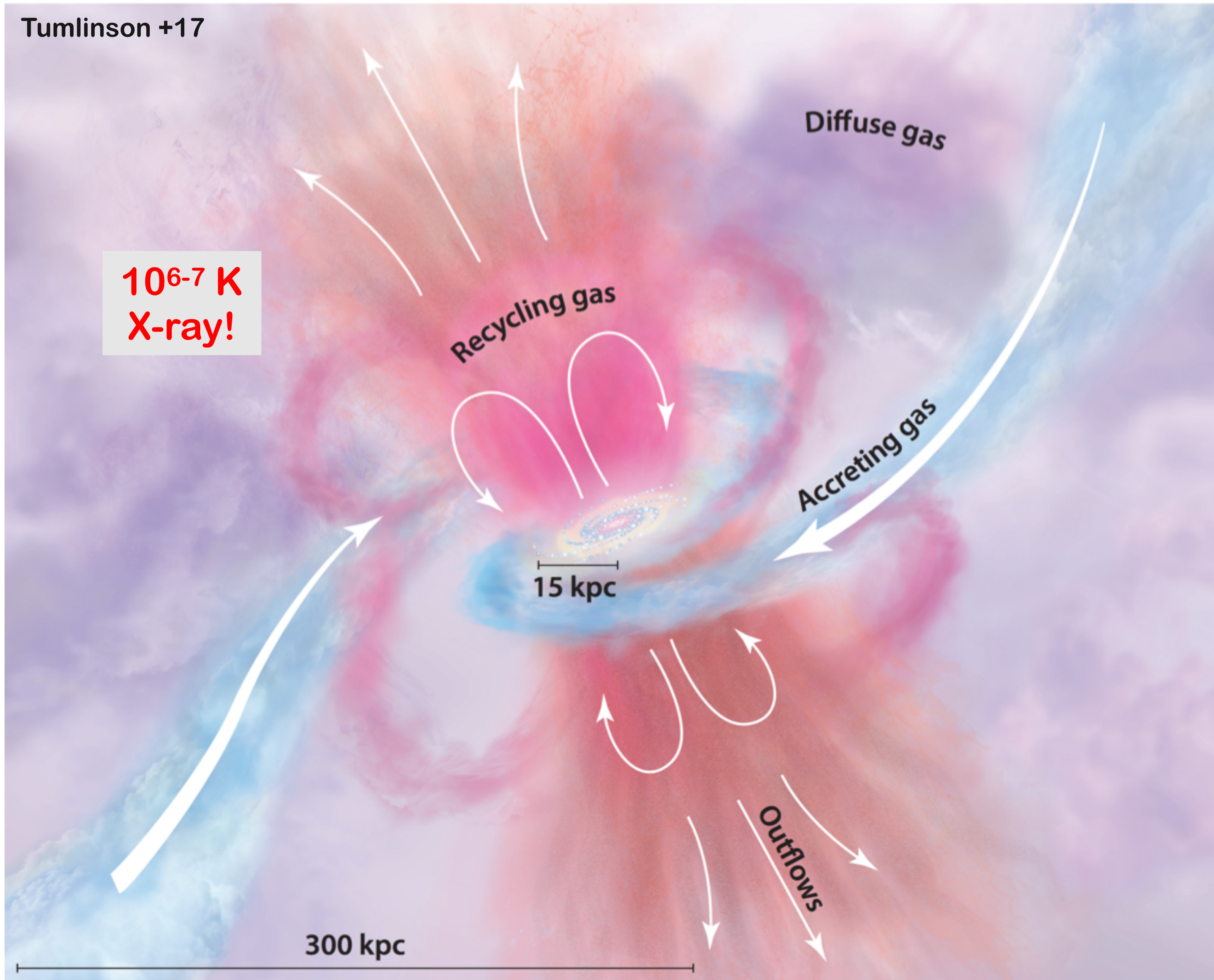
The Baryon cycle



Hot Baryons:
Bulk of Baryons
Re-condensation
Driver outflows

The Baryon cycle: The problem

Tumlinson +17

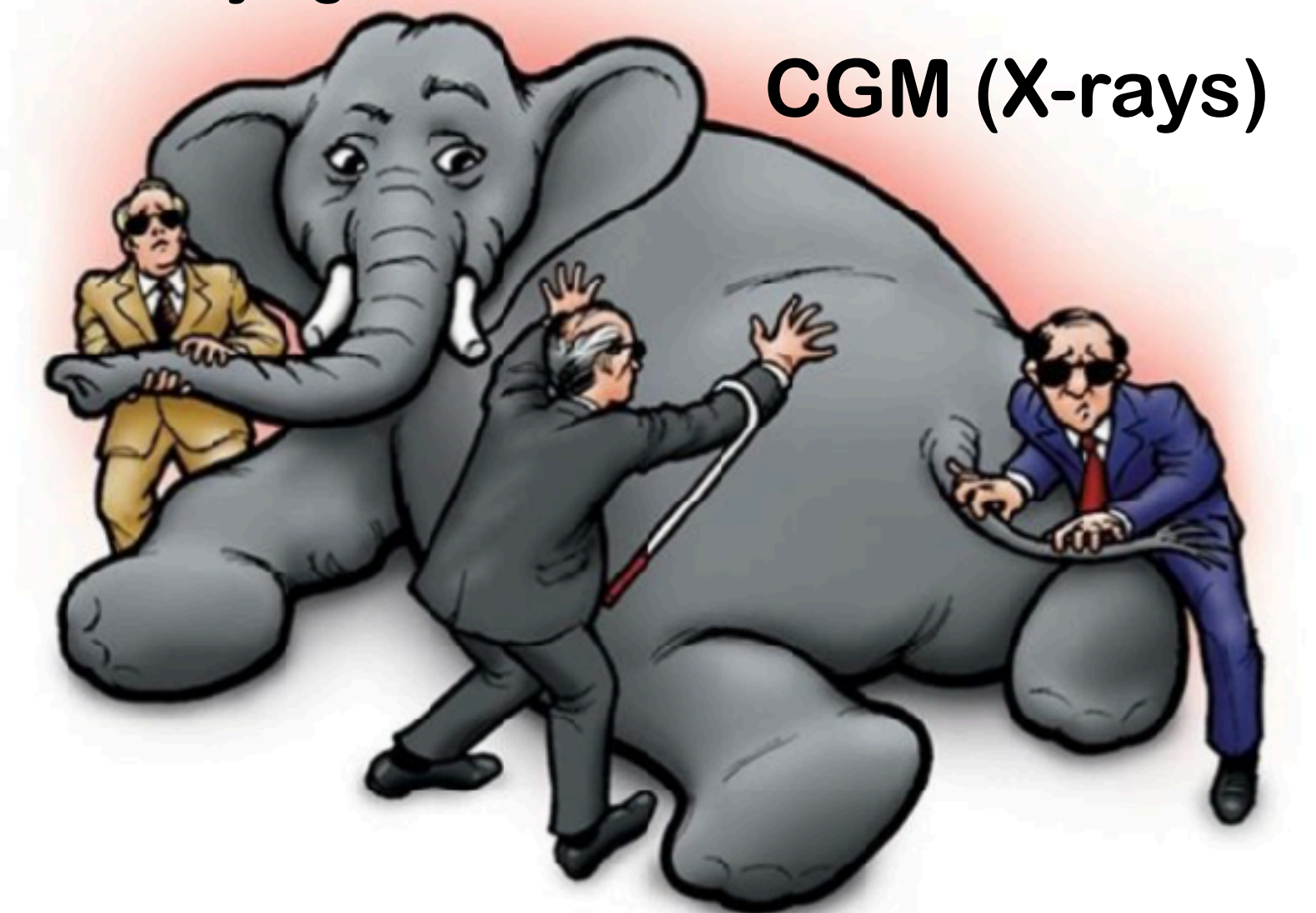


Optical-UV-radio-submm

Glimpse of CGM properties up to high z

But trace a tiny fraction of mass-energy-metals...

Chinese saying...



Hot Baryons (CGM) in X-rays

Distant galaxies → Too faint!

Nearby galaxies → Too extended!

But now → eROSITA!!

Goal → Map the hot plasma of the Milky Way

Sgr A*'s accretion

Event Horizon-Bondi radius
(10^{-7} - 10^{-3} pc)

Galactic center

Central Molecular Zone
(0.1 - 10^2 pc)

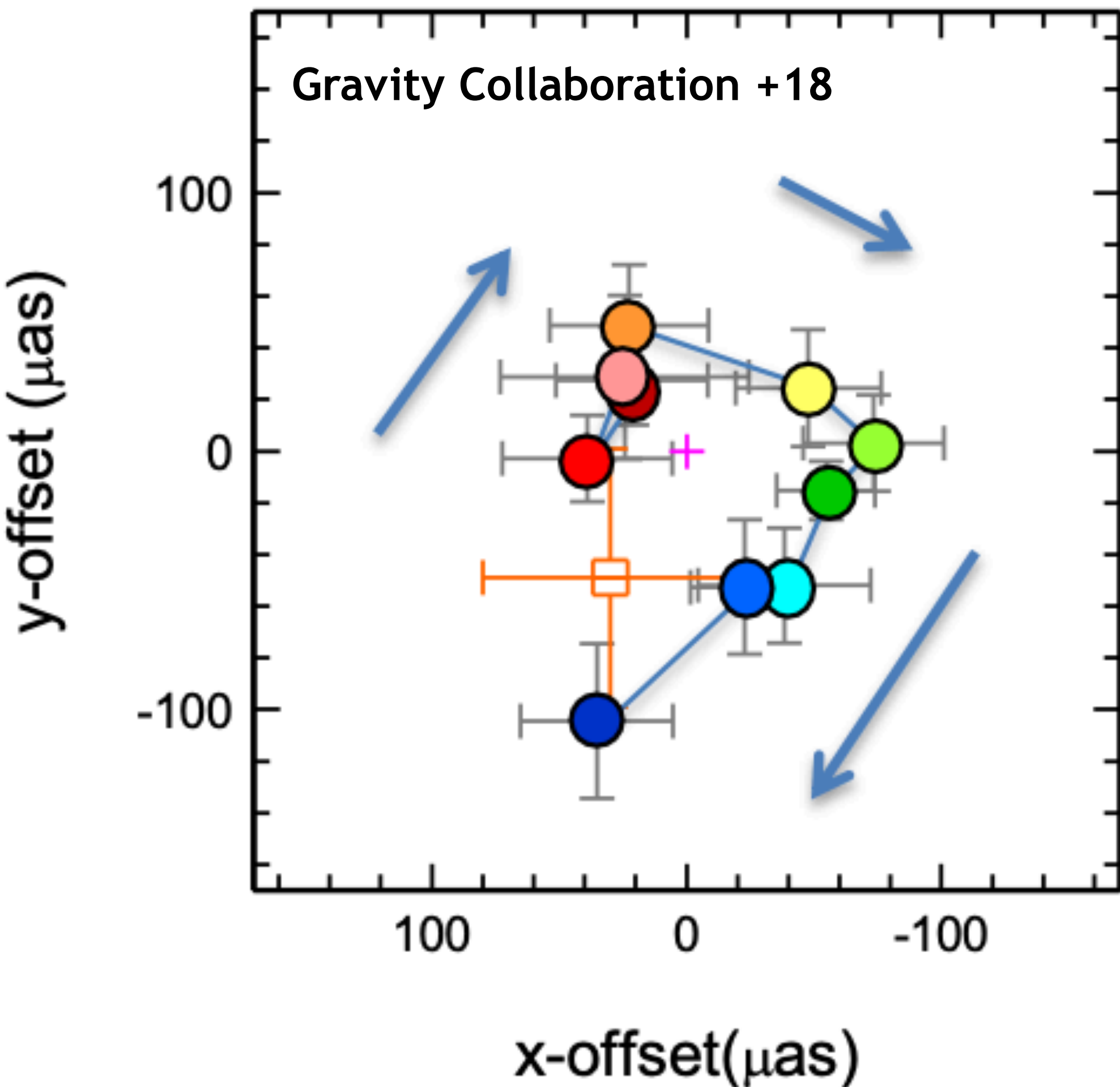
Circum-Galactic Medium

Feedback & galaxy evolution
(10^2 - 10^6 pc)

Goal → Map the hot plasma of the Milky Way

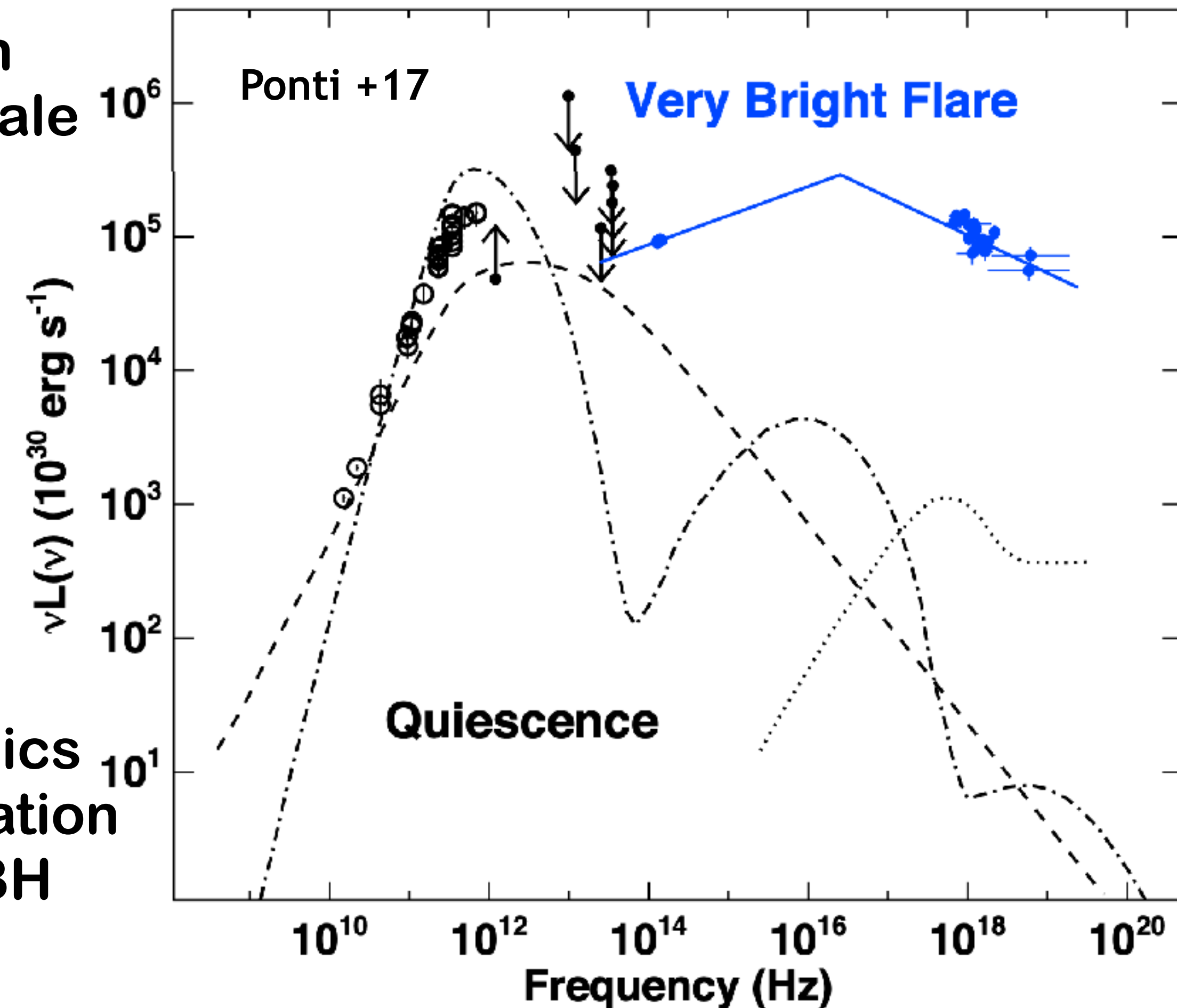
Sgr A*'s accretion
Event Horizon-Bondi radius
($10^{-7} - 10^{-3}$ pc)

I am the PI of every X-ray observation (XMM+Chandra+NuSTAR) simultaneous to VLTI- Gravity



Source motion
event horizon scale

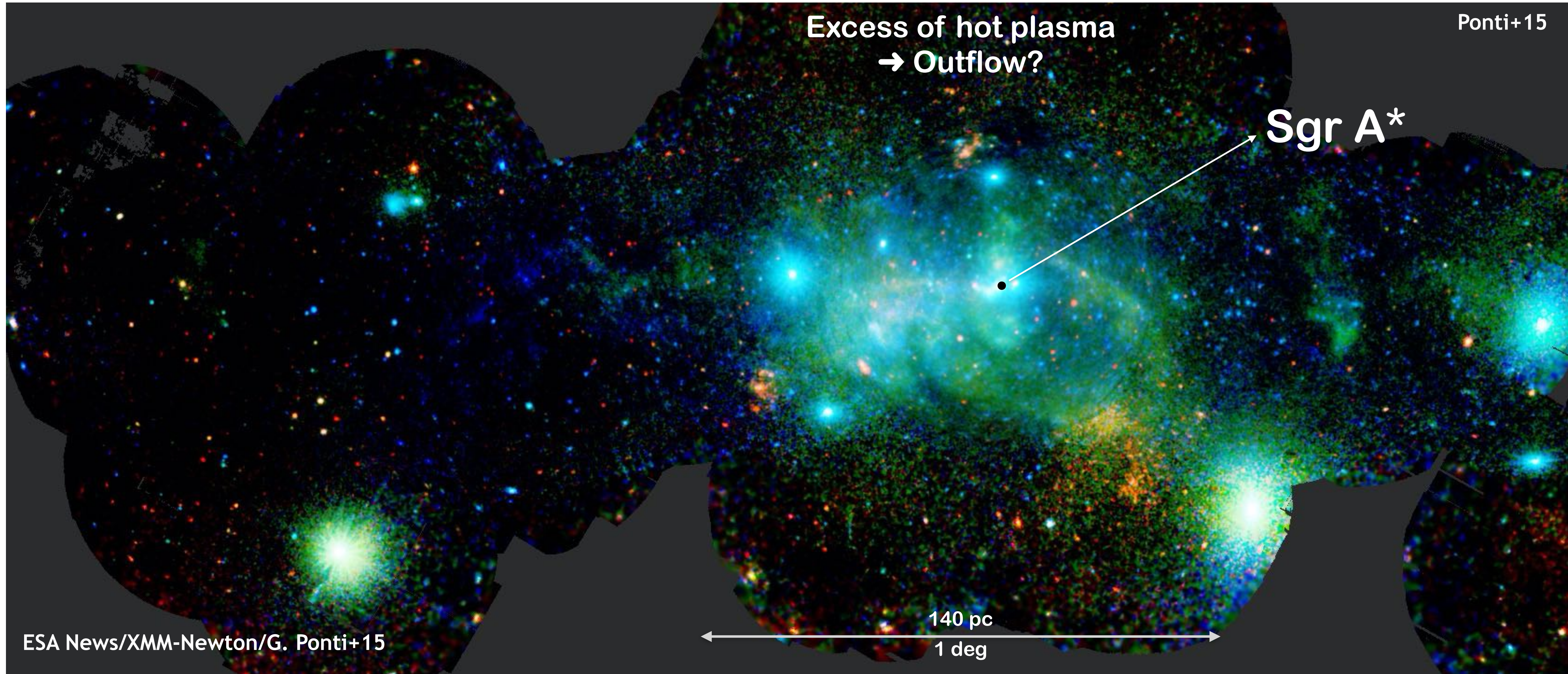
Accretion physics
Particle acceleration
In quiescent BH



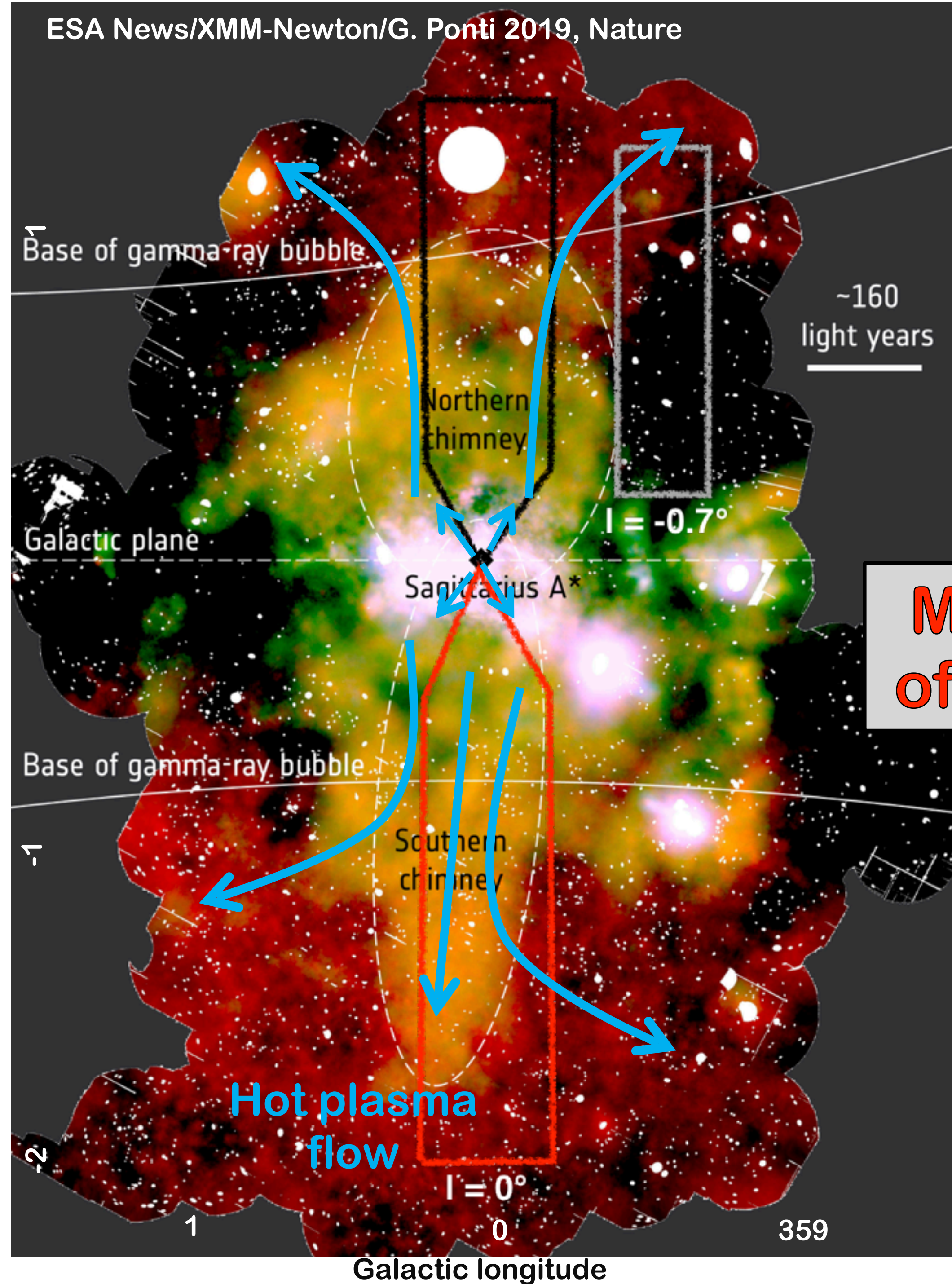
Goal → Map the hot plasma of the Milky Way

Sgr A*'s accretion
Event Horizon-Bondi radius
(10^{-7} - 10^{-3} pc)

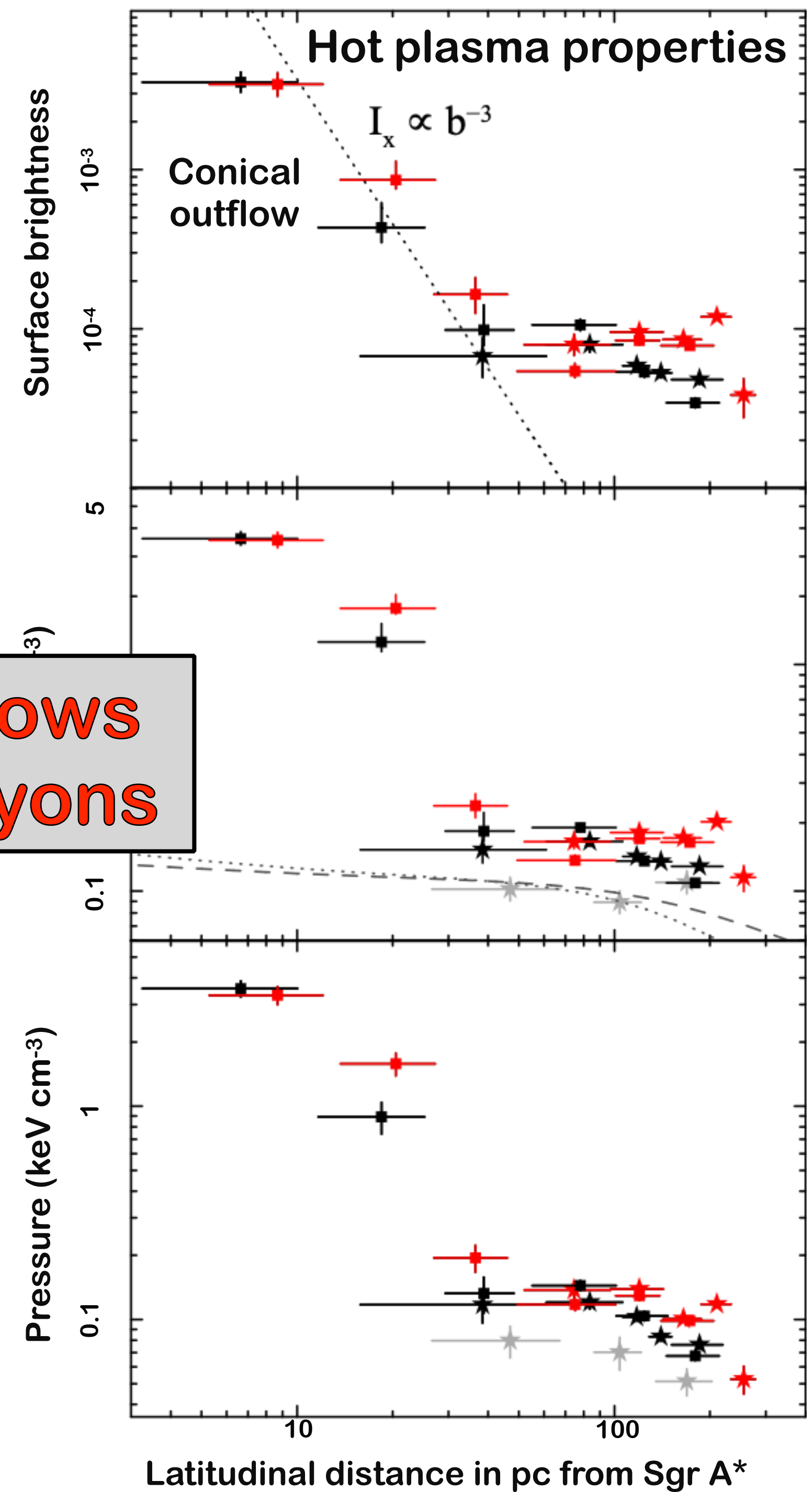
Galactic center
Central Molecular Zone
(0.1 - 10^2 pc)



Galactic latitude



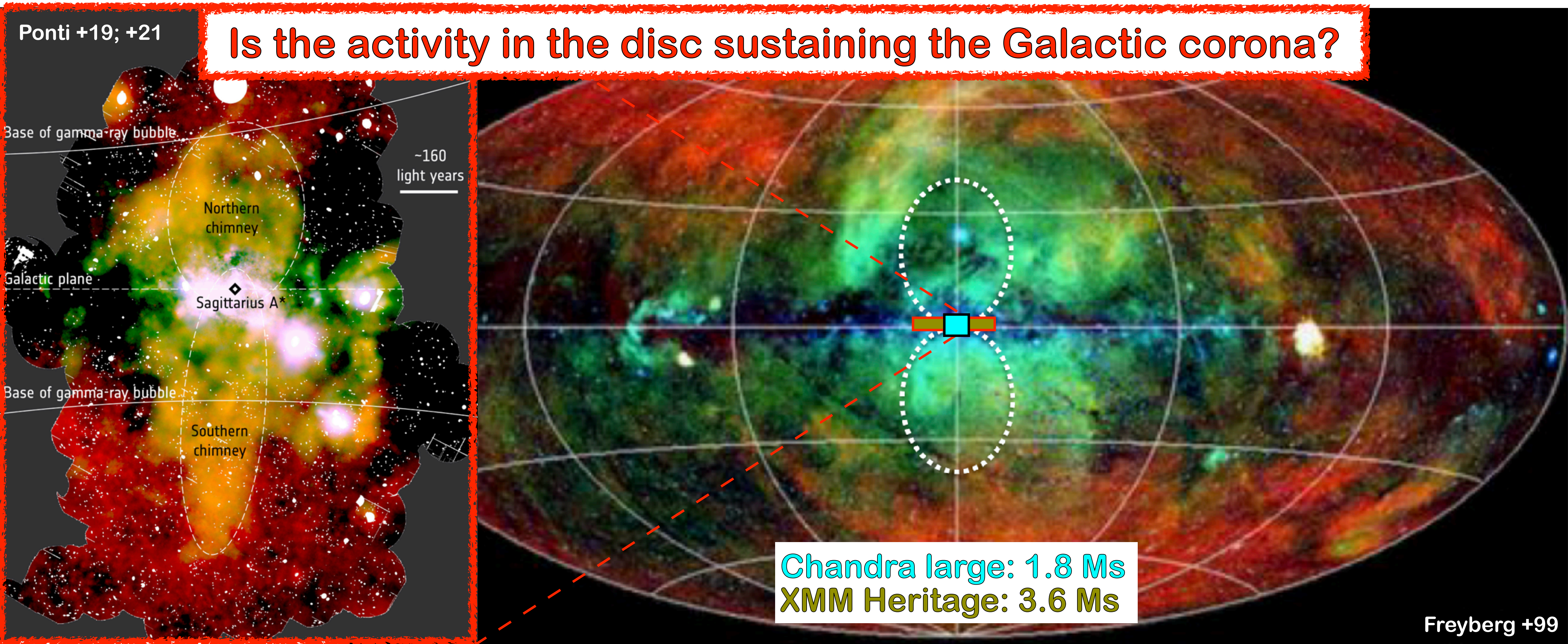
Map the flows of hot Baryons



Goal → Map the hot plasma of the Milky Way

Sgr A*'s accretion
Event Horizon-Bondi radius
(10^{-7} - 10^{-3} pc)

Galactic center
Central Molecular Zone
(0.1 - 10^2 pc)

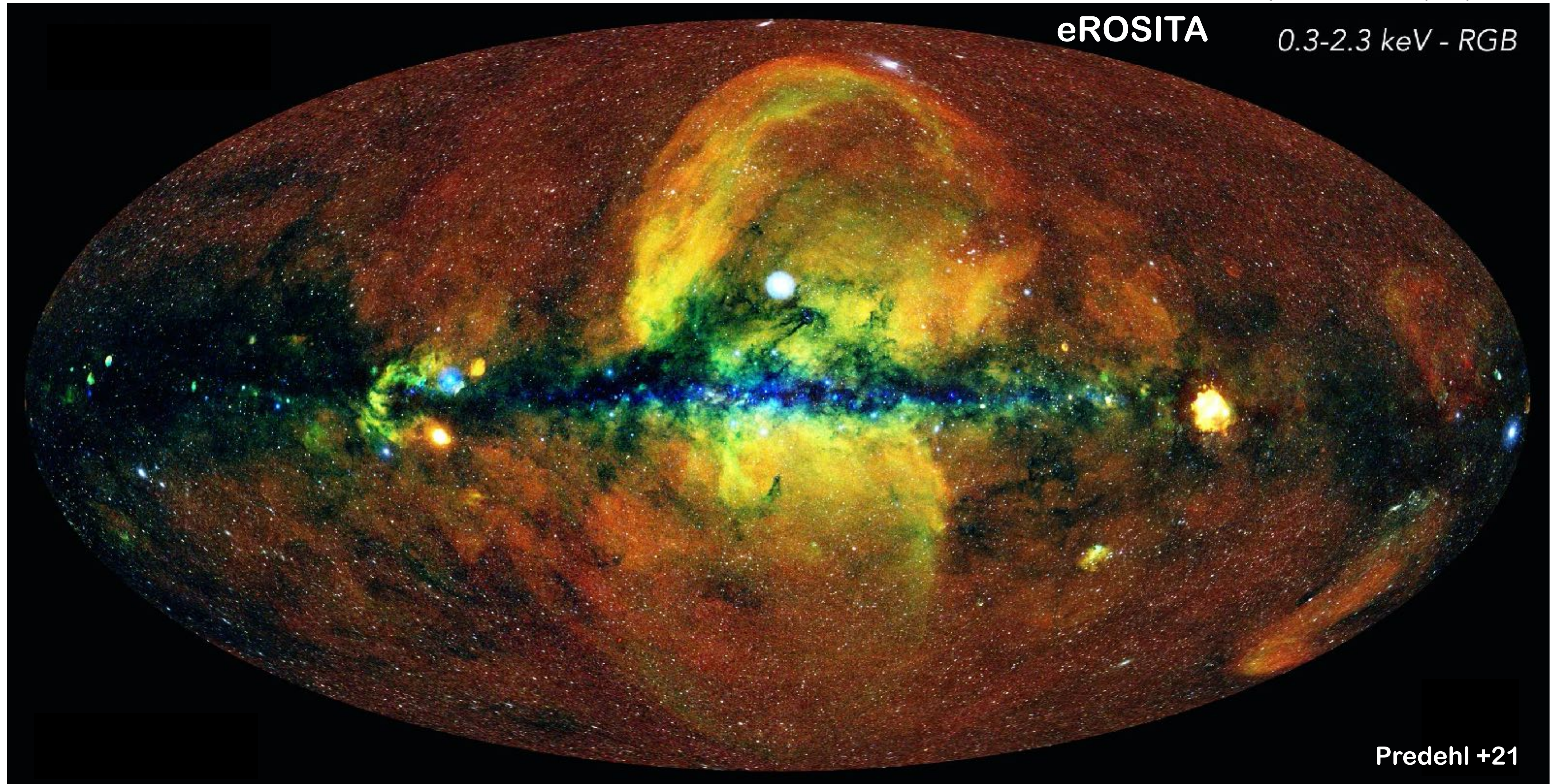


Goal → Map the hot plasma of the Milky Way

Sgr A*'s accretion
Event Horizon-Bondi radius
(10^{-7} - 10^{-3} pc)

Galactic center
Central Molecular Zone
(0.1 - 10^2 pc)

Circum-Galactic Medium
Feedback & galaxy evolution
(10^2 - 10^6 pc)



Goal → Map the hot plasma of the Milky Way

Sgr A*'s accretion

Event Horizon-Bondi radius
(10^{-7} - 10^{-3} pc)

Galactic center

Central Molecular Zone
(0.1 - 10^2 pc)

Circum-Galactic Medium

Feedback & galaxy evolution
(10^2 - 10^6 pc)

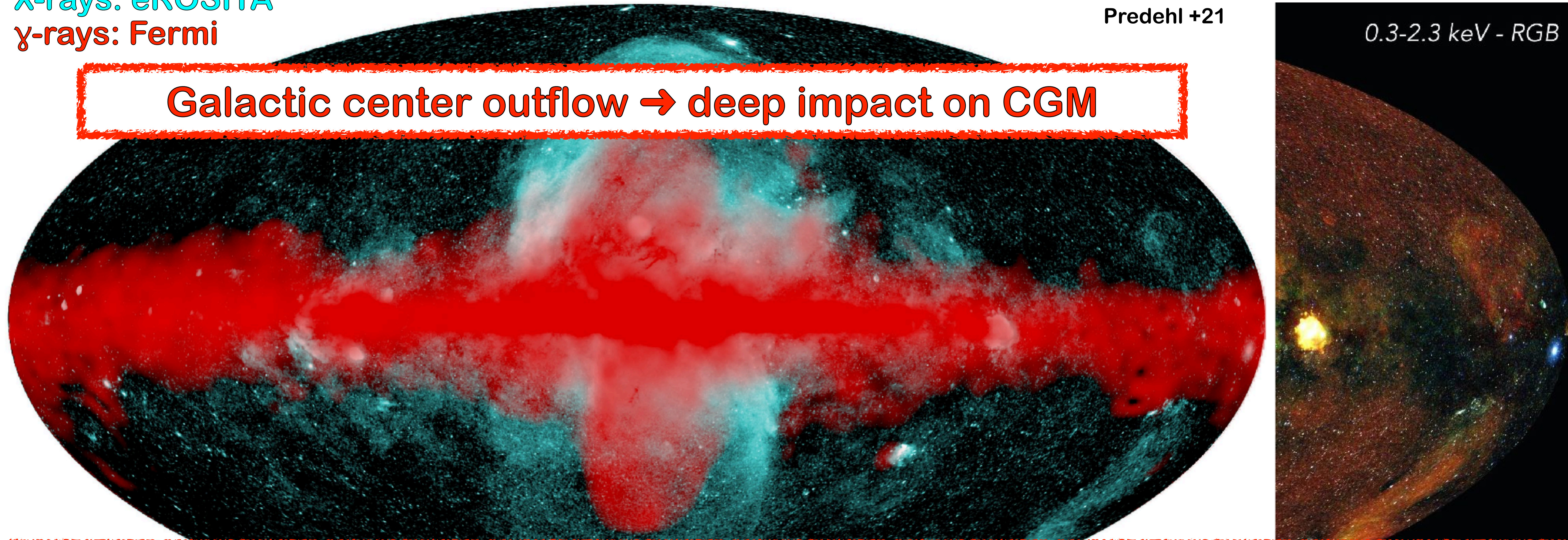
X-rays: eROSITA

γ-rays: Fermi

Predehl +21

Galactic center outflow → deep impact on CGM

0.3-2.3 keV - RGB



Map the flows of Galactic hot baryons throughout the CGM

Team & Funds

Sgr A*'s accretion

Event Horizon-Bondi radius
(10^{-7} - 10^{-3} pc)

Galactic center

Central Molecular Zone
(0.1 - 10^2 pc)

Circum-Galactic Medium

Feedback & galaxy evolution
(10^2 - 10^6 pc)

Co-Is

**VLTI-Gravity
Collaboration**

Including Nobel
prize winner

GC Experts

Including S. Campana S. Molinari

Including advisor of
Nobel prize winner

**eROSITA_DE
Collaboration**

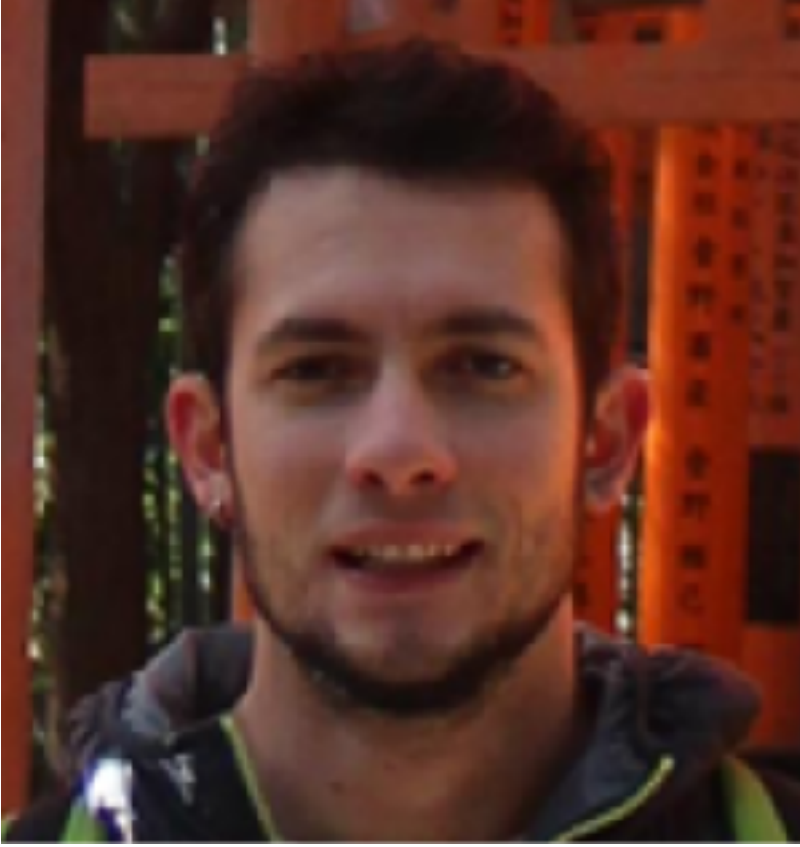
Funds

ERC Consolidator Grant: 2MEuro

MUR-FARE: 320kEuro?

Hot Milk at INAF Brera

Hot Milk at MPE



PI-ship and planning

Sgr A*'s accretion

Event Horizon-Bondi radius
(10^{-7} - 10^{-3} pc)

Galactic center

Central Molecular Zone
(0.1 - 10^2 pc)

Circum-Galactic Medium

Feedback & galaxy evolution
(10^2 - 10^6 pc)

PI of all X-ray
observations
simultaneous to Gravity

PI of XMM Heritage
program & Chandra
large program

PI of eROSITA
Galactic CGM
science

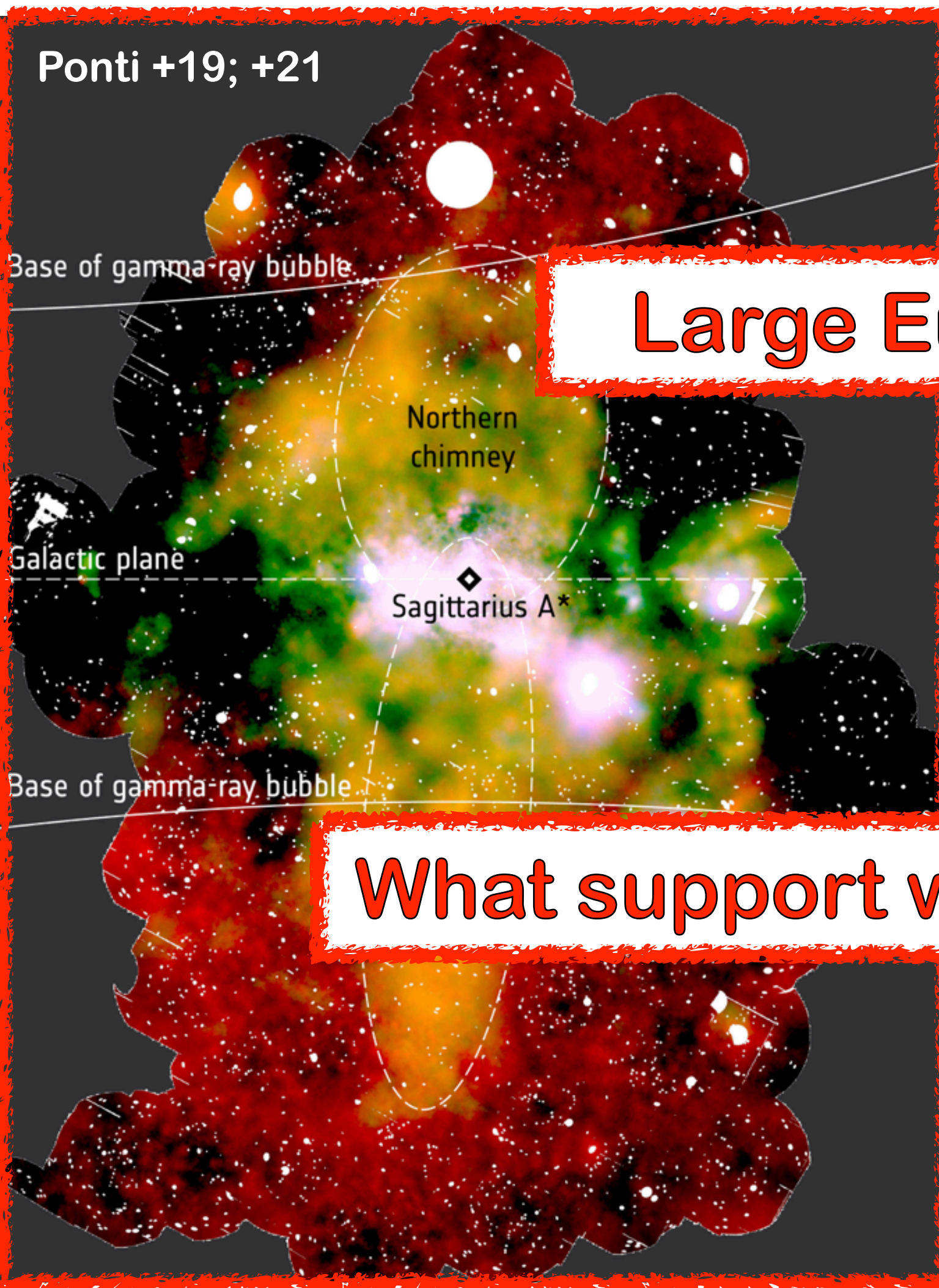
→ Lots of work (data analysis, modelling, comprehension, publication...)

Critical issues:

Sgr A*'s accretion
Event Horizon-Bondi radius
(10^{-7} - 10^{-3} pc)

Galactic center
Central Molecular Zone
(0.1 - 10^2 pc)

Circum-Galactic Medium
Feedback & galaxy evolution
(10^2 - 10^6 pc)



Large European investment → Scientific growth

What support will INAF provide at the end of the ERC project?

