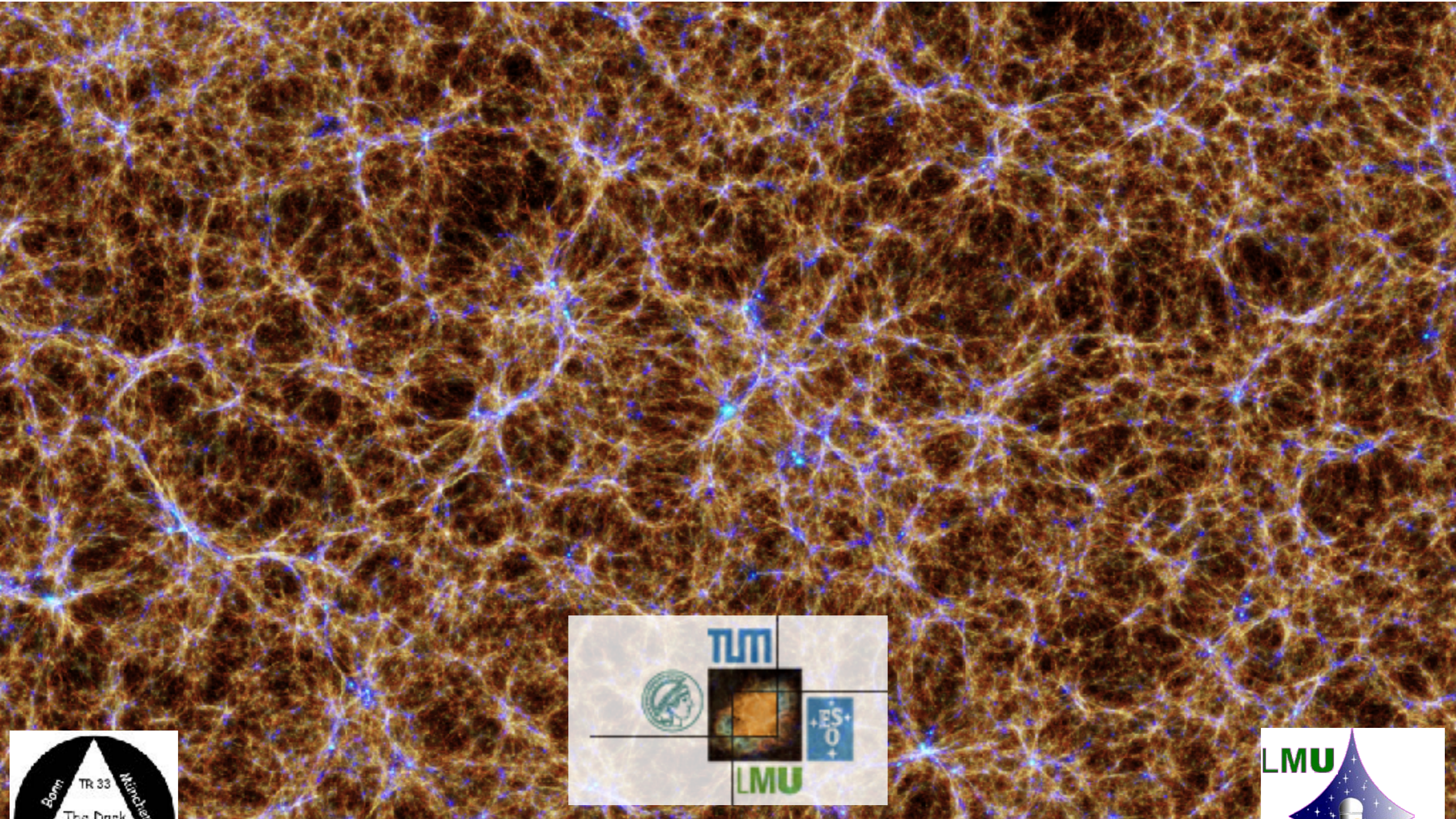


# Do galaxy mergers make AGN special?

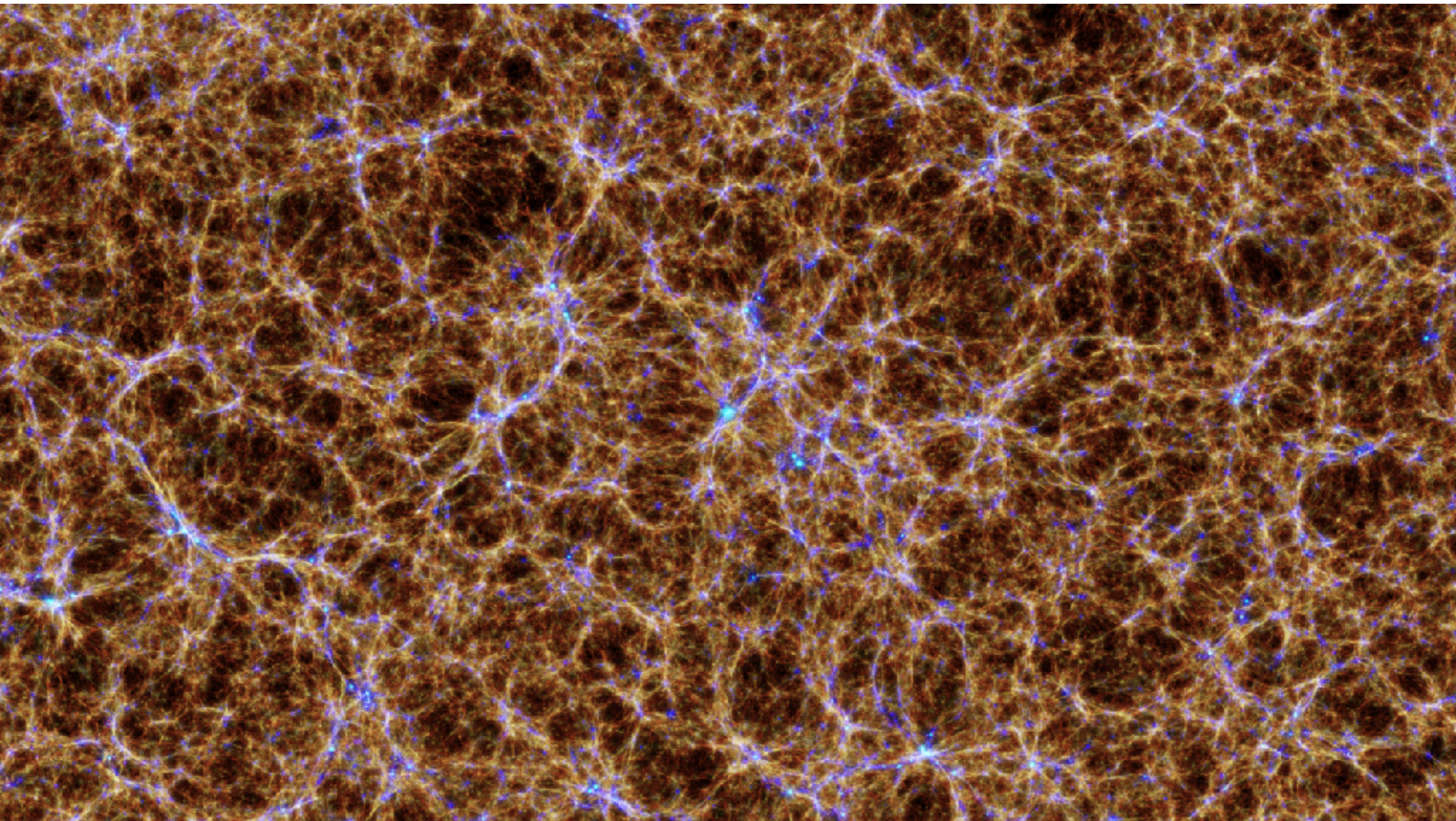
**Lisa K. Steinborn**

in collaboration with M. Hirschmann, K. Dolag, F. Shankar, S. Juneau, M. Krumpe, R.-S. Remus, A. F. Teklu, T. Miyaji

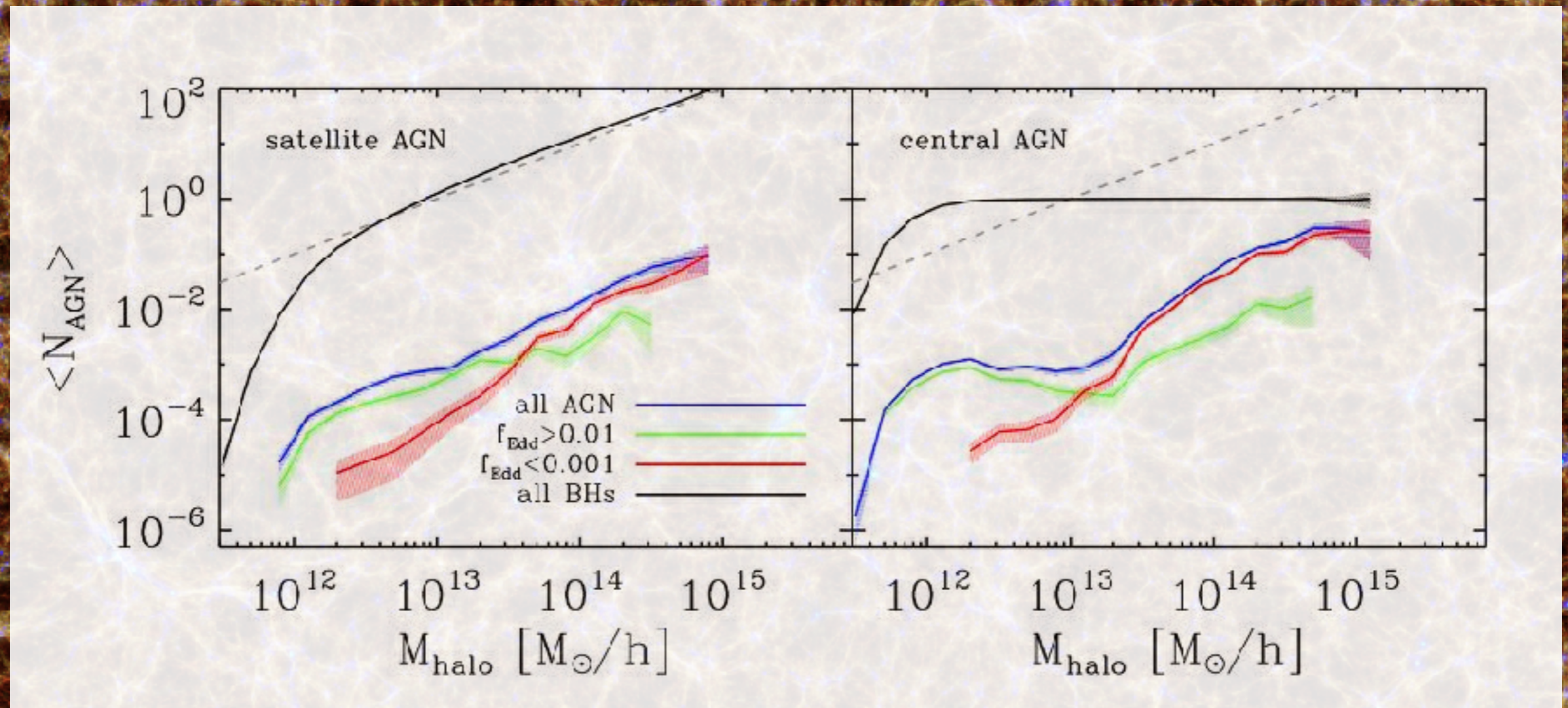


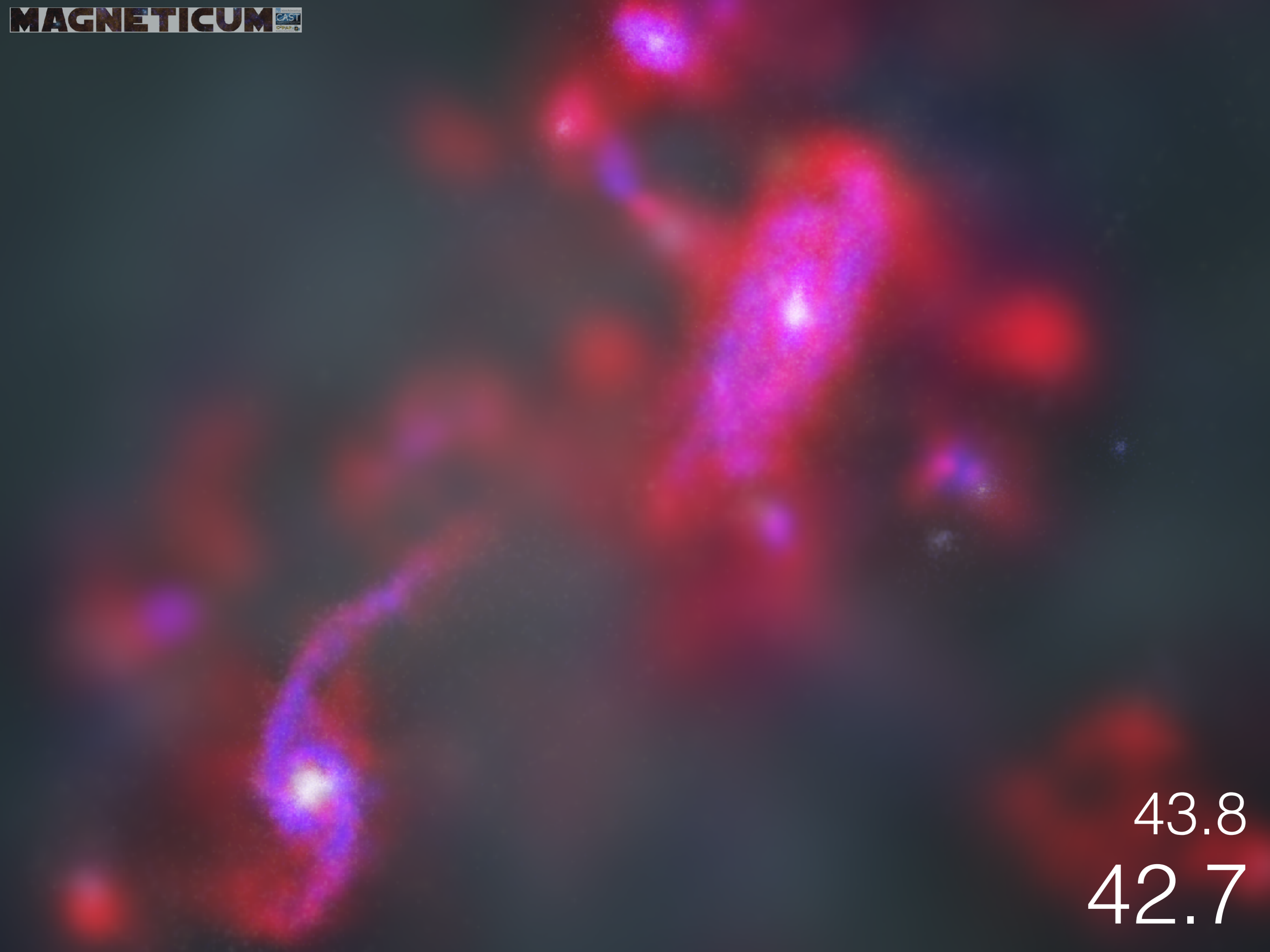
# MAGNETICUM



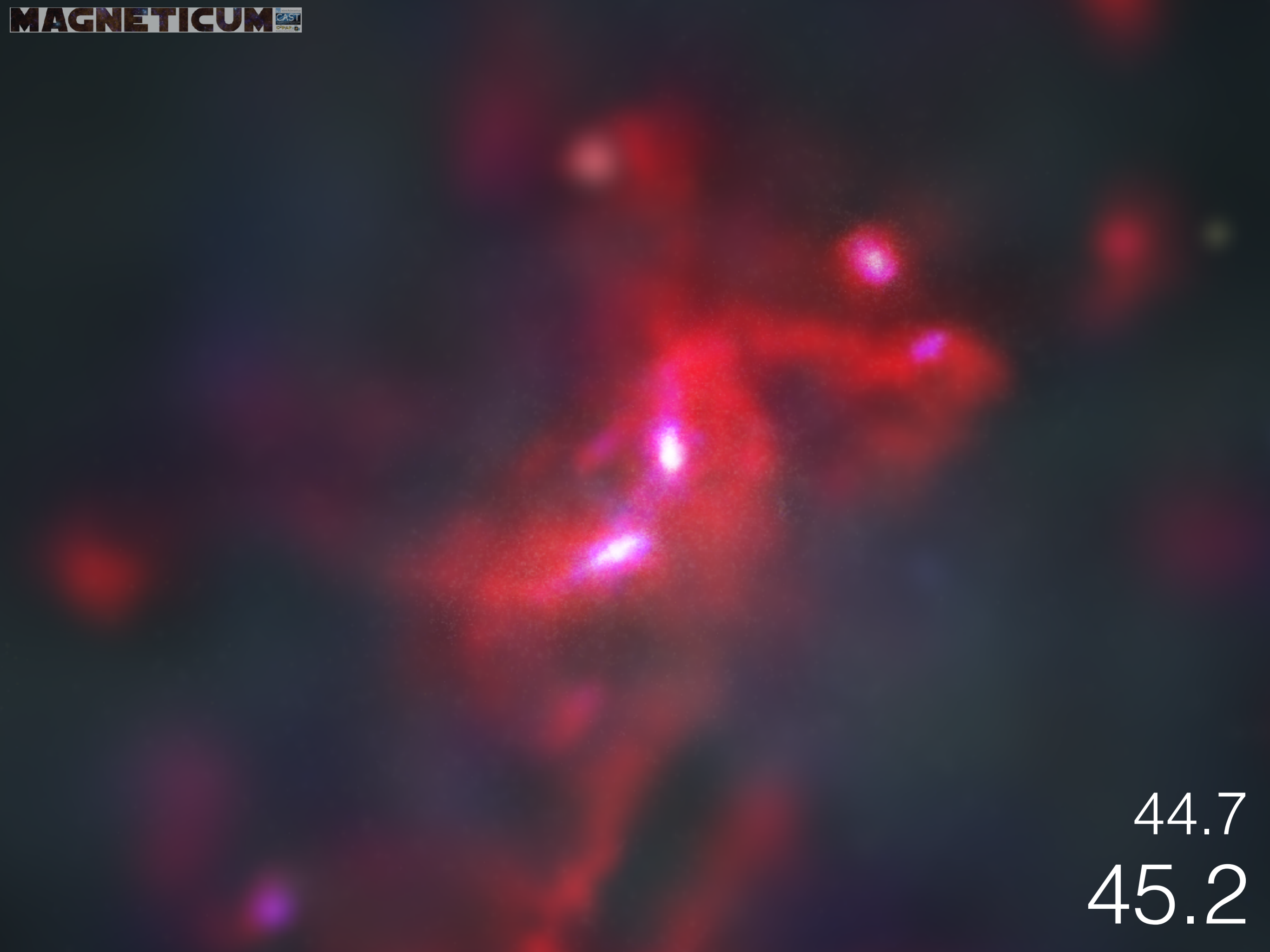


# The HOD of AGN





43.8  
42.7



44.7  
45.2



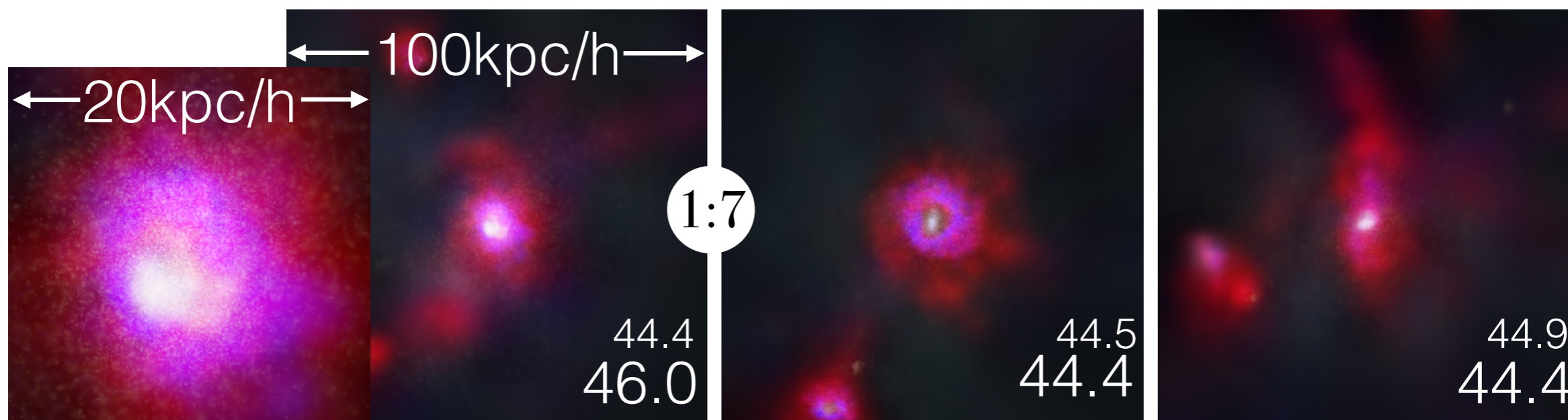
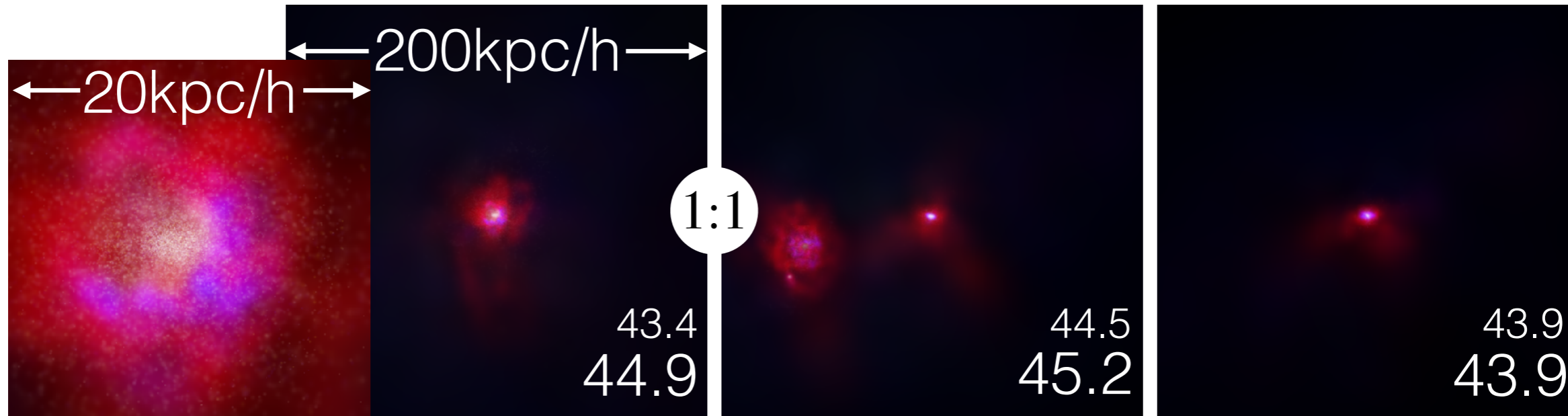
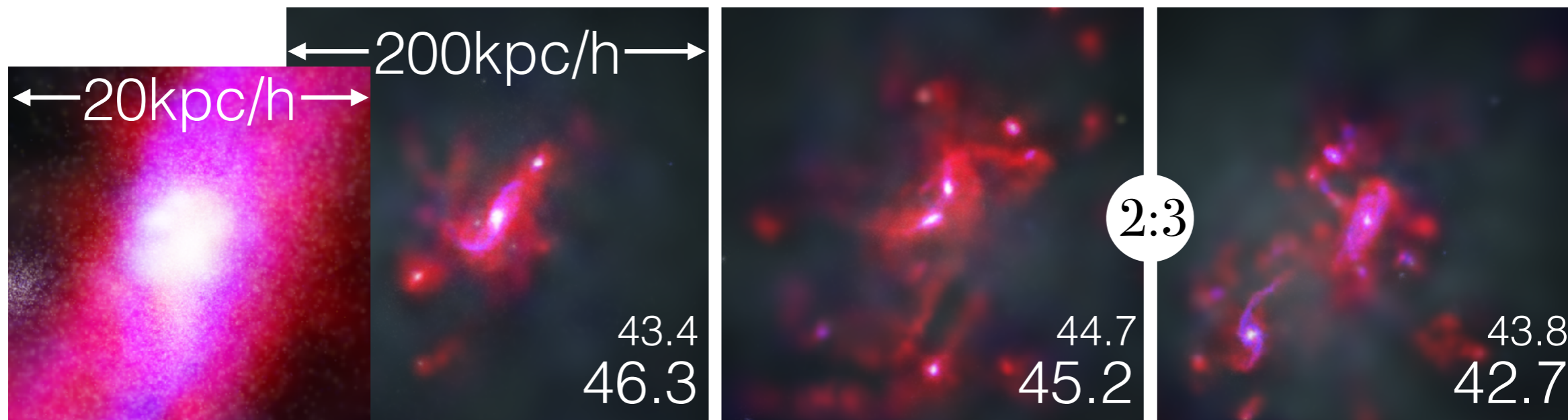
43.4  
46.3

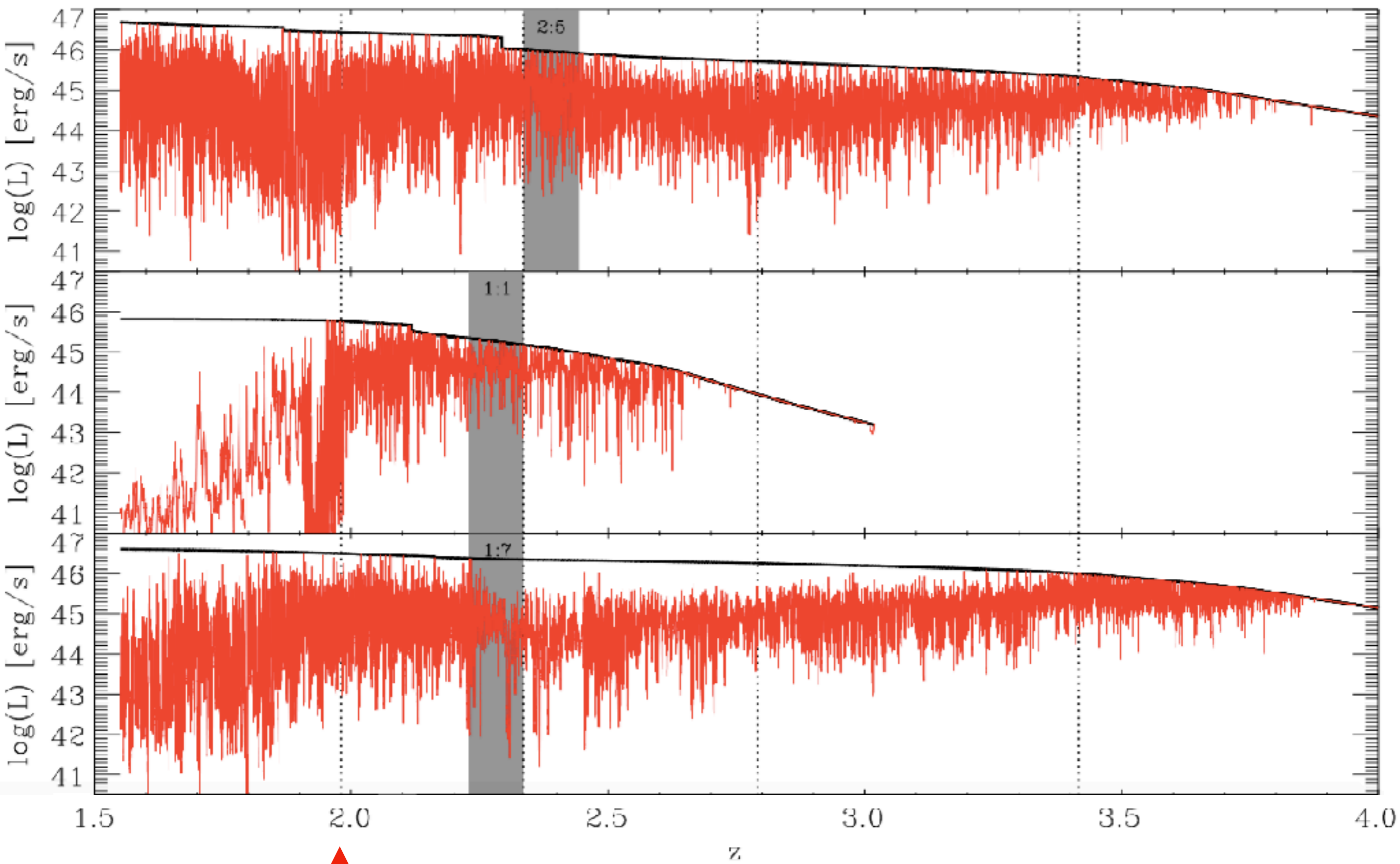
Steinborn+18

$z=2.0$

$z=2.3$

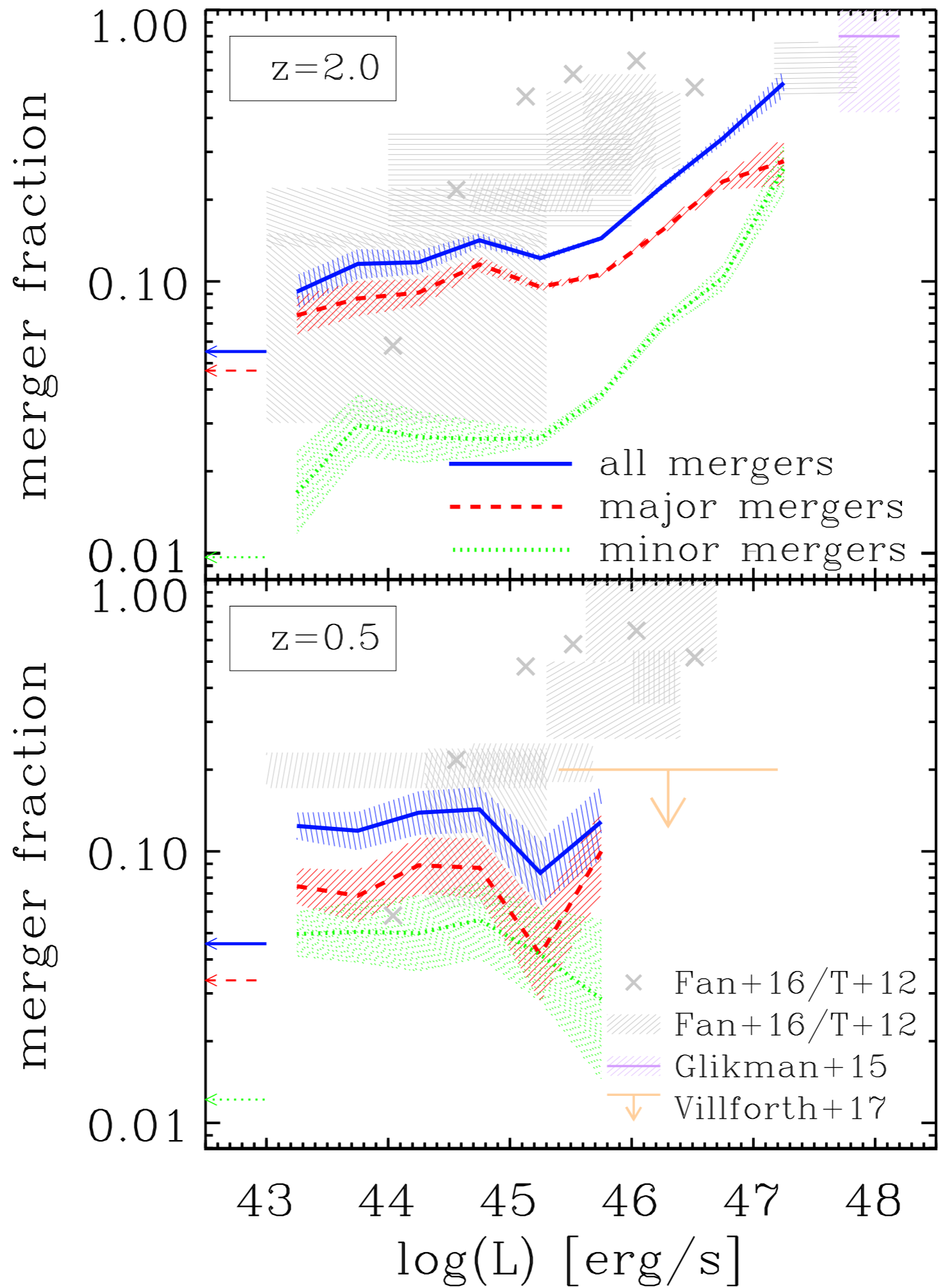
$z=2.8$

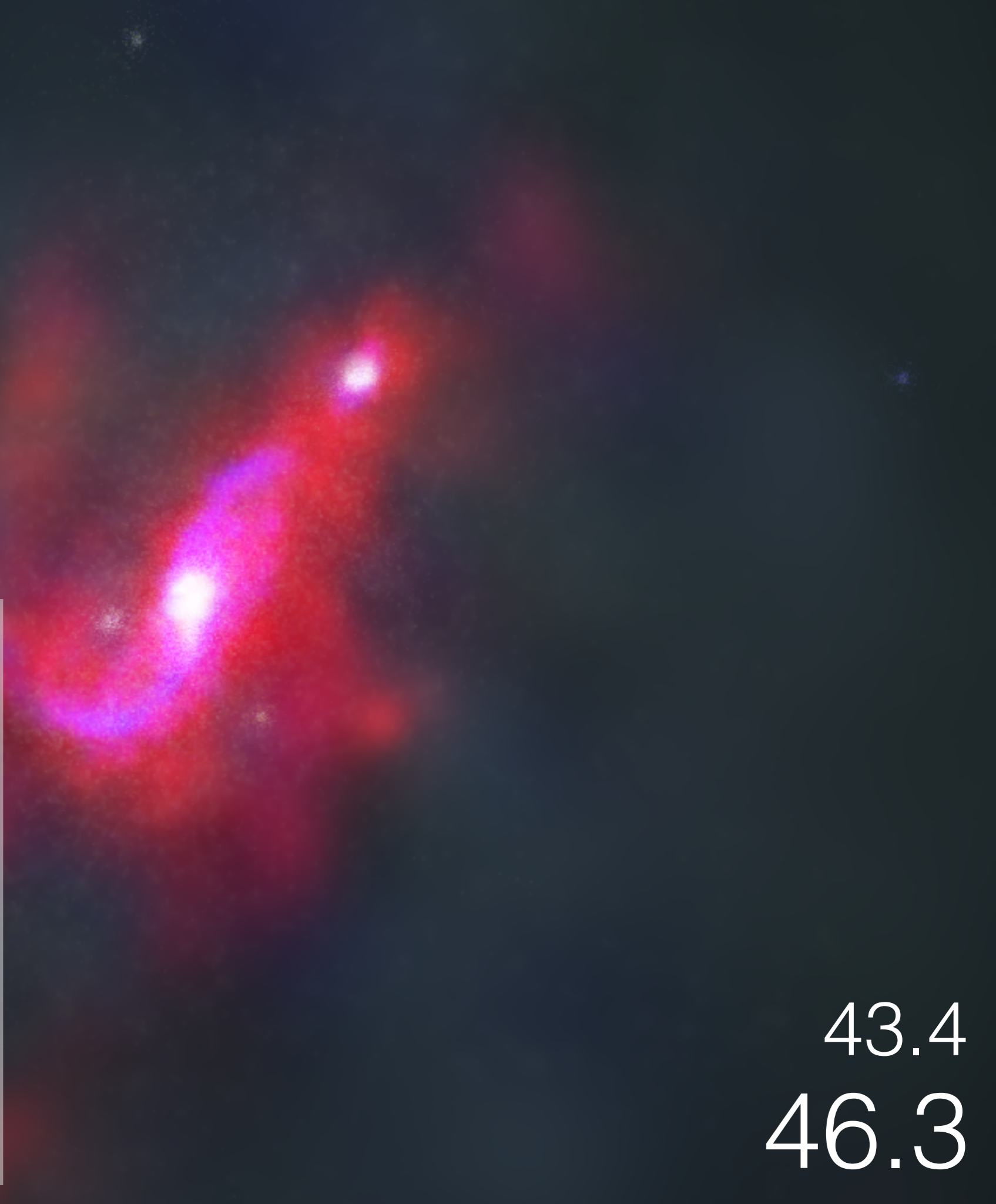
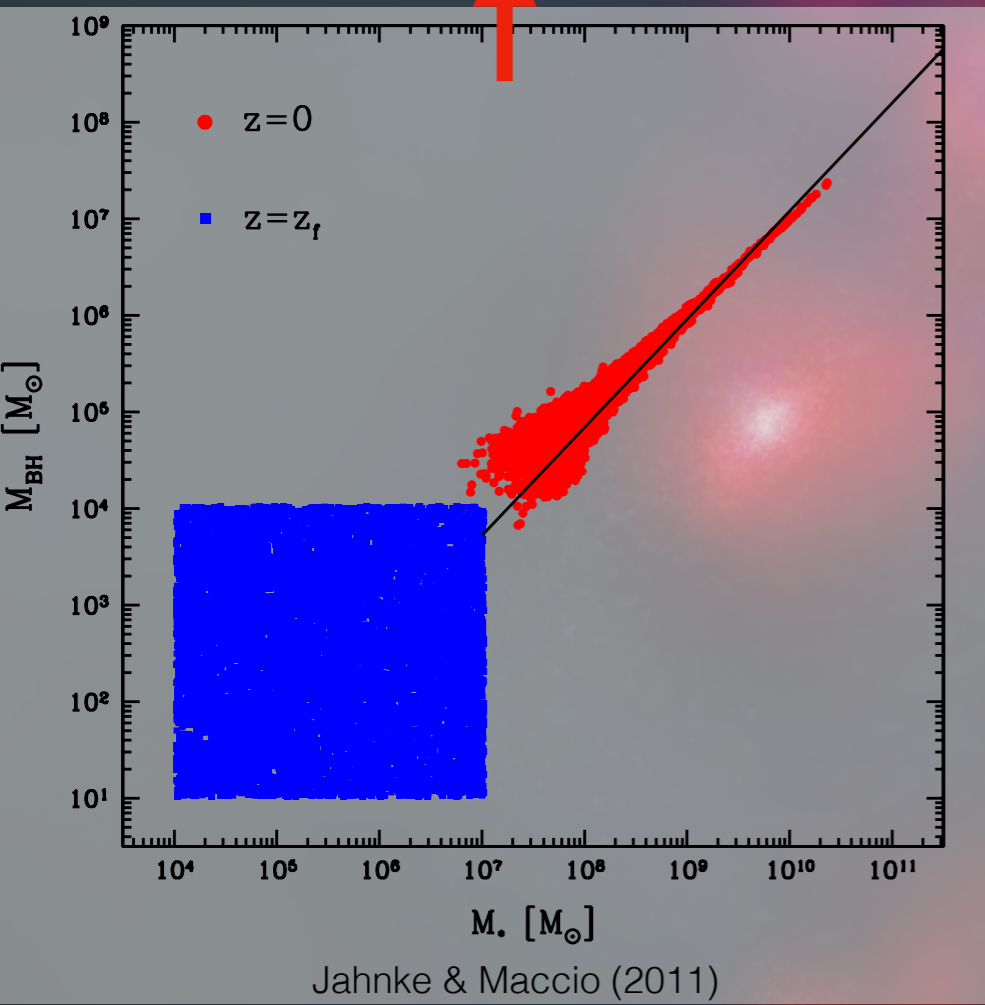
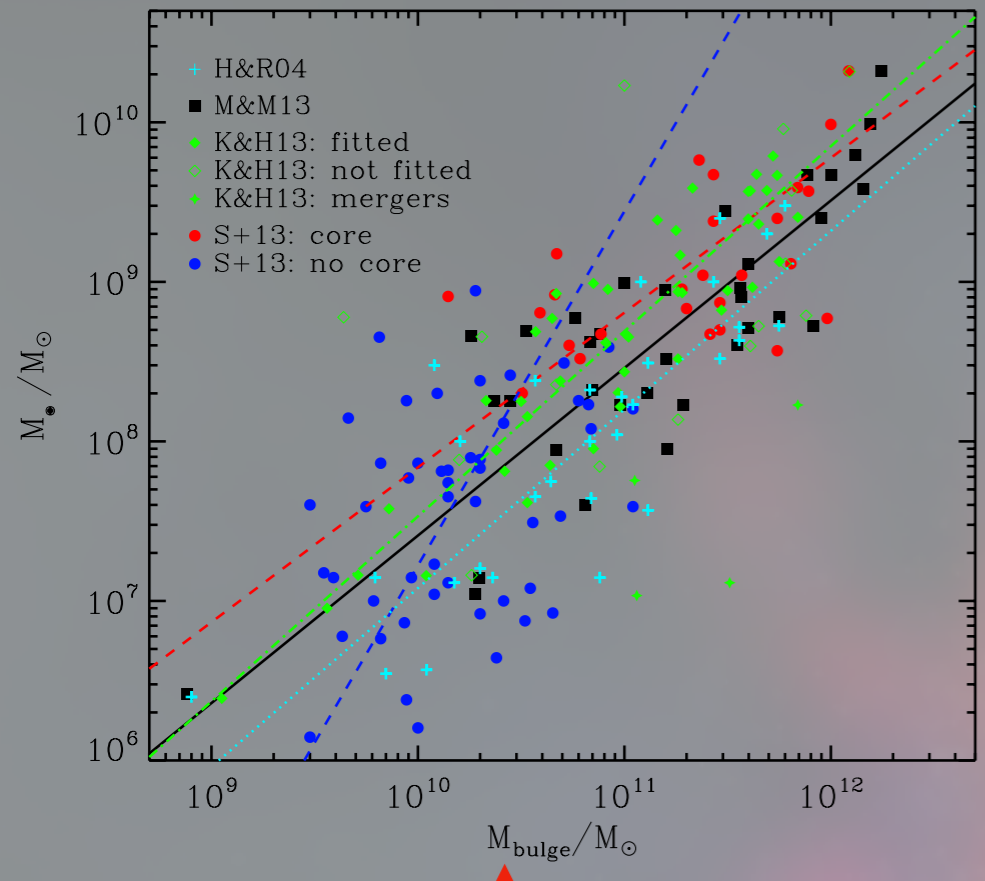




**z=2**







43.4  
46.3



# Do galaxy mergers make AGN special?

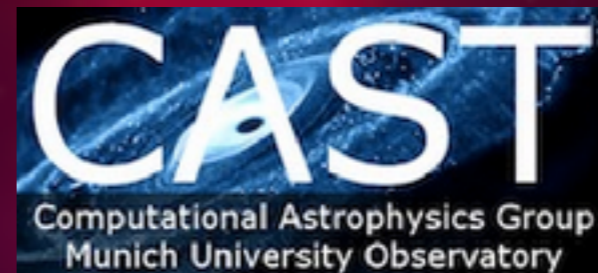
... mostly not!

Thanks for  
your attention!

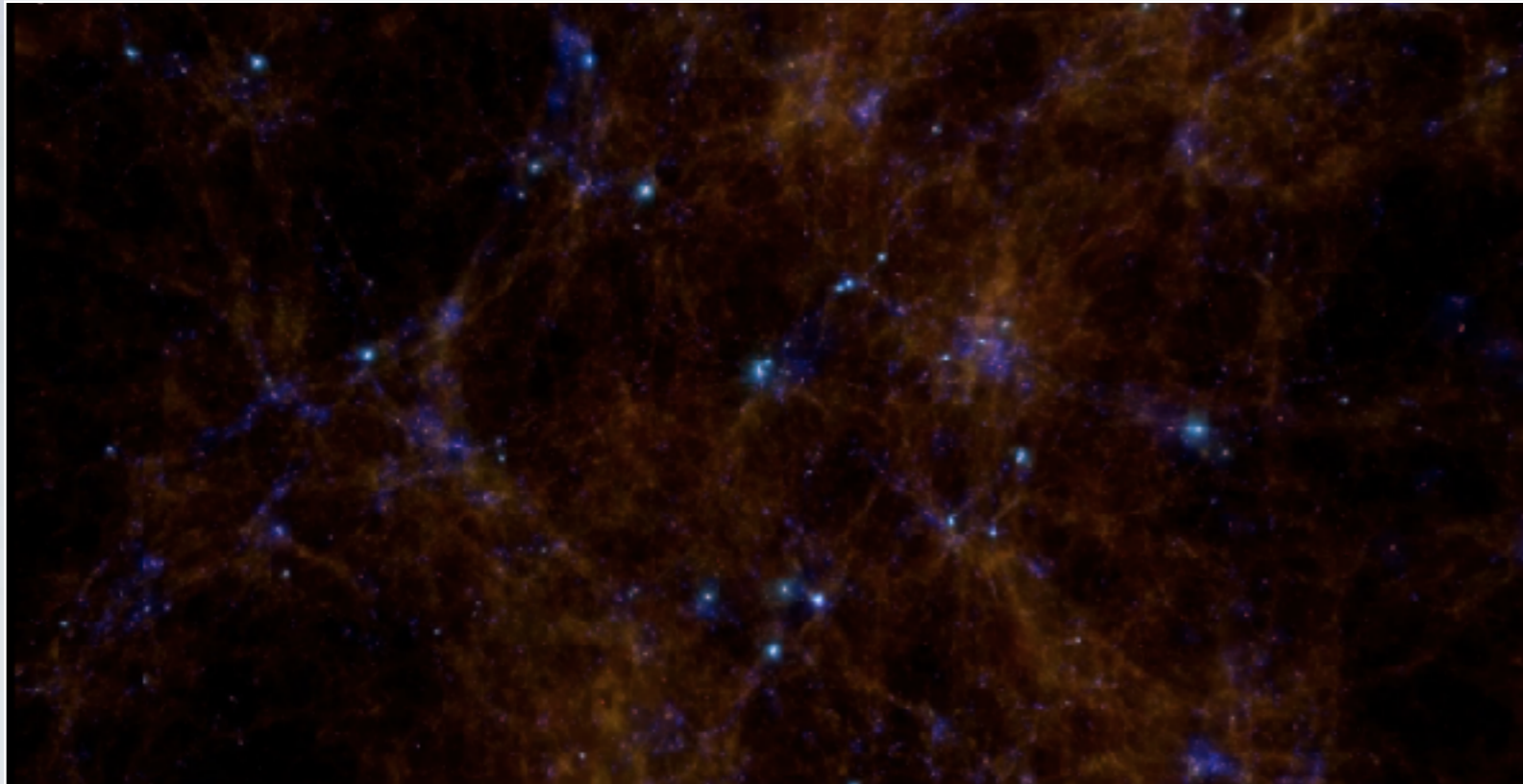
[www.magneticum.org](http://www.magneticum.org)

[www.lisasteinborn.de](http://www.lisasteinborn.de)

Lisa K. Steinborn

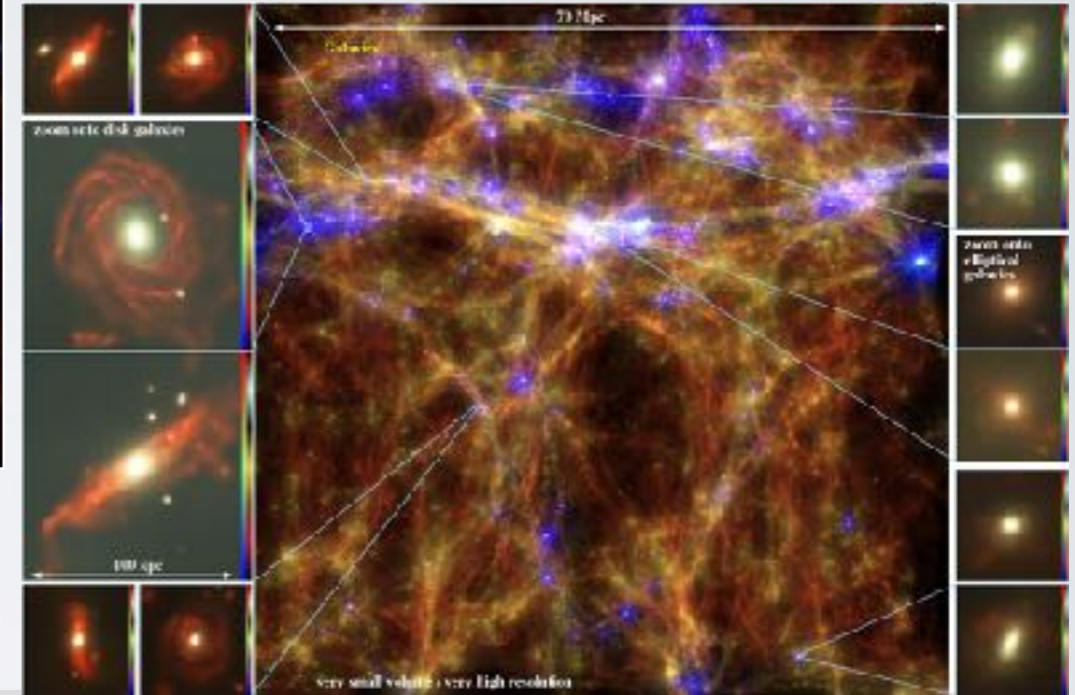


# Appendix



Our simulations include:

- thermal conduction (Dolag et al., 2004)
- star formation
- chemical enrichment
- supernova feedback (Tornatore et al. 2007)
- metals
- sixth-order Wendland kernel (Dehnen & Aly 2012)
- low viscosity SPH scheme
- magnetic fields (passive)
- BH growth and AGN feedback



more information:  
[www.magneticum.org](http://www.magneticum.org)

Hirschmann+14,  
Steinborn+15, Teklu+15,  
Bocquet+15, Dolag+15,  
Steinborn+16, Remus+16

	$m_{\text{dm}}$	$m_{\text{gas}}$	$\text{eps}_{\text{dm}}$	$\text{eps}_{\text{gas}}$	$\text{eps}_{\text{stars}}$
mr	1.3e10	2.6e9	10	10	5
hr	6.9e8	1.4e8	3.75	3.75	2
uhr	3.6e7	7.3e6	1.4	1.4	0.7
xhr	1.9e6	3.9e5	0.45	0.45	0.25

Table 2: Mass of dm and gas particles (in  $M_{\text{sol}}/h$ ) at the different resolution levels and the according softenings (in  $\text{kpc}/h$ ) used.

	Box0	Box1	Box2b	Box2	Box3	Box4	Box5
[Mpc/h]	2688	896	640	352	128	48	18
mr	2*4536 <sup>3</sup>	2*1526 <sup>3</sup>		2*594 <sup>3</sup>	2*216 <sup>3</sup>	2*81 <sup>3</sup>	
hr			2*2880 <sup>3</sup>	2*1584 <sup>3</sup>	2*576 <sup>3</sup>	2*216 <sup>3</sup>	2*81 <sup>3</sup>
uhr					2*1536 <sup>3</sup>	2*576 <sup>3</sup>	2*216 <sup>3</sup>
xhr						2*1536 <sup>3</sup>	2*576 <sup>3</sup>

Table 1: Number of particles used in the *Magneticum Pathfinder* and *Magneticum* simulations for the different resolution levels *mr*, *hr*, *uhr* and *xhr*. The red entries mark simulations which are currently running or not ran to  $z=0$ , the gray entries mark future, planned simulations.

# Appendix

