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Zhang, X.; Simionescu, A.; Stuardi, C.; Weeren, R.J. van; Intema, H.T.; Akamatsu, H.; ... ; Ichinohe, Y.

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# Deep *Chandra* observations of double relic cluster ZwCl 2341+0000

Xiaoyuan Zhang, Aurora Simionescu, Chiara Stuardi, Reinout van Weeren, Huib Intema, Hiroki Akamatsu, Jelle de Plaa, Jelle Kaastra, Annalisa Bonafede, Marcus Brüggen, John Zuhone & Yuto Ichinohe  
E-mail: xzhang@strw.leidenuniv.nl

**SRON**

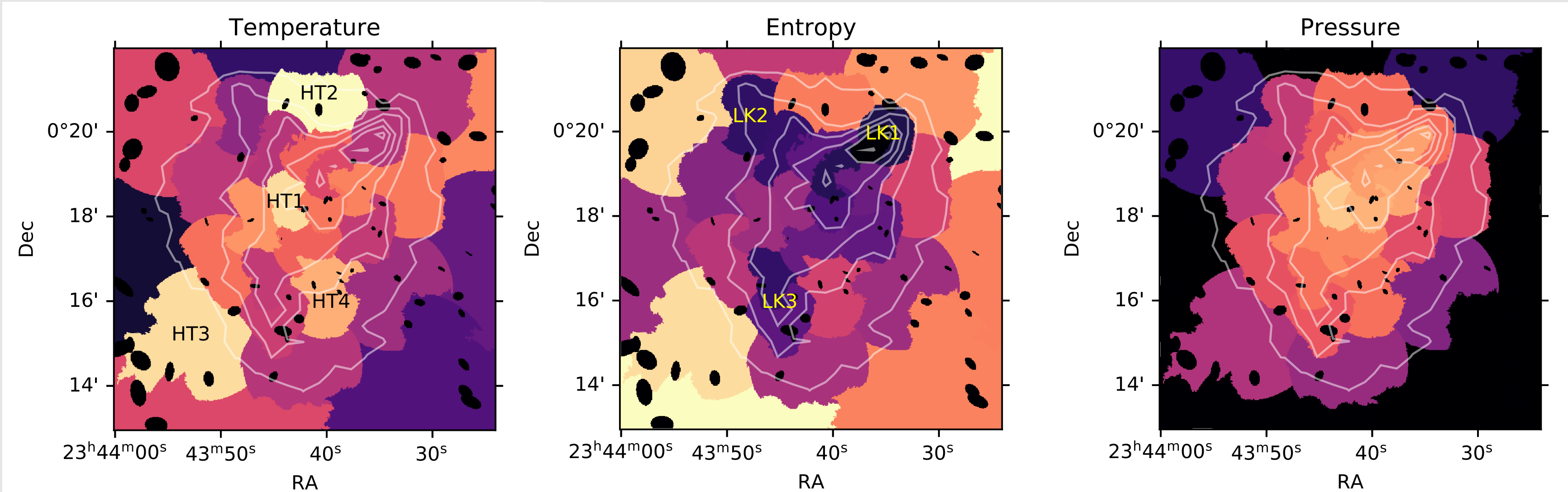
Netherlands Institute for Space Research



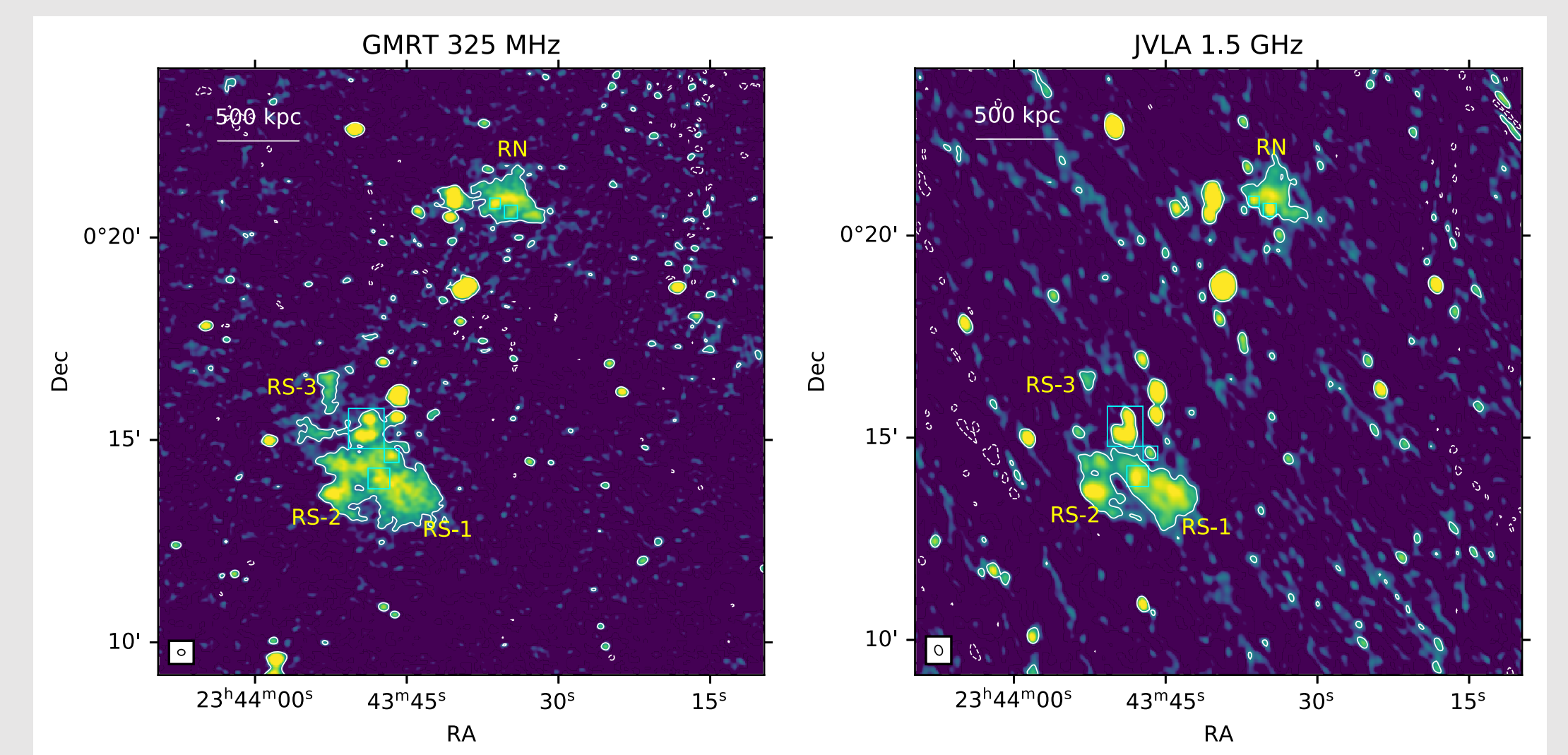
**Universiteit Leiden**

Leiden Observatory

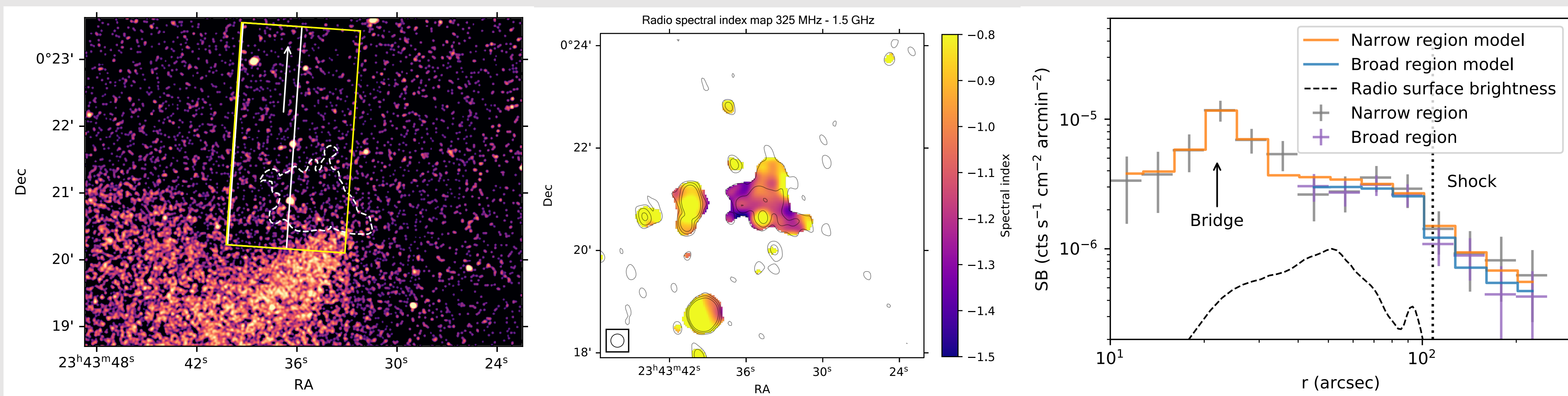
## X-ray thermodynamic maps



## Radio maps

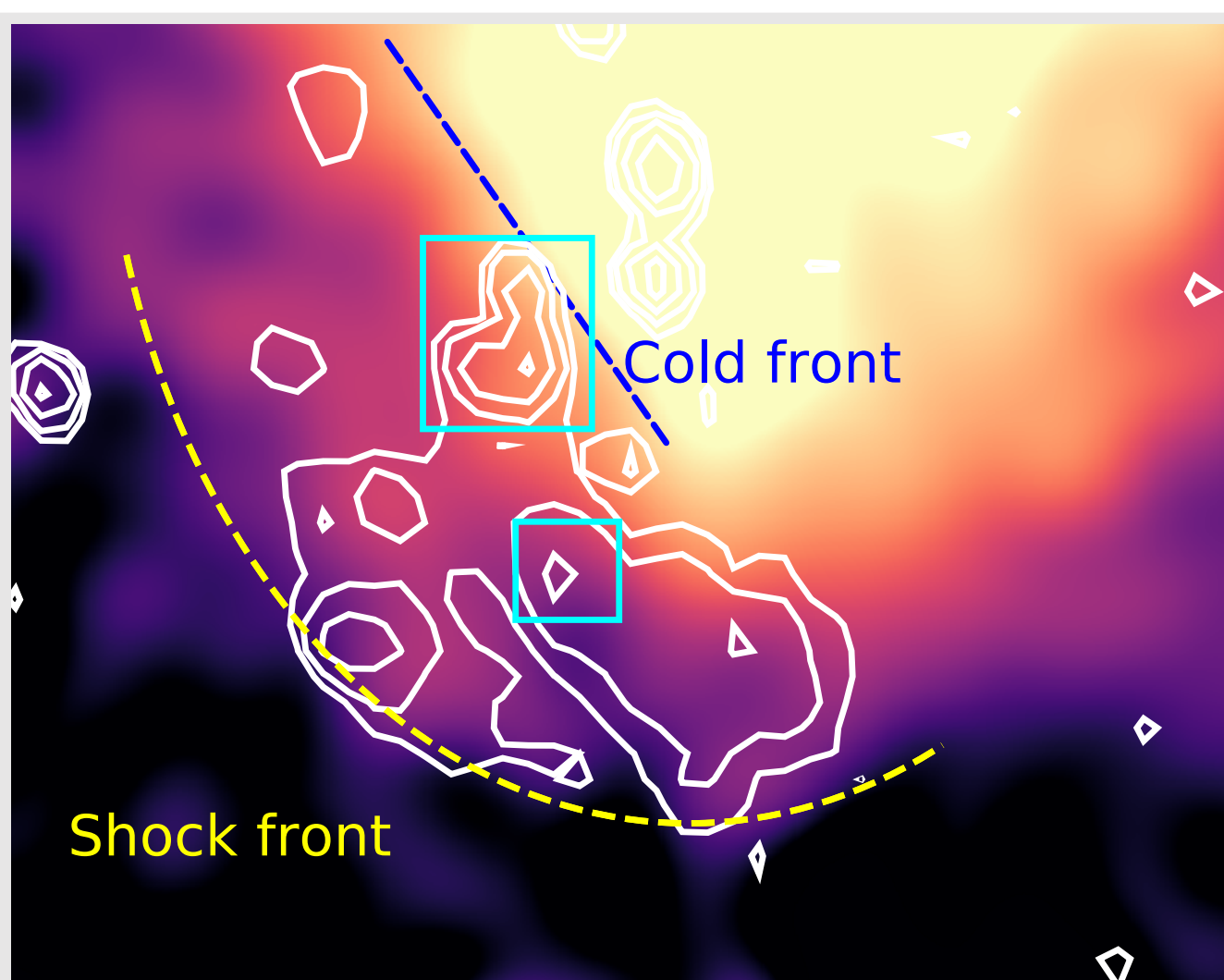
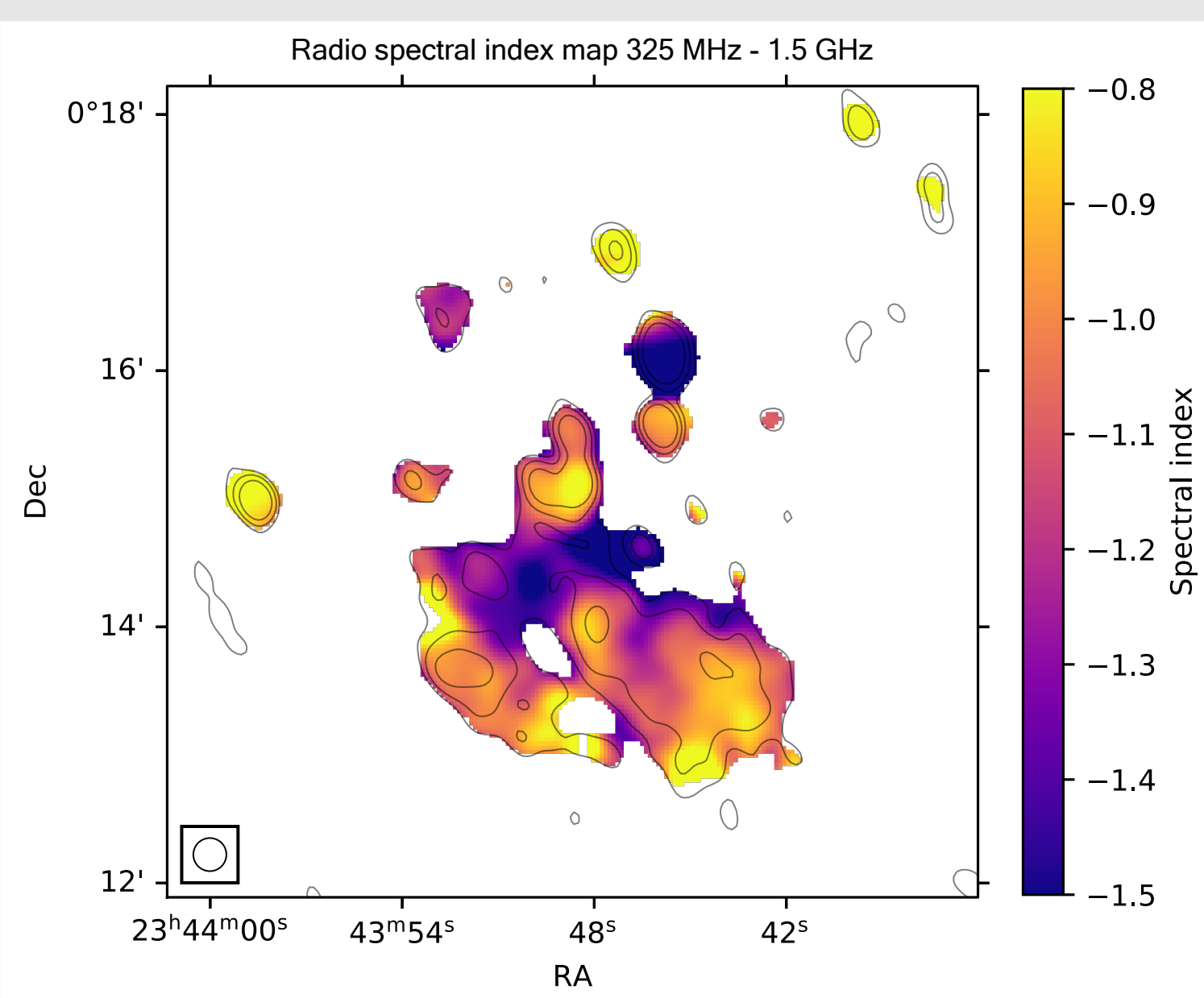


## N relic/shock



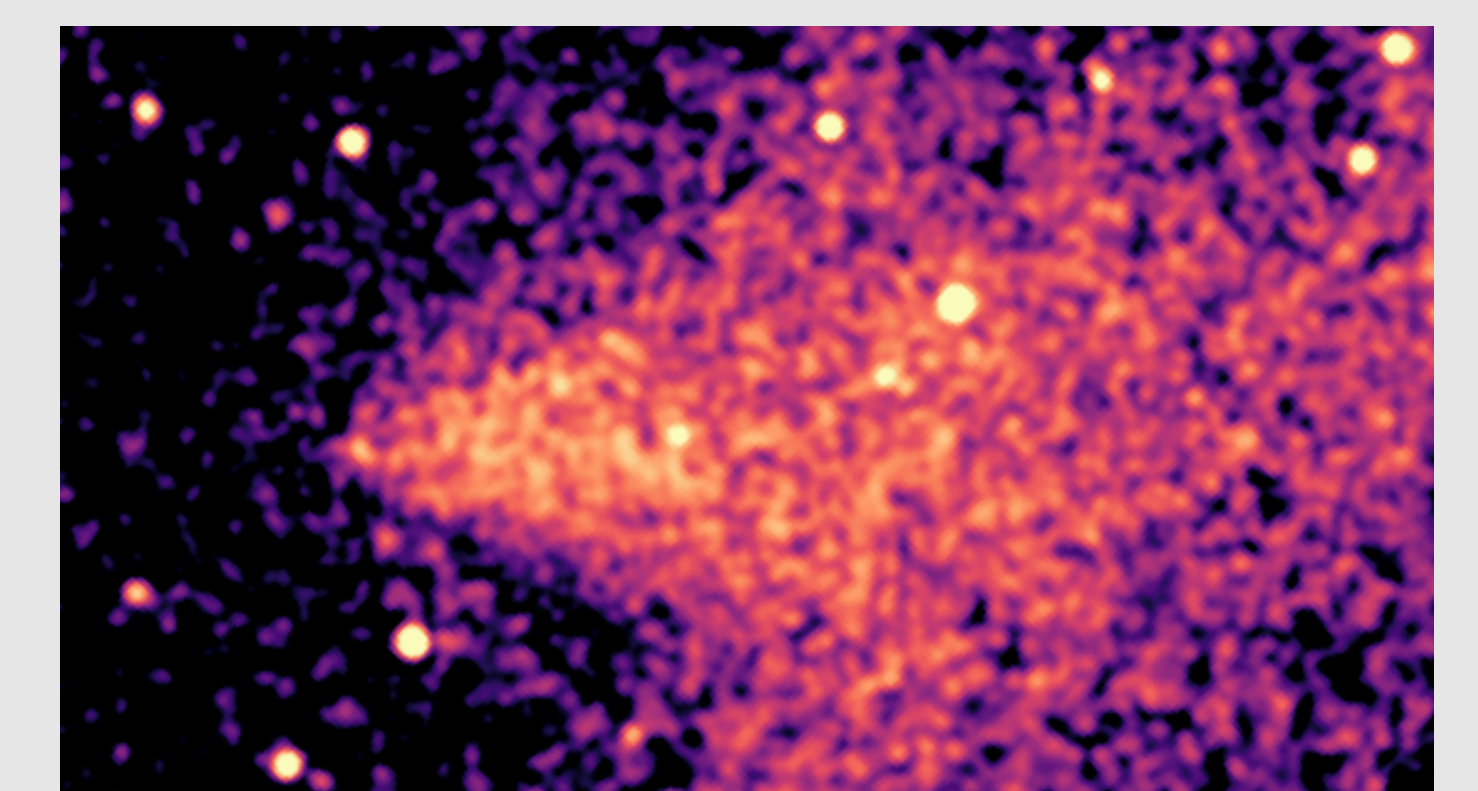
- A gas bridge with  $3\sigma$  significance
- Possible shock location: outer edge of the relic
- $\mathcal{M}_{inj} = 2.4 \pm 0.4$

## S relic/shock

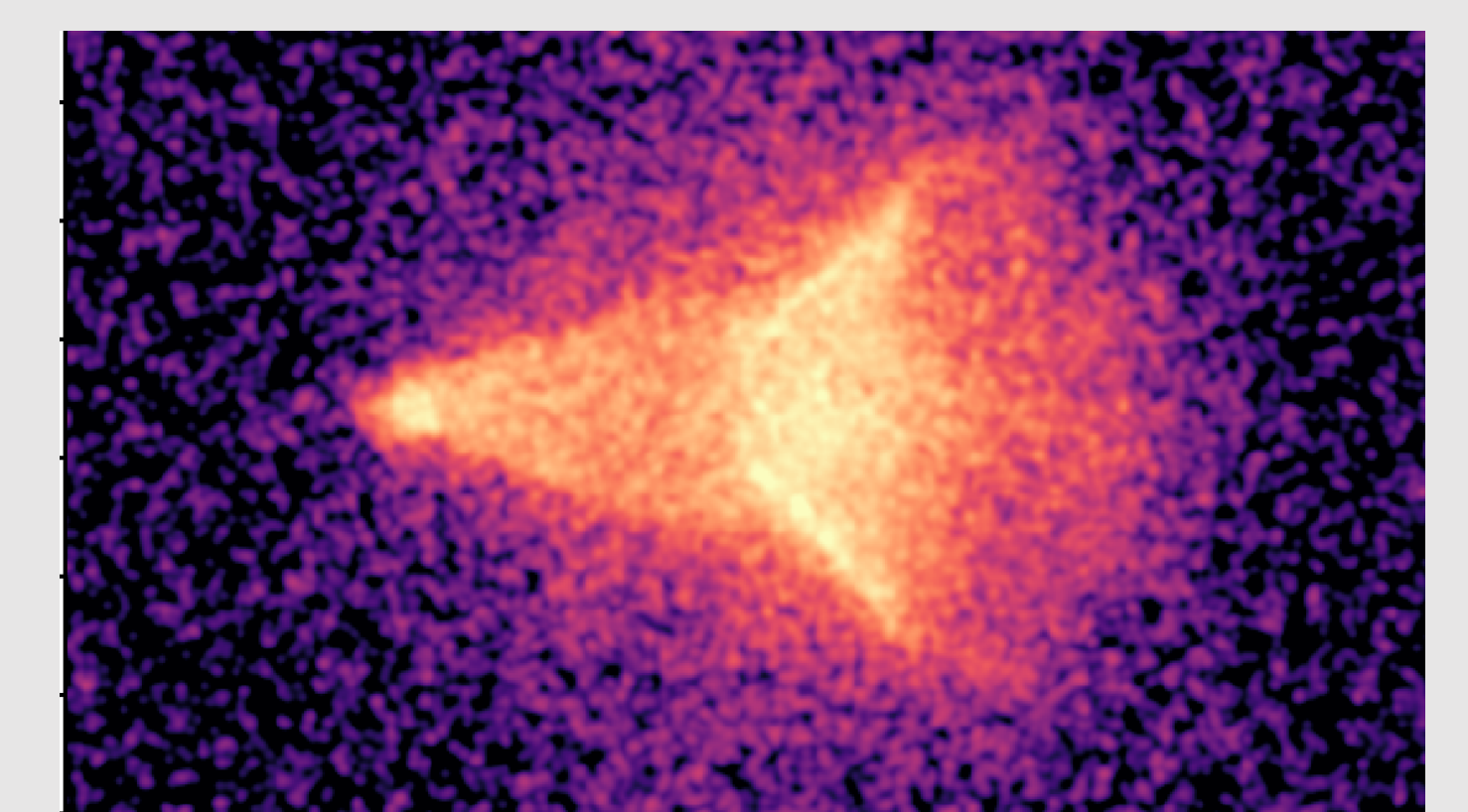


- Linear SB jump: cold front
- Possible shock location: the flat edge of the S relic
- $\mathcal{M}_{inj} = 2.2 \pm 0.1$

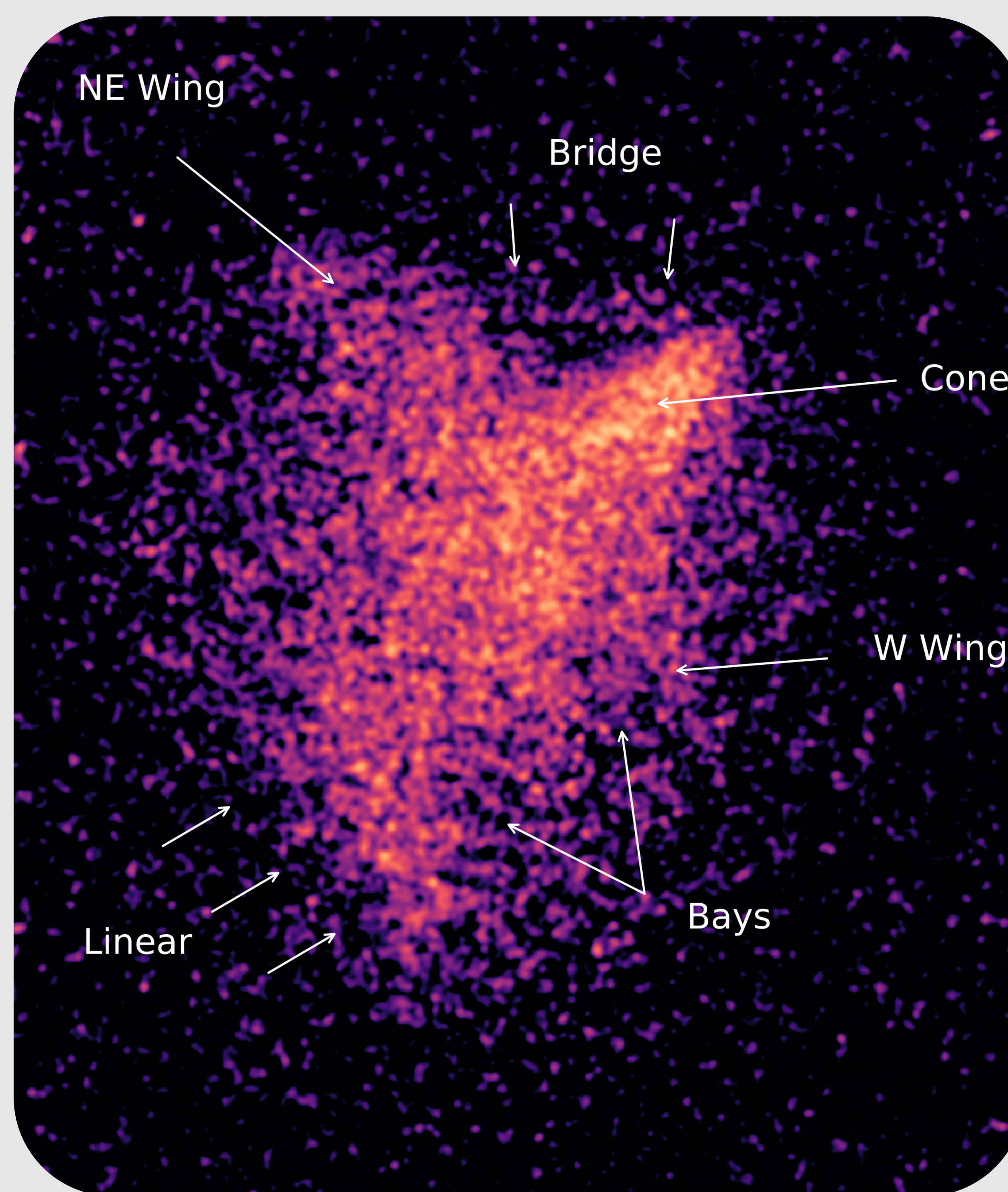
## Cone-shaped subcluster



Rotated image of the subcluster

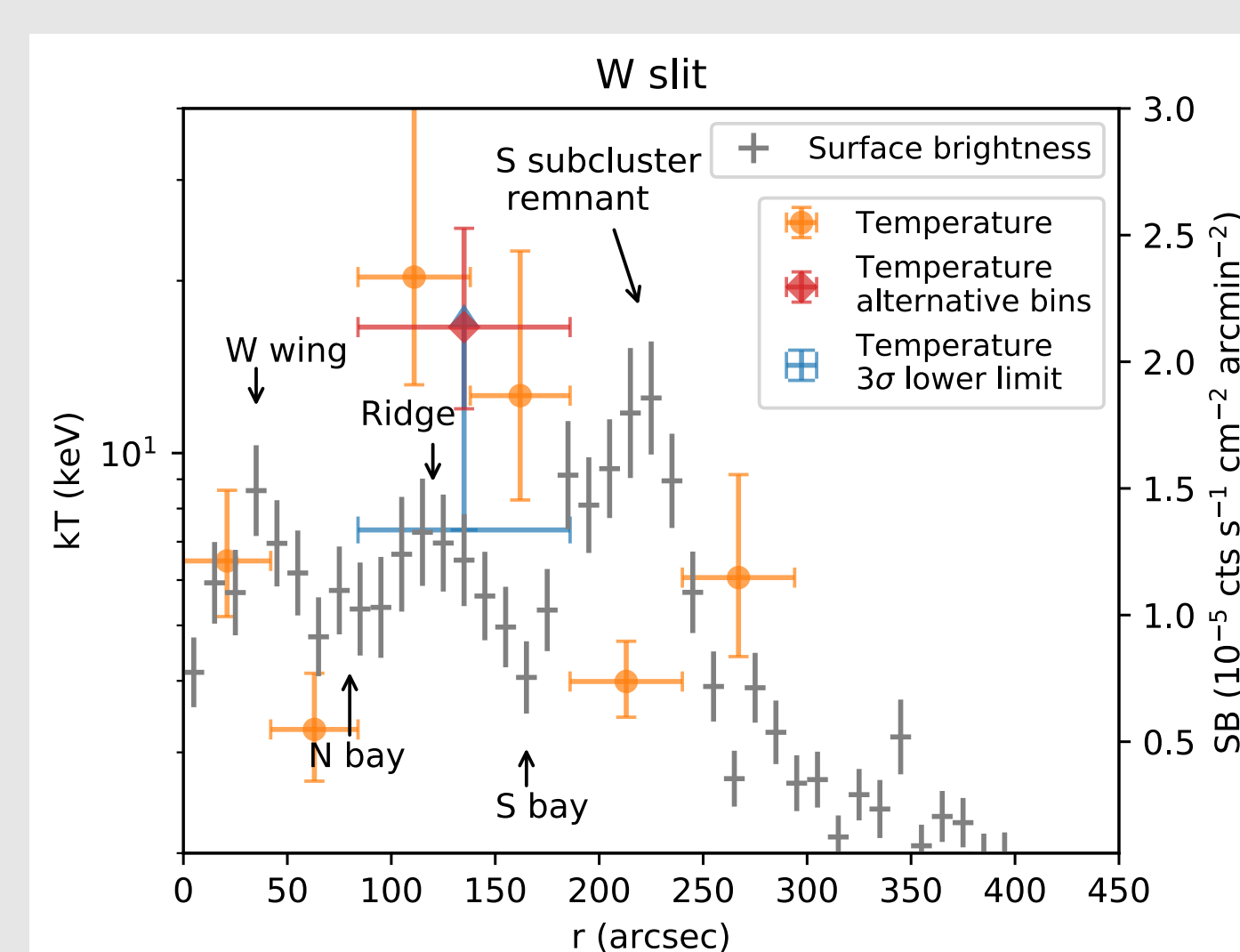
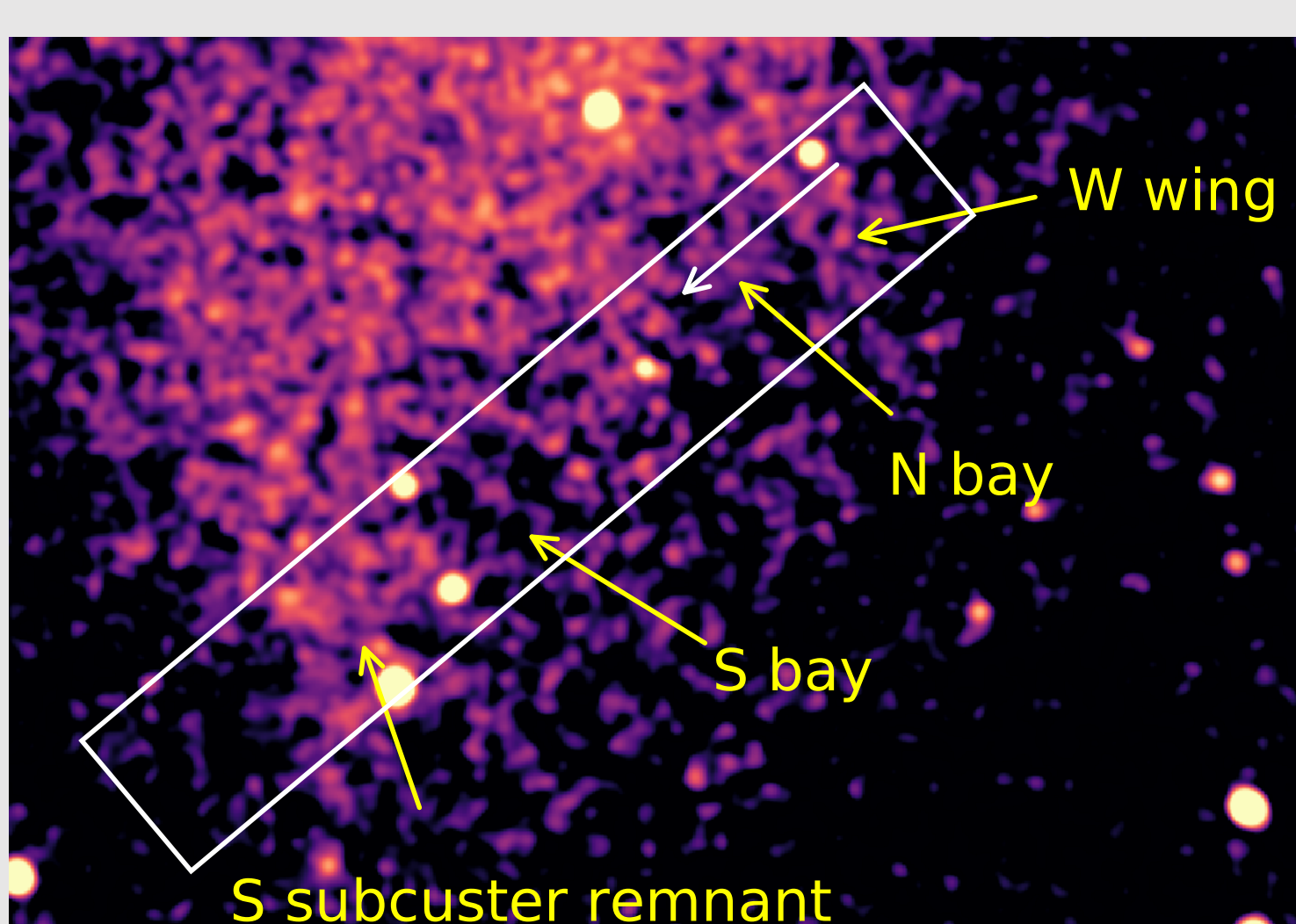


An analogy in a 1:3 mass ratio simulation (ZuHone 2011, Bryzcki & ZuHone 2019)



206 ks *Chandra* flux image

## Pressure jump across the bays



N bay: low kT & low  $n$   
Ridge: high kT & high  $n$   
S bay: high kT & low  $n$

A pressure jump between N bay and ridge

## References

- ZuHone 2011, ApJ, 728, 54
- Brzycki & ZuHone 2019, ApJ, 883, 118