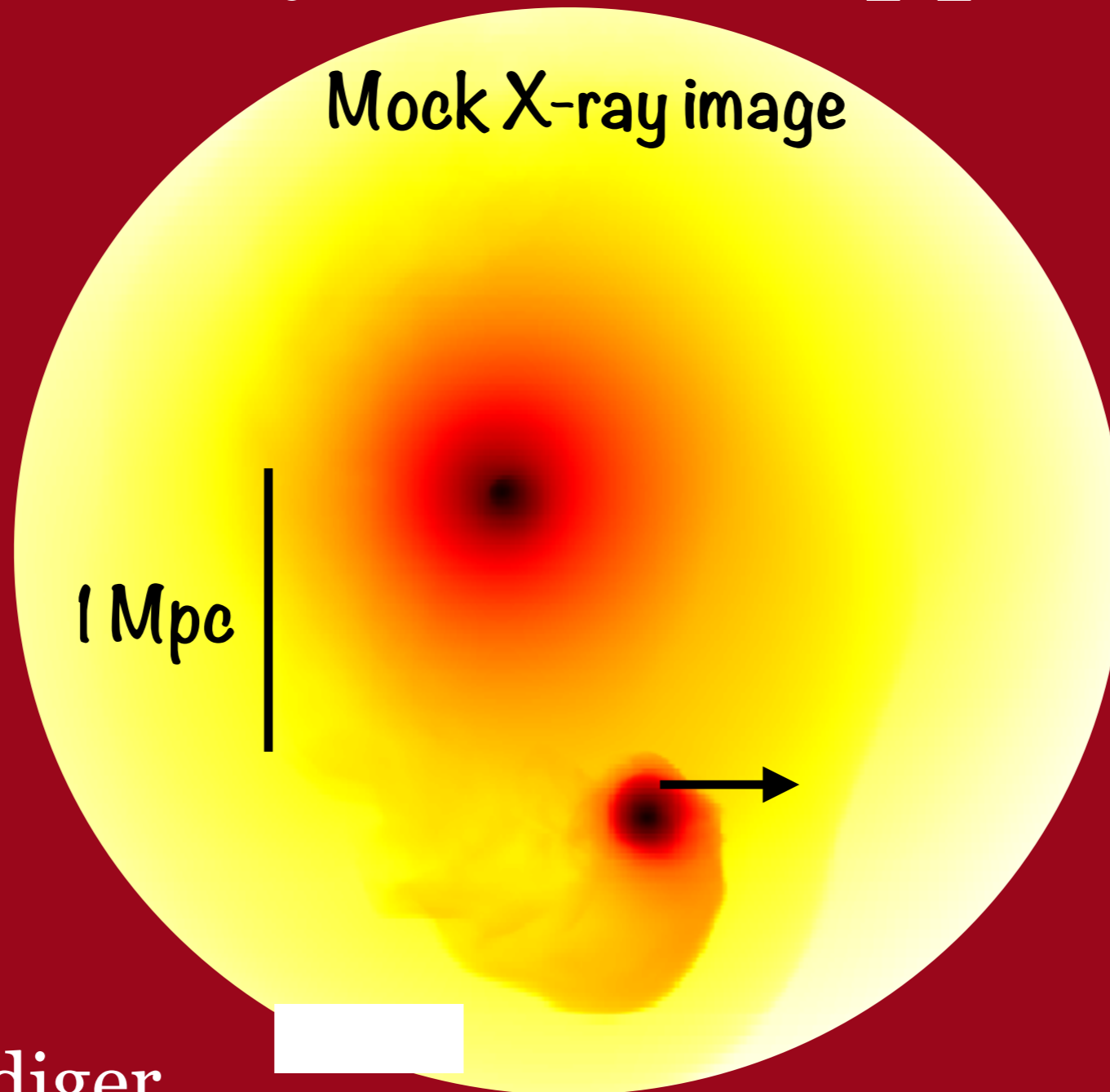


ICM flow patterns in ram pressure stripping — lessons from non-quasi-steady-state stripping



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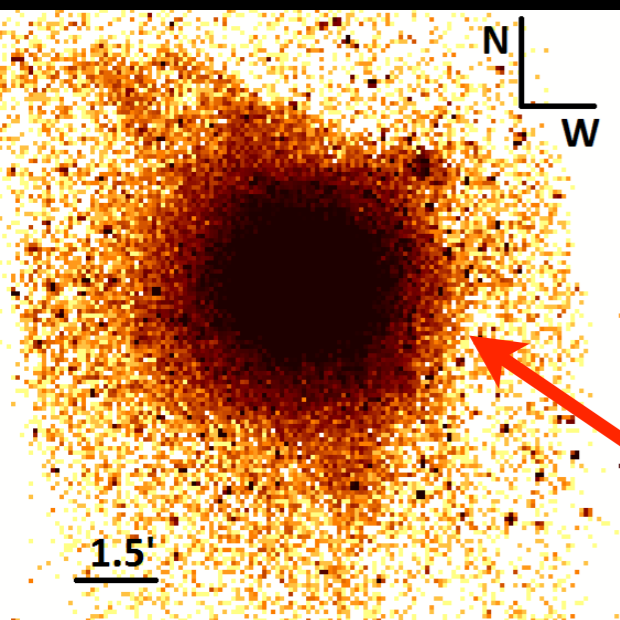
And:

Dominique Eckert,
Pavel Jachym, Ming
Sun, Matt Owers, ...

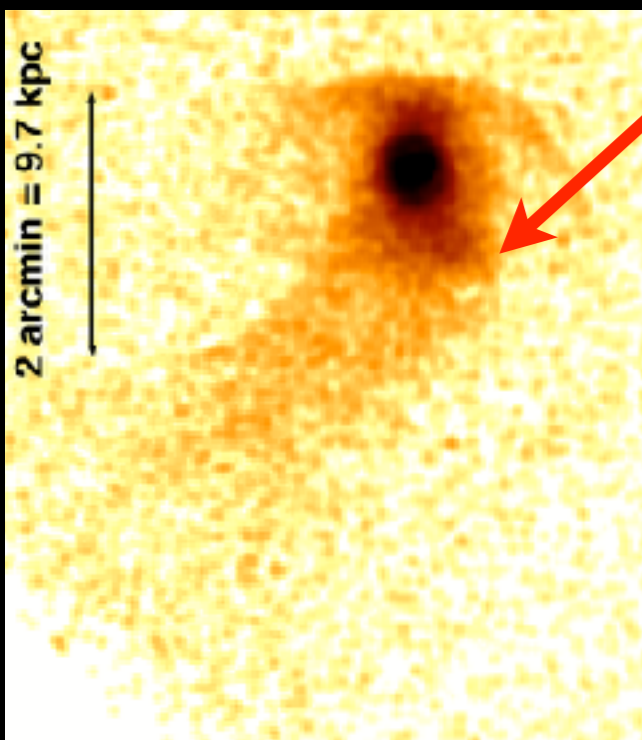
Goals

- Flow patterns in most simple case — stripping of a spherical galaxy's hot atmosphere
- Observable features in different “infall stages”
- What could it mean for stripping of spirals?

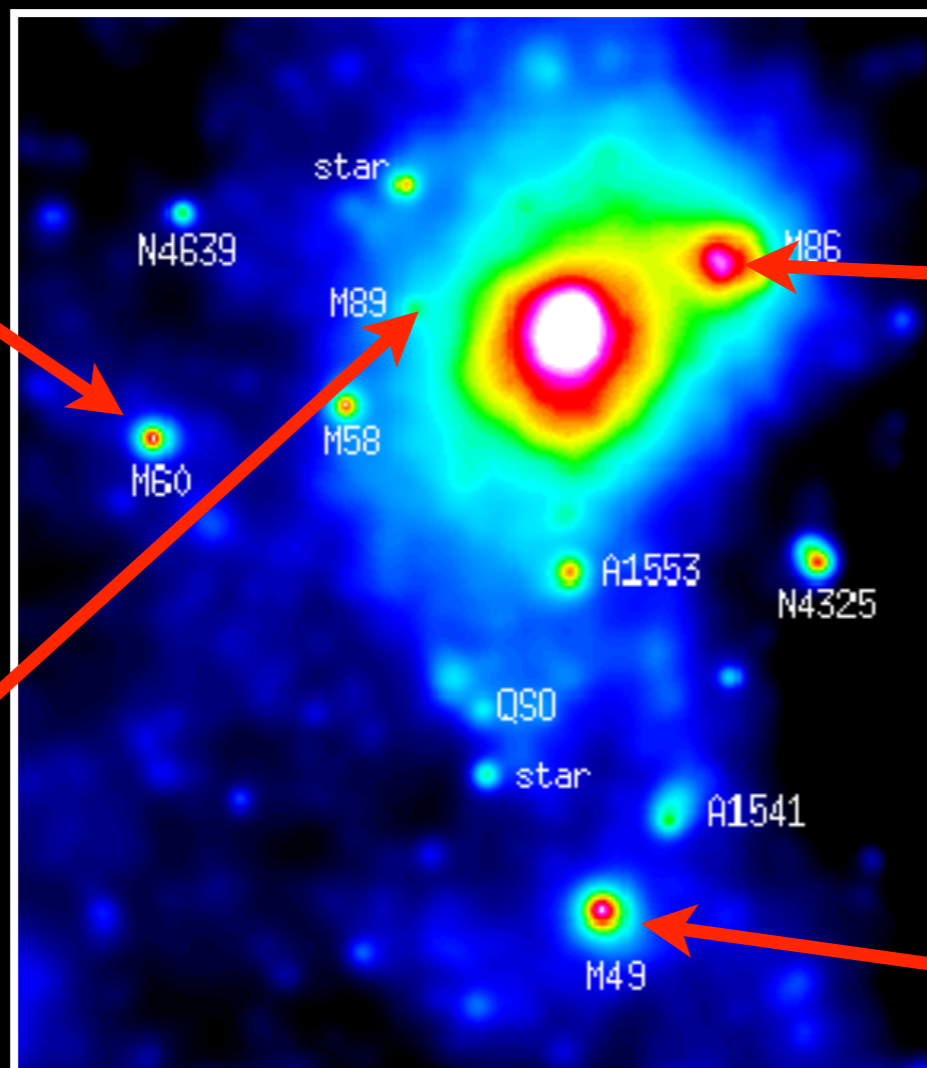
Tails of elliptical galaxies in Virgo cluster



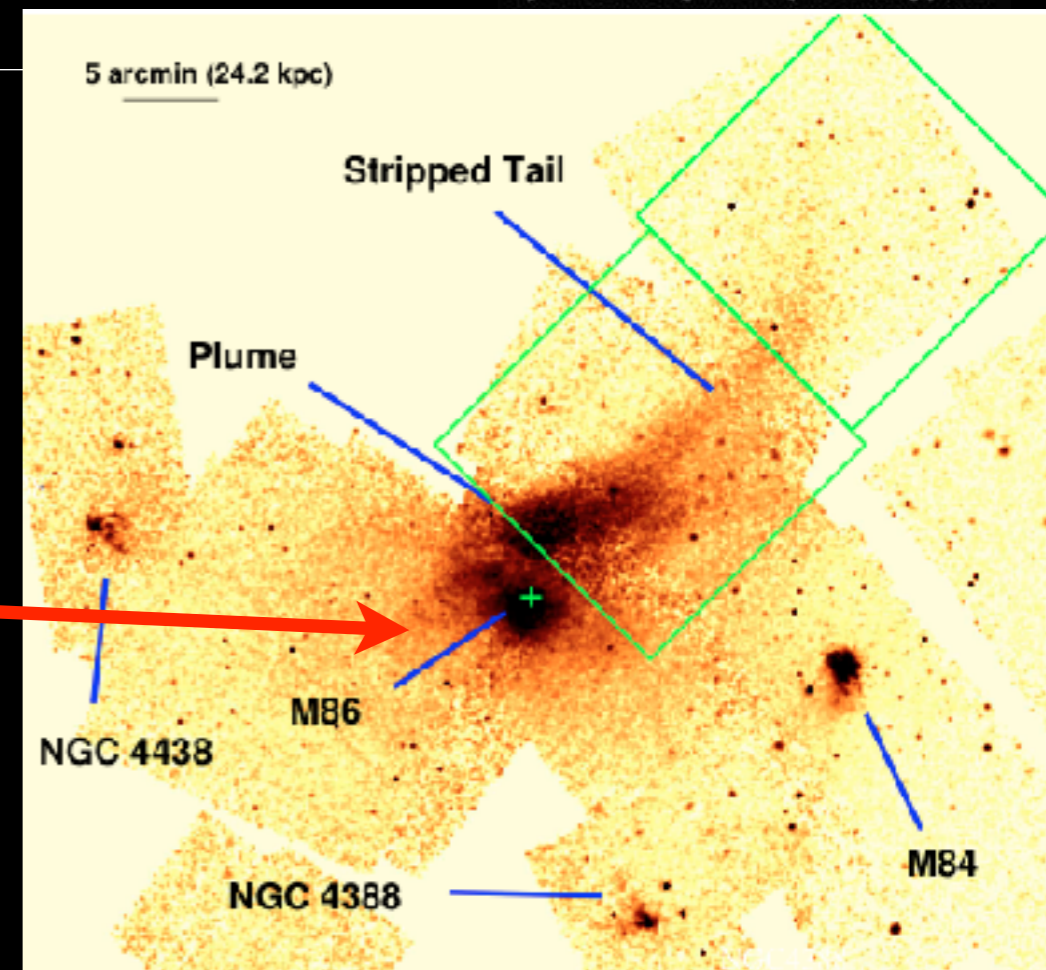
Wood+2017



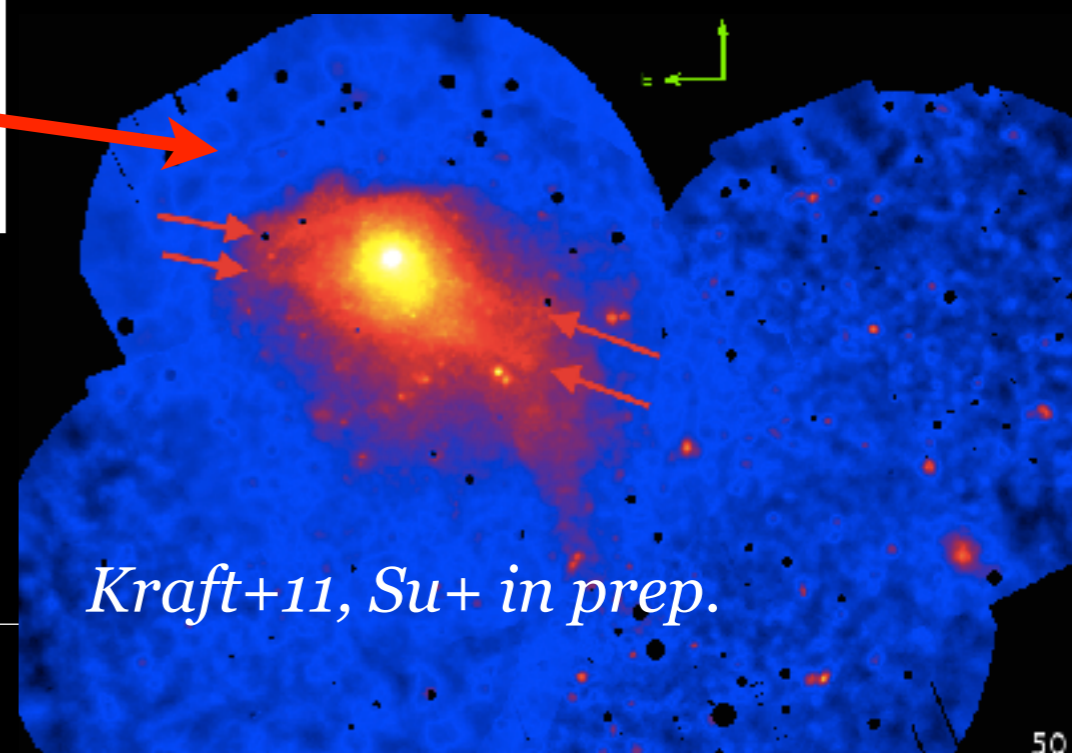
Machacek+06,
Kraft+17



Böhringer+94

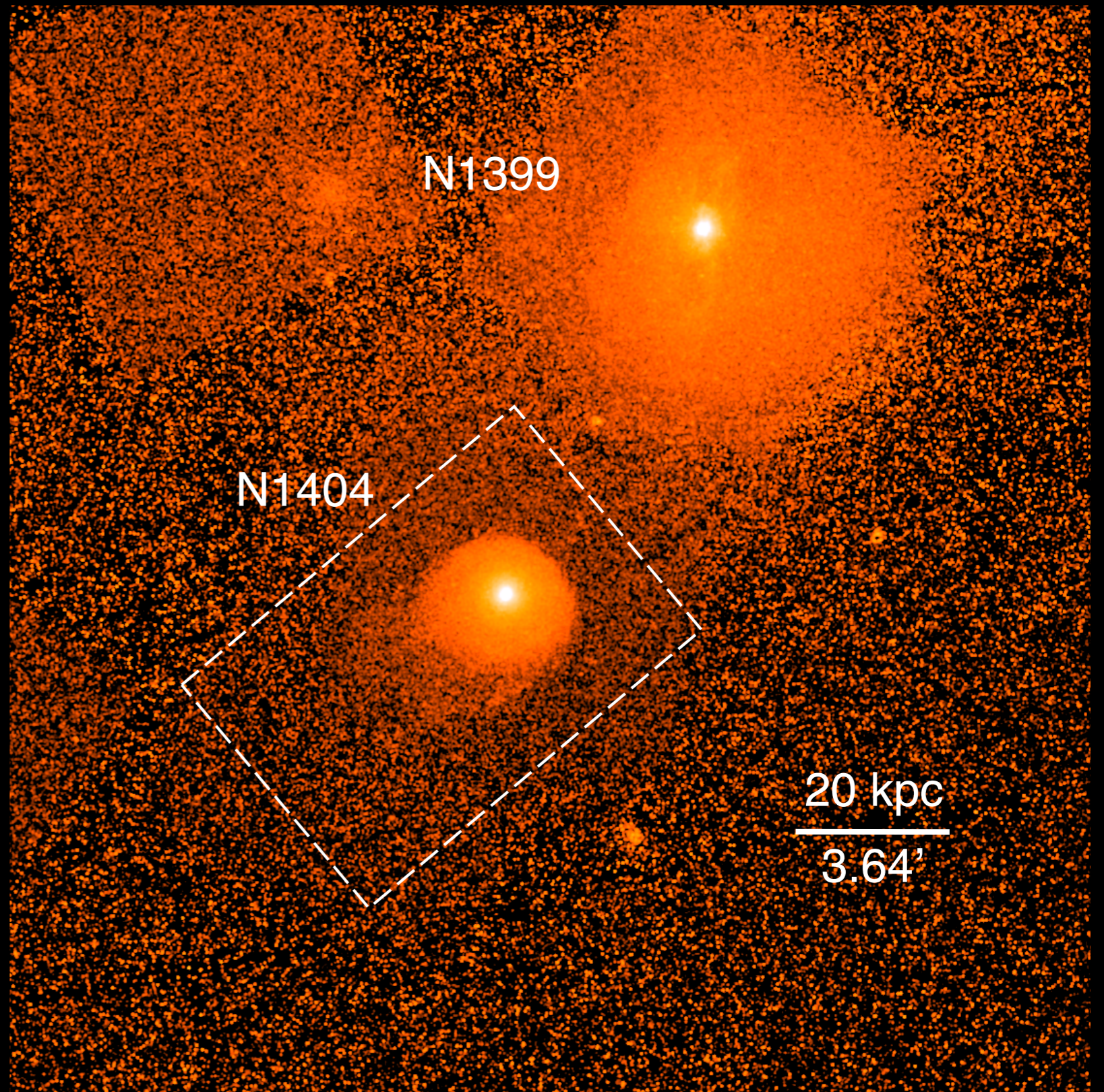


Chandra mosaic, Randall+08



Kraft+11, Su+ in prep.

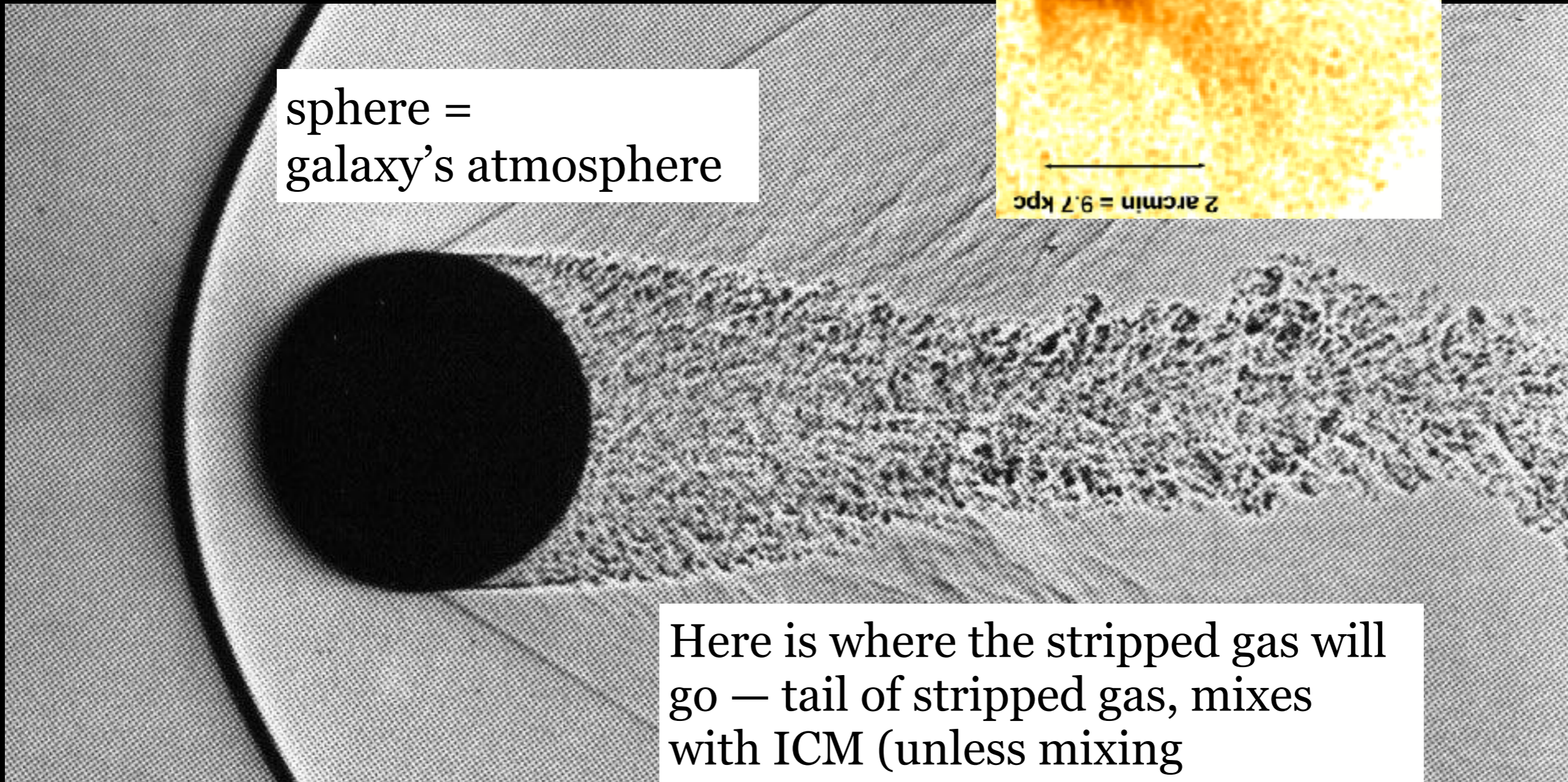
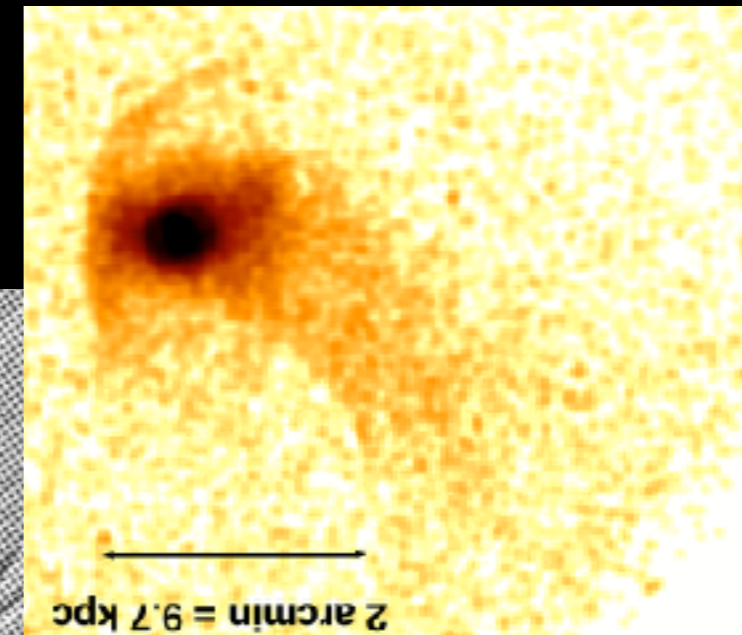
NGC 1404 in Fornax



*Chandra mosaic,
Machacek+05
Su+17ab*

Most simple picture:

sphere =
galaxy's atmosphere



Here is where the stripped gas will go — tail of stripped gas, mixes with ICM (unless mixing suppressed)

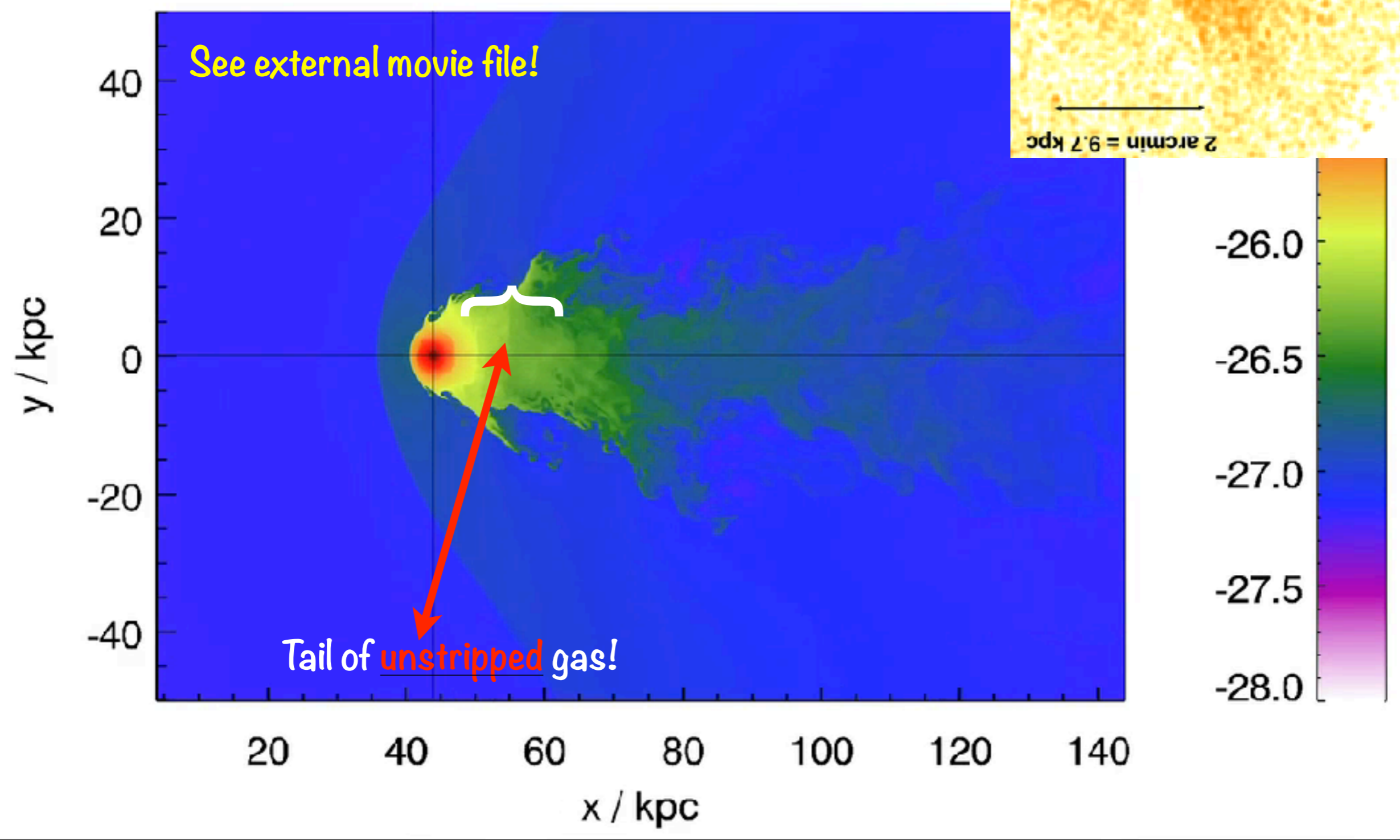
Most simple picture — ~~quasi-steady state!~~

sphere = **Shrinks!**
galaxy's atmosphere

**Head
wind
varies.**

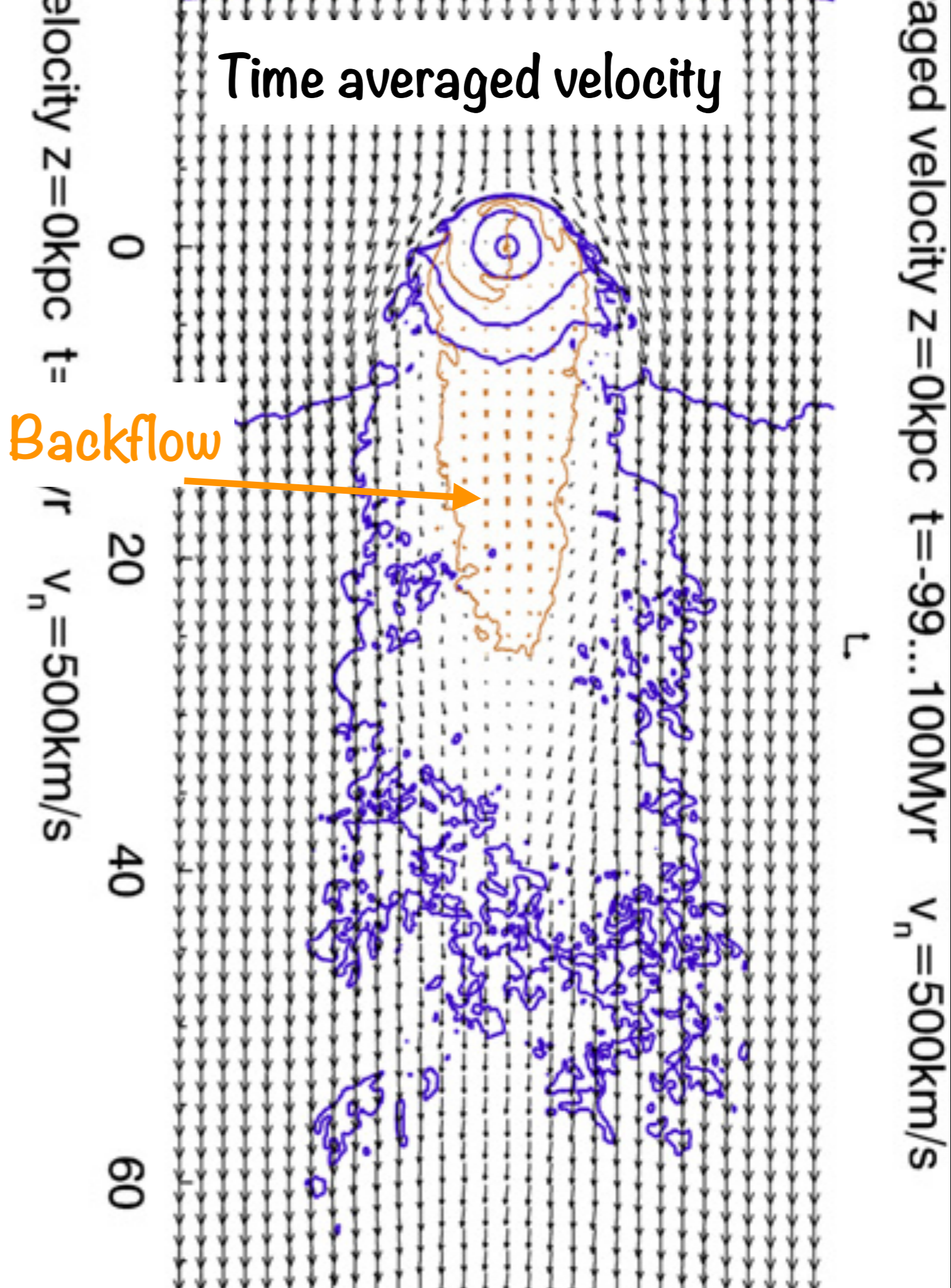
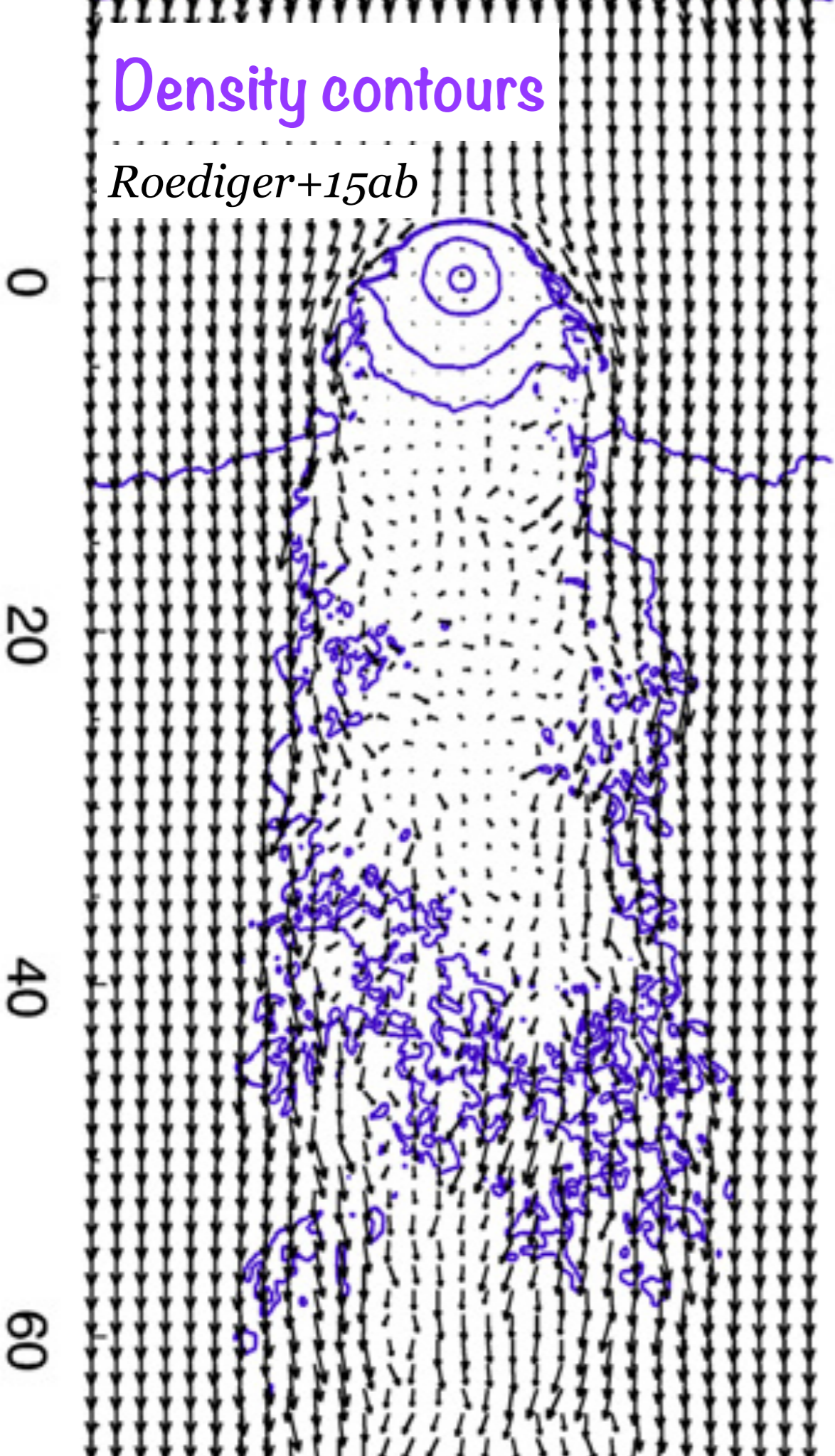
Here is where the stripped gas will go — tail of stripped gas, mixes with ICM (unless mixing suppressed)

$\log_{10}(\rho/\text{g cm}^3)$ $z=0\text{kpc}$ $t=-31\text{Myr}$



gas density slice

Roediger et al. 2015ab

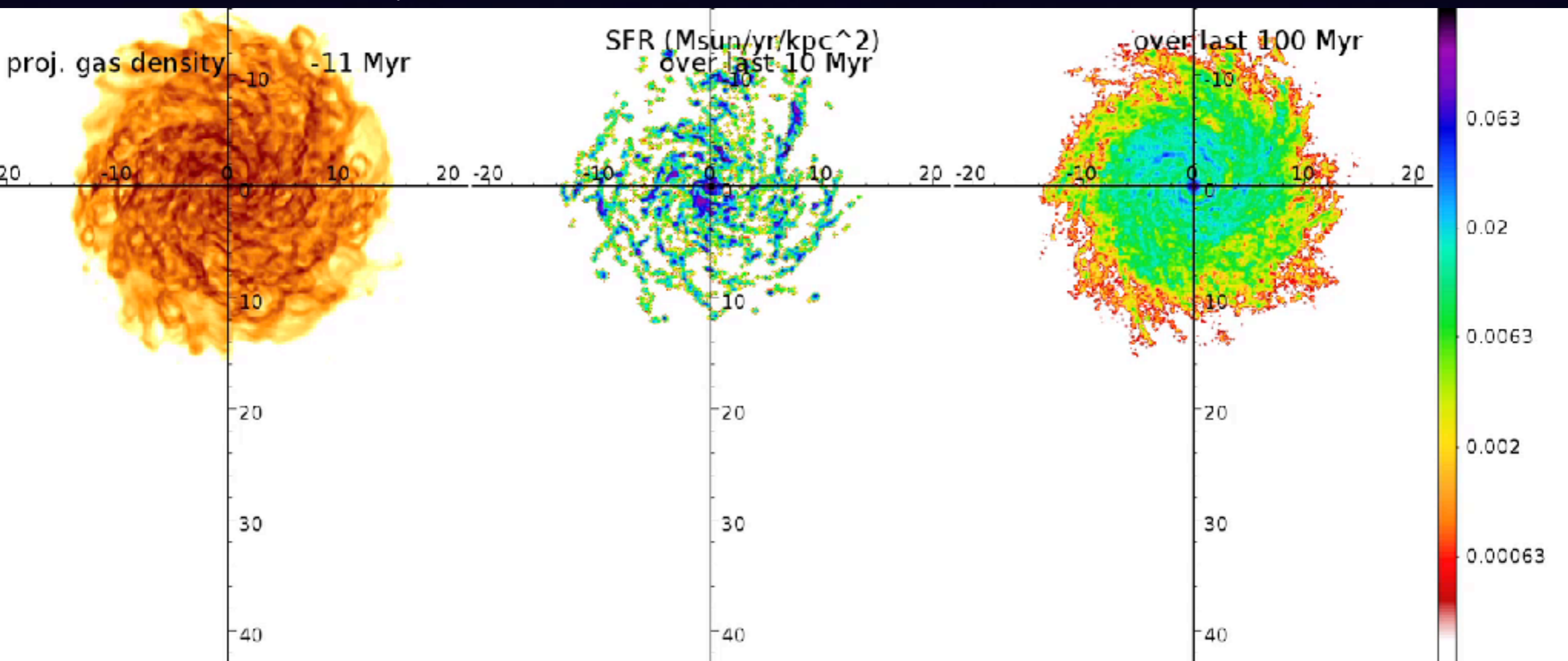


Evolution of spirals in clusters

projected
gas density

projected star formation rate
recent 10 Myr

projected star formation rate
recent 100 Myr



See external movie file!

Roediger+ 2014

Ram pressure deforms galaxy's gas, true stripping takes time.

—> Most observed tails probably are remnant tails rather than tails of *stripped* gas.

The recent head wind history has big impact on stripped galaxy's appearance.

Need to understand dynamics along with additional physics, or we may be misled.