

**ARE JETS OF FR0 RADIO GALAXIES ABLE TO
EXCAVATE CAVITIES IN THE ICM?**
New insights from a Chandra observation of A795

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<https://doi.org/10.1093/mnras/stab819>



THE RADIO COMPACT FR0 RADIO GALAXIES

...see R. Baldi's talk!

Unresolved by FIRST (5'') and NVSS at 1.4 GHz (Best & Heckman 2012).

Hosted in red, non-starforming elliptical galaxies classified as LERGs (Grandi et al., 2021).

FR0 are 5 times more numerous than FRIs in the local Universe \Rightarrow **FR0s will not all evolve into FRIs.**

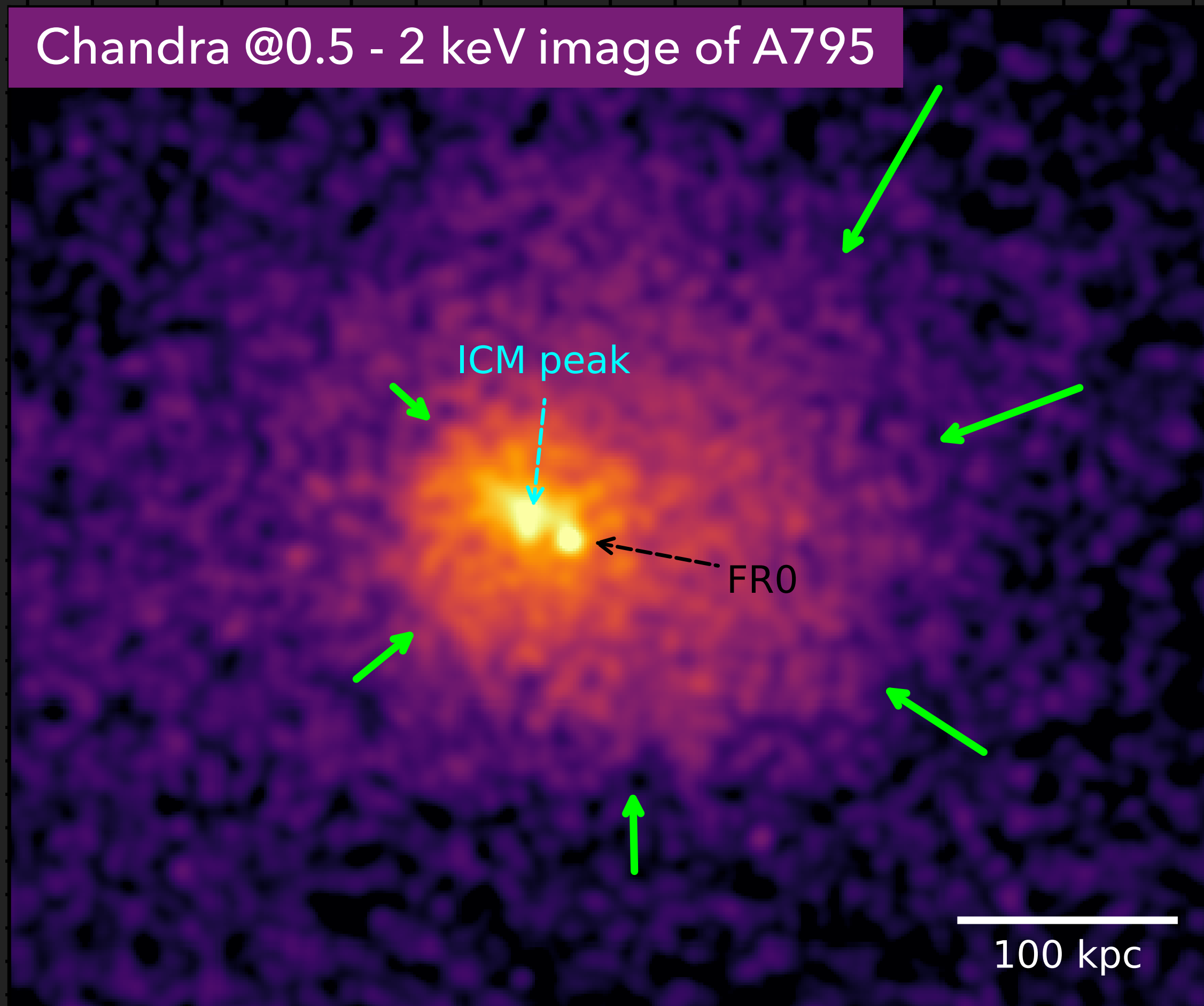
Only a small fraction of sources shows jet on scales of 100s pc - a few kpc \Rightarrow **FR0s are not fading FRIs.**

Reasons behind compactness: ***intrinsic jet weakness*** is favored, what about an ***hostile environment***?

Can the galaxy cluster environment halt the expansion of a FR0?

Are there evidences of feedback from FR0 radio galaxies?

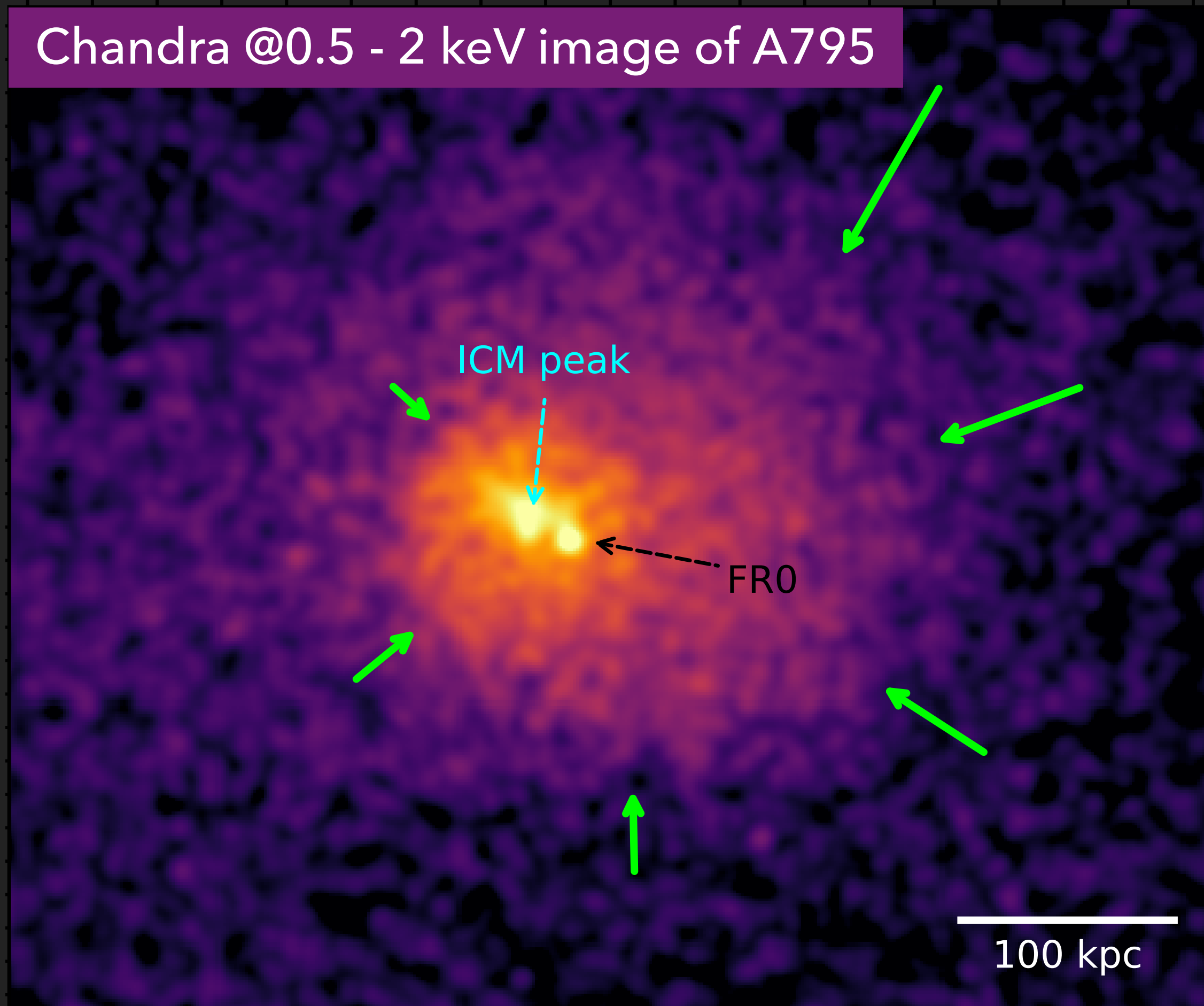
ABELL 795 AS SEEN BY CHANDRA



BCG classified as FR0
(Torresi et al., 2018)

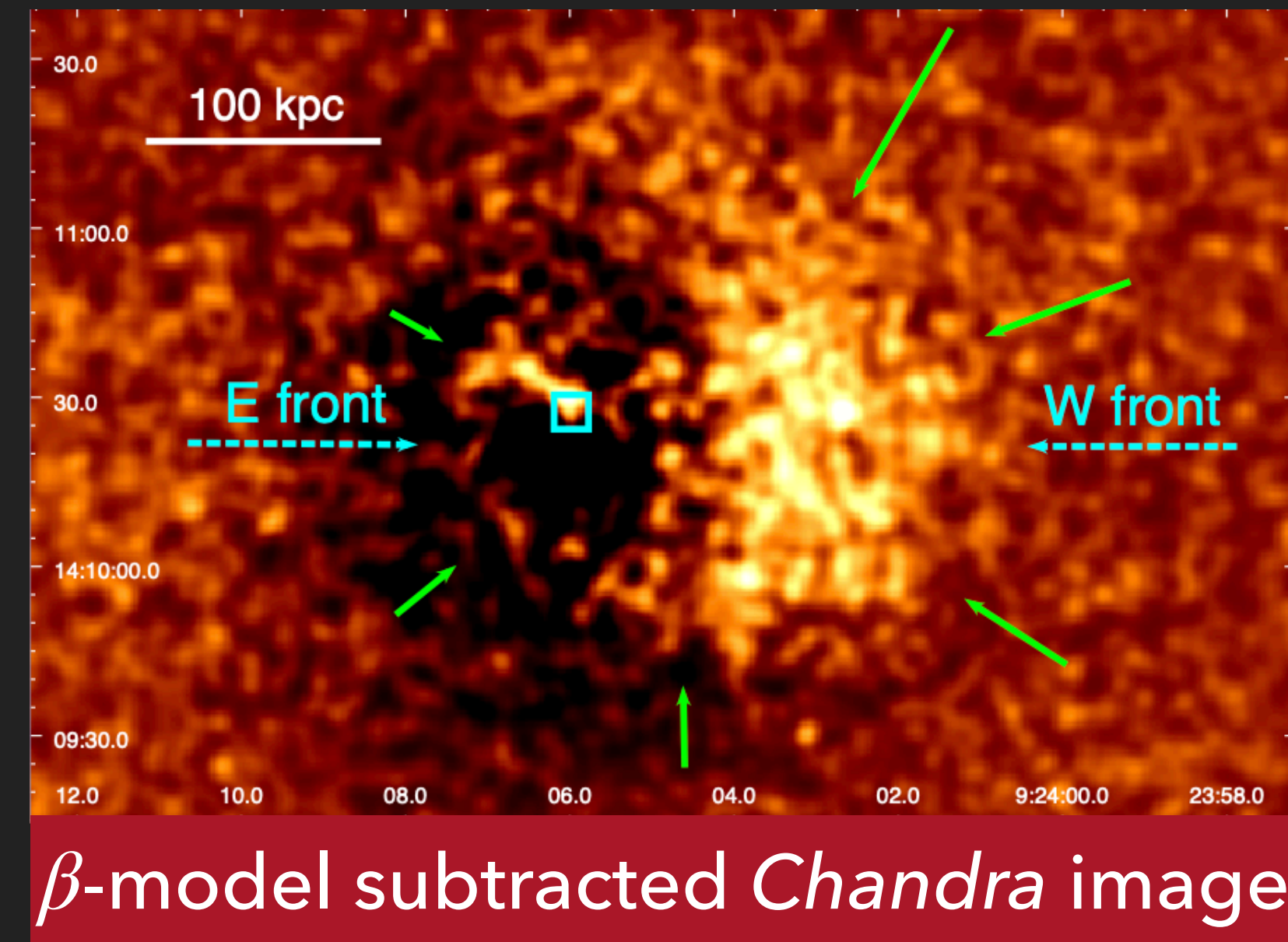
A TURBULENT INTRACLUSTER MEDIUM

Chandra @0.5 - 2 keV image of A795



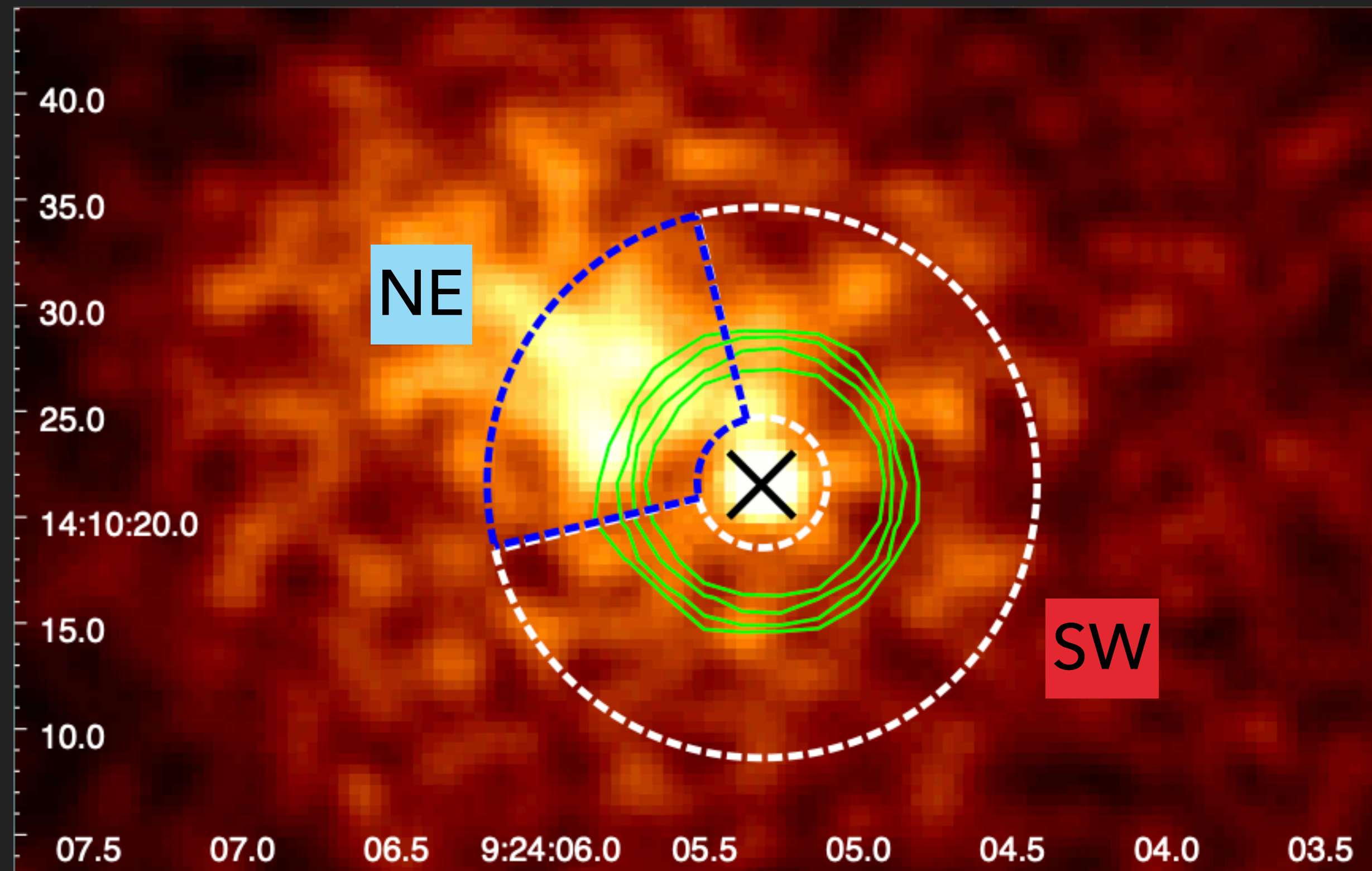
SLOSHING OF THE ICM

→ TURBULENT LARGE-SCALE ENVIRONMENT



β -model subtracted *Chandra* image

IS THE ICM PREVENTING THE FRO'S JETS PROPAGATION?



Chandra image of the core of A795

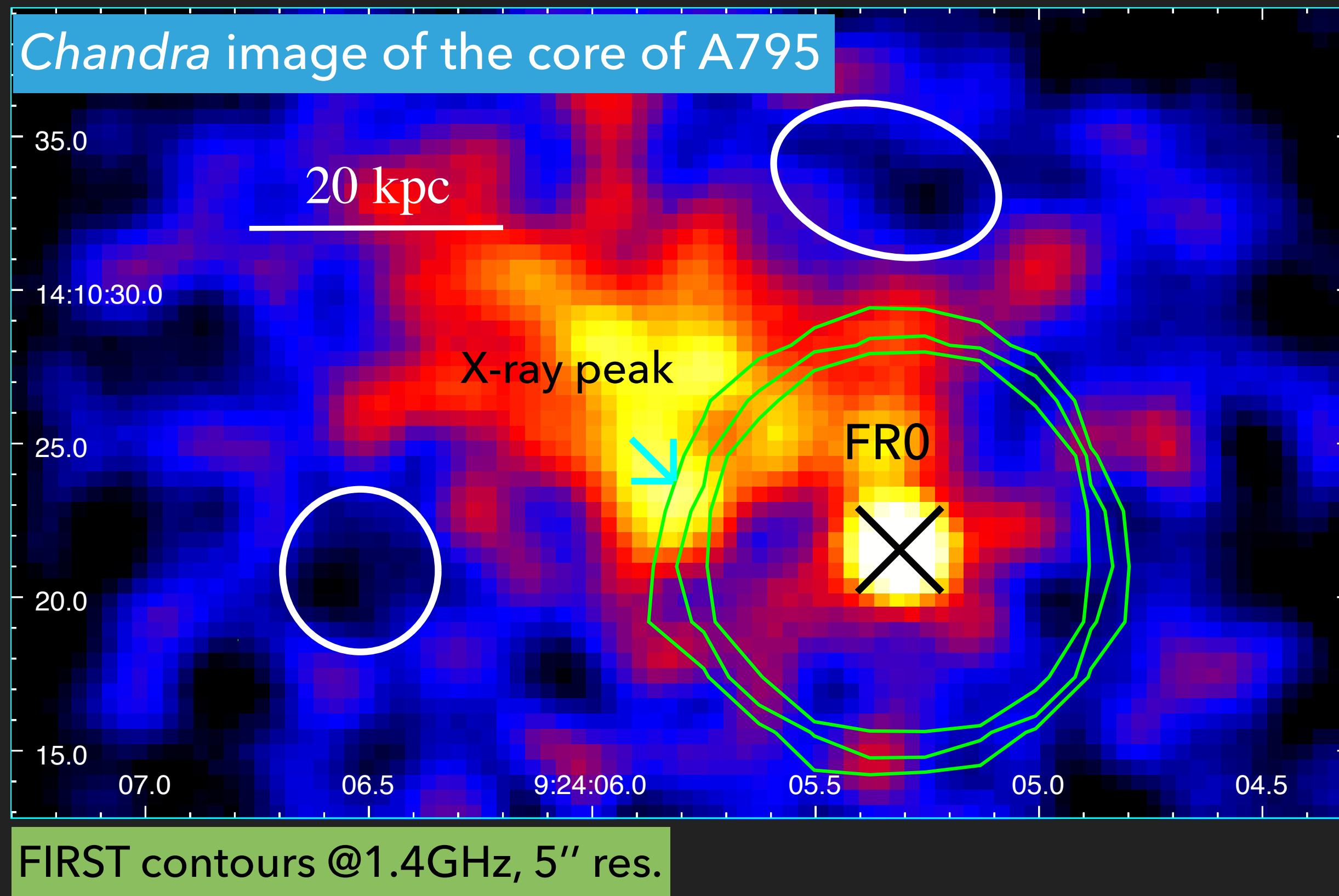
Density around the FRO: $n_e = 0.02 \text{ cm}^{-3}$

NE sector $kT = 3.5 \pm 0.3 \text{ KeV}$

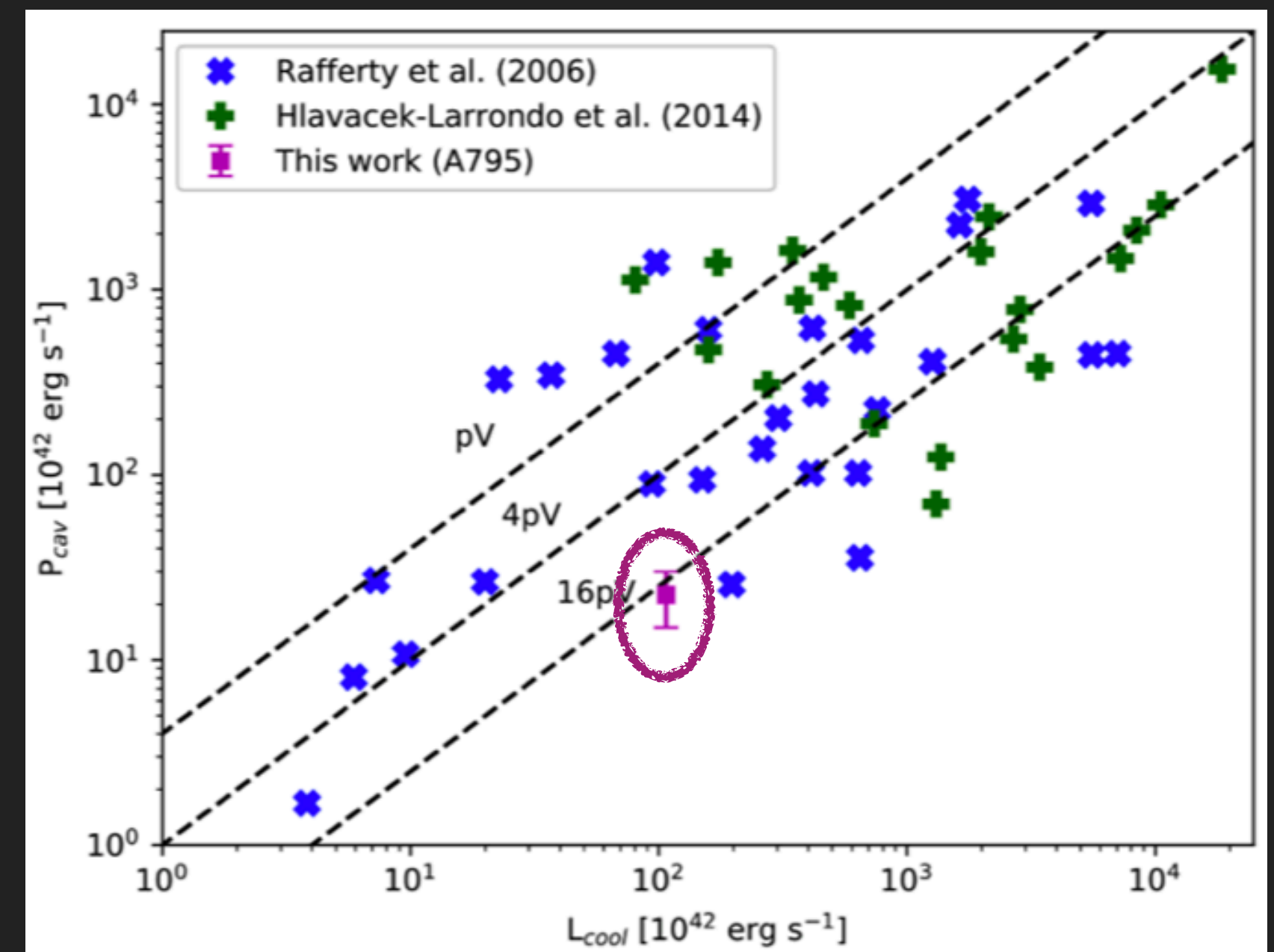
SW sector $kT = 4.3 \pm 0.3 \text{ KeV}$

THE ENVIRONMENT OF THE FRO IS DYNAMICALLY DISTURBED, BUT THESE CONDITIONS ARE OBSERVED ALSO AROUND EXTENDED FRI RADIO GALAXIES

AN UNEXPECTED PAIR OF X-RAY CAVITIES



Cavity Power vs Cooling Luminosity



IF THE CAVITIES ARE REAL, THE FR0 HAS ESTABLISHED A FEEDBACK CYCLE!

THANK YOU FOR YOUR ATTENTION

Questions and suggestions are welcome!

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(See also poster session!)