

Diffuse, warm-hot gas with Arcus

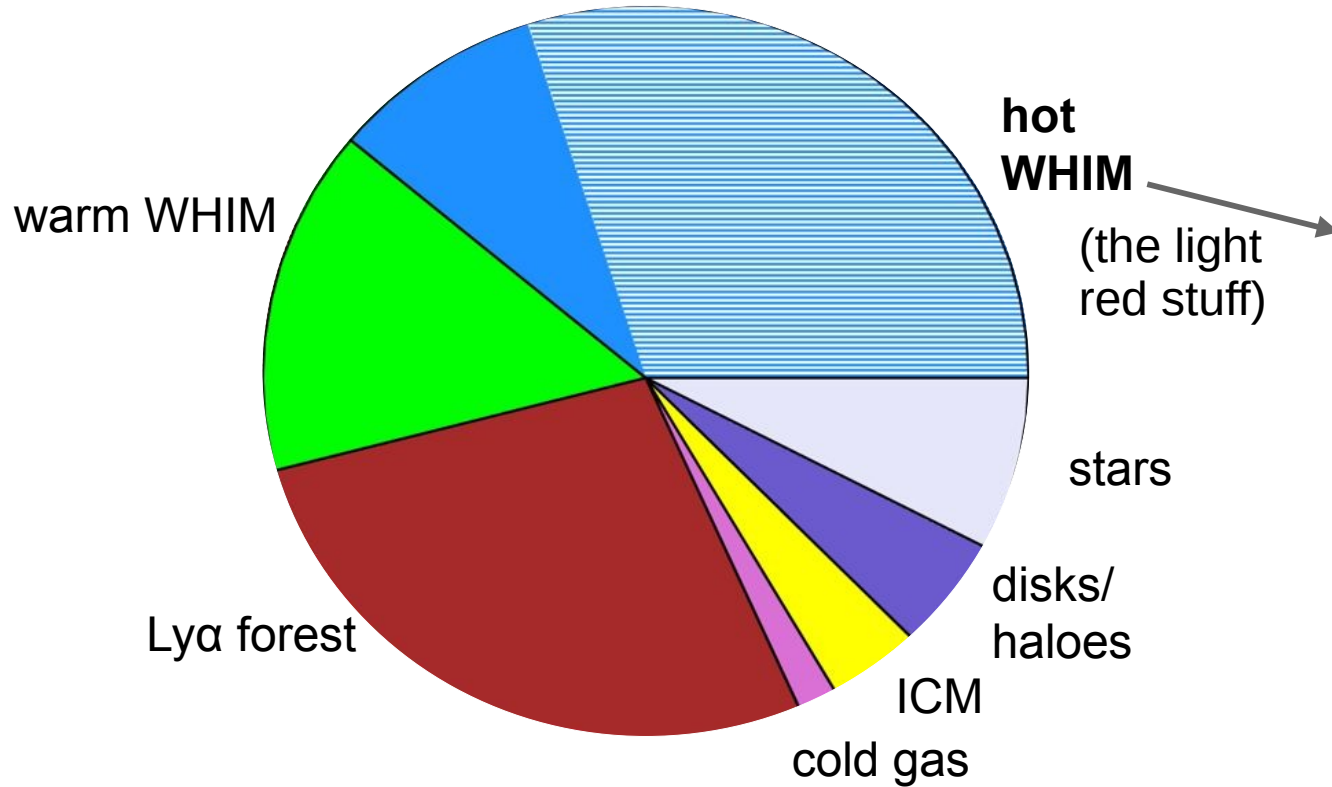
Nastasha Wijers

CIERA fellow, Northwestern University, with prof. Faucher-Giguère
Presenting work with prof. Schaye (Leiden)

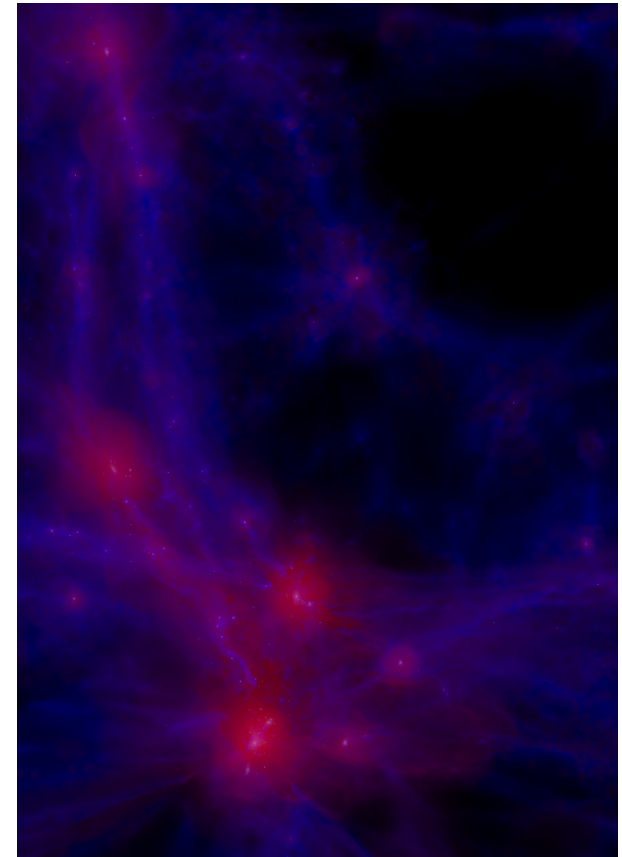
Northwestern



Missing baryons problem

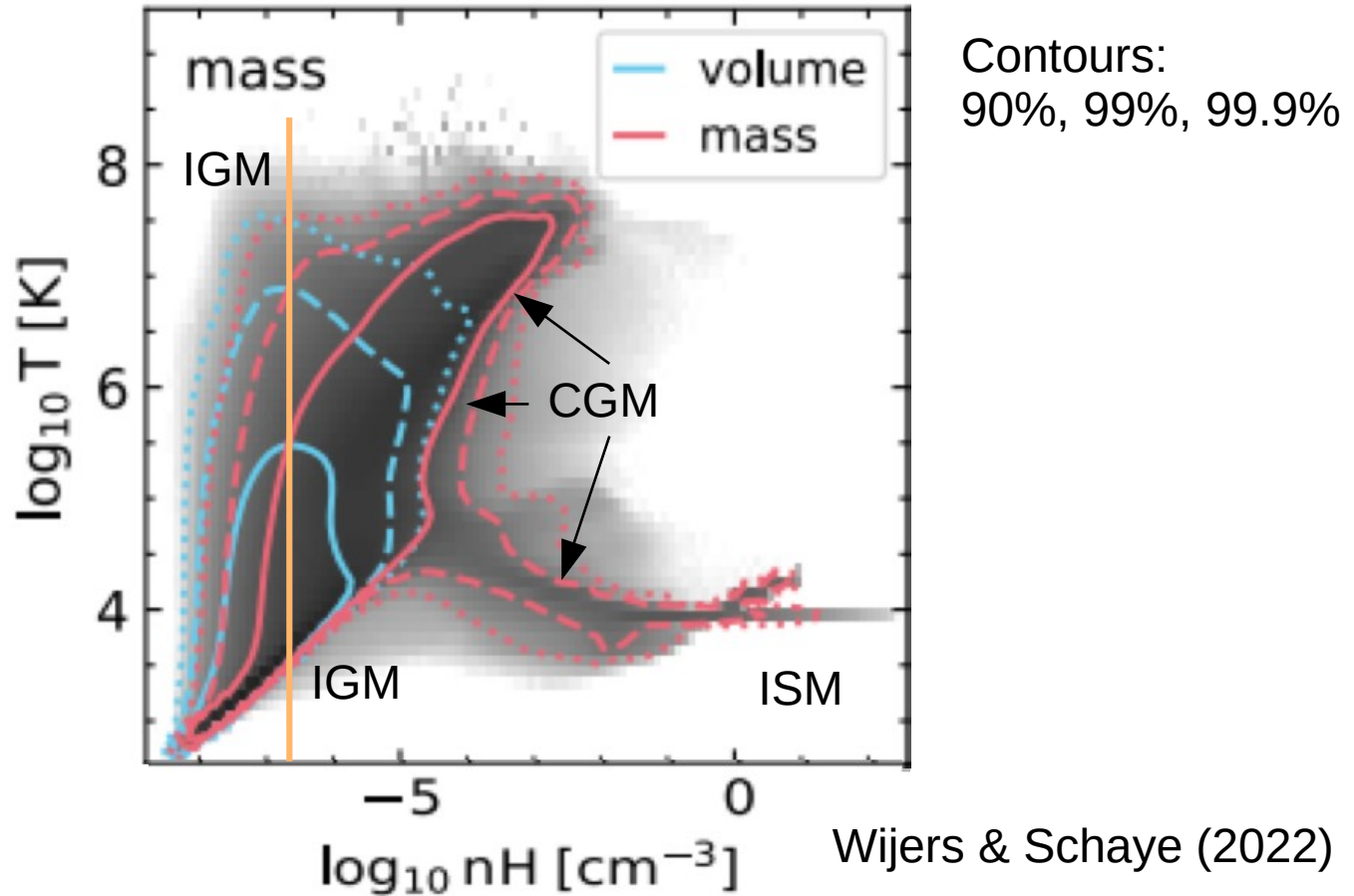


Local baryons (Nicastro *et al.* 2018, Nature)

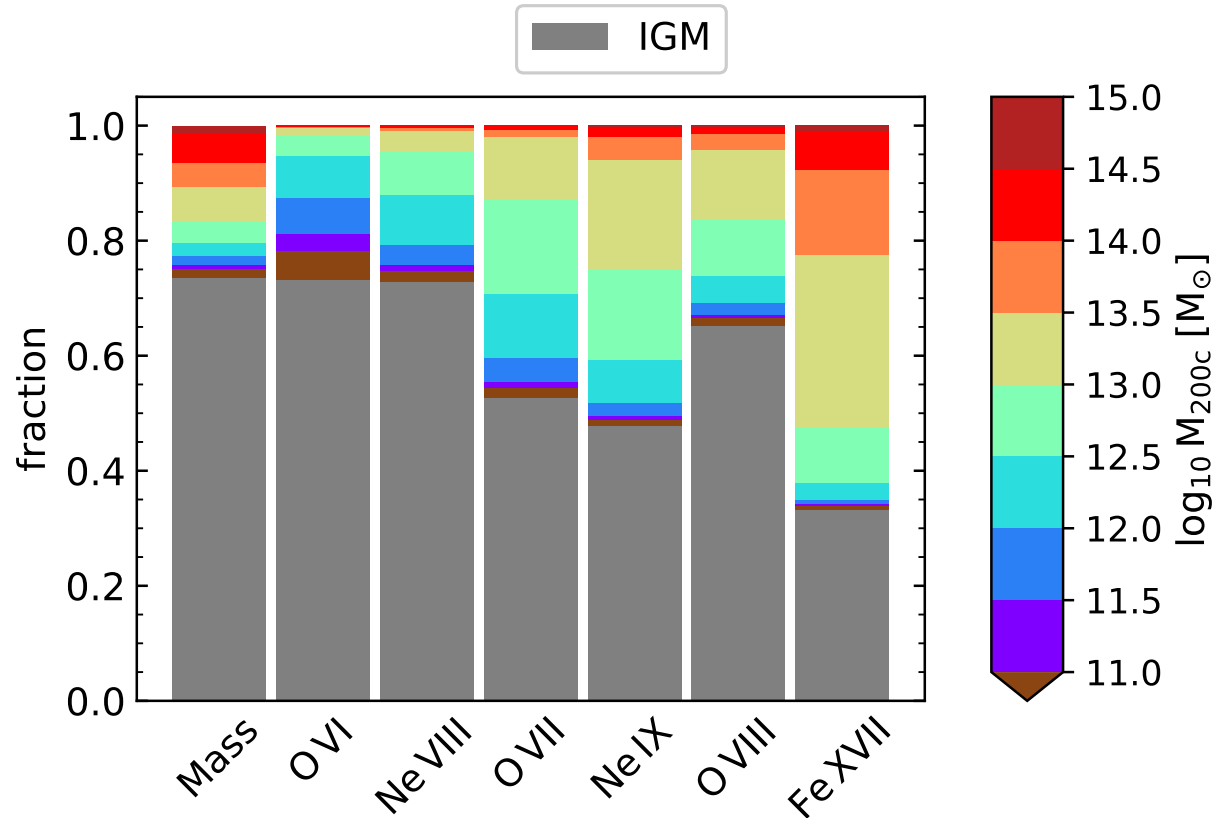


EAGLE, 14 x 20 cMpc

Missing baryons problem

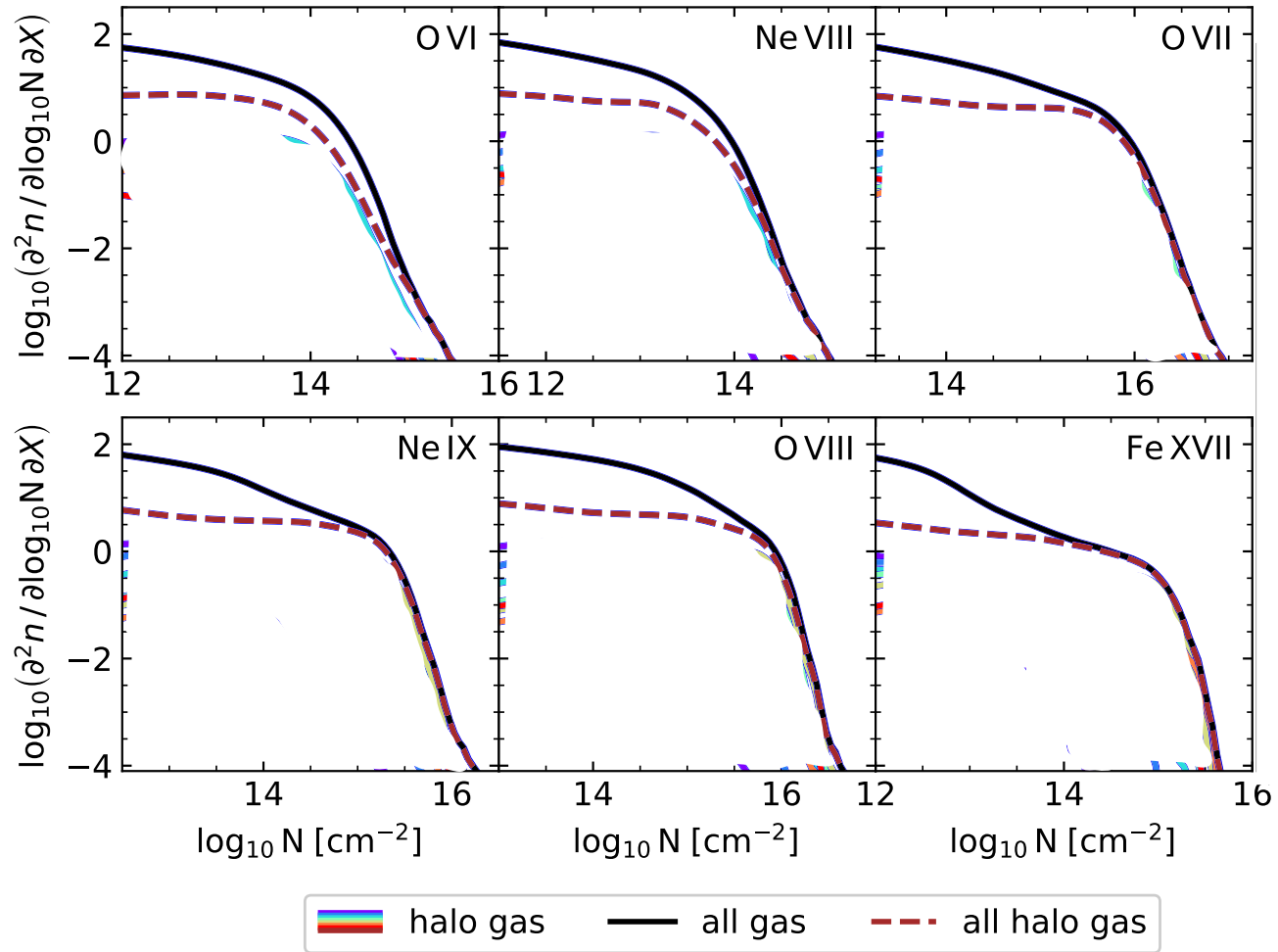


CGM vs. IGM: ions



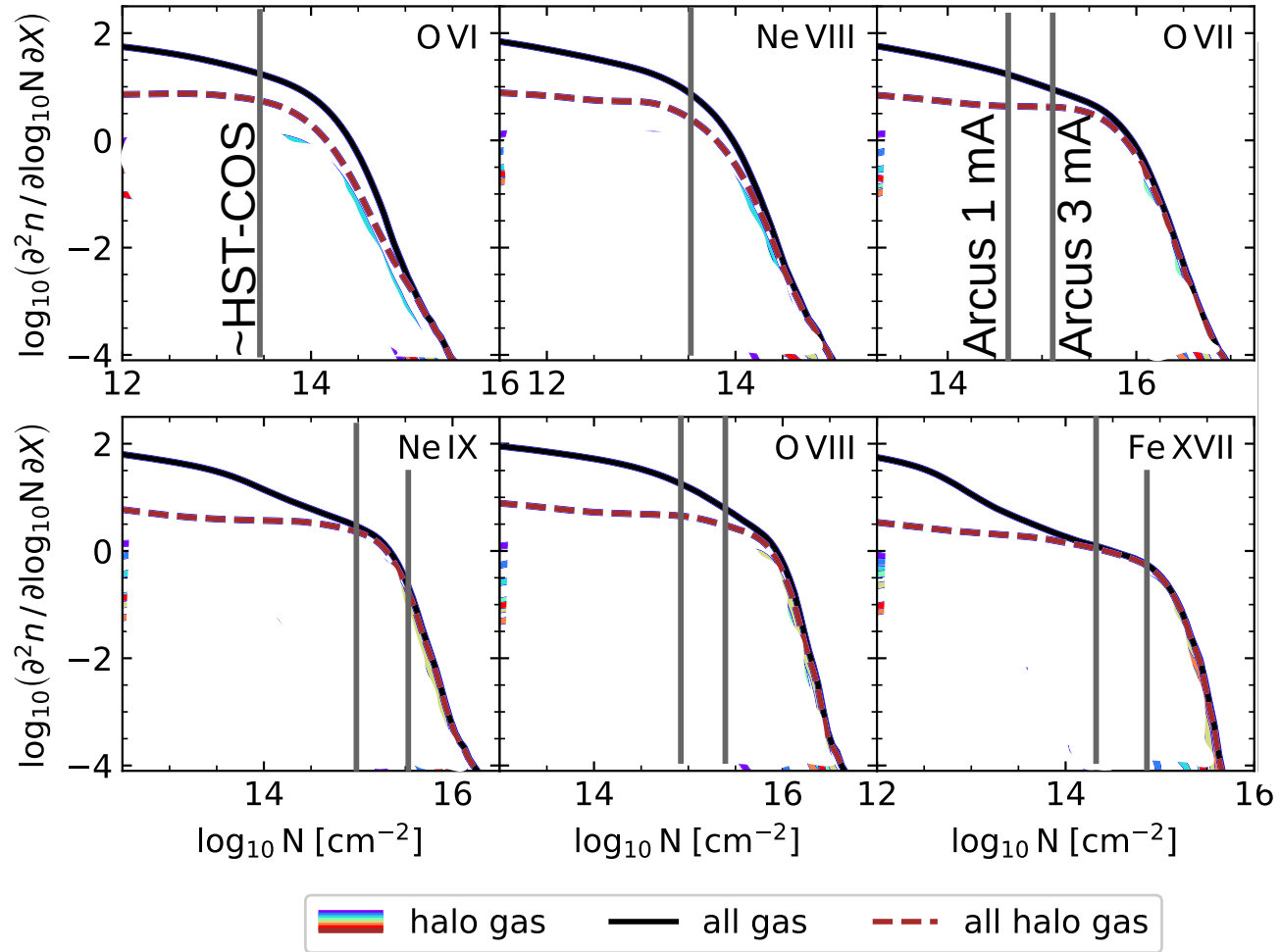
Wijers et al. (2020)

Ion column densities

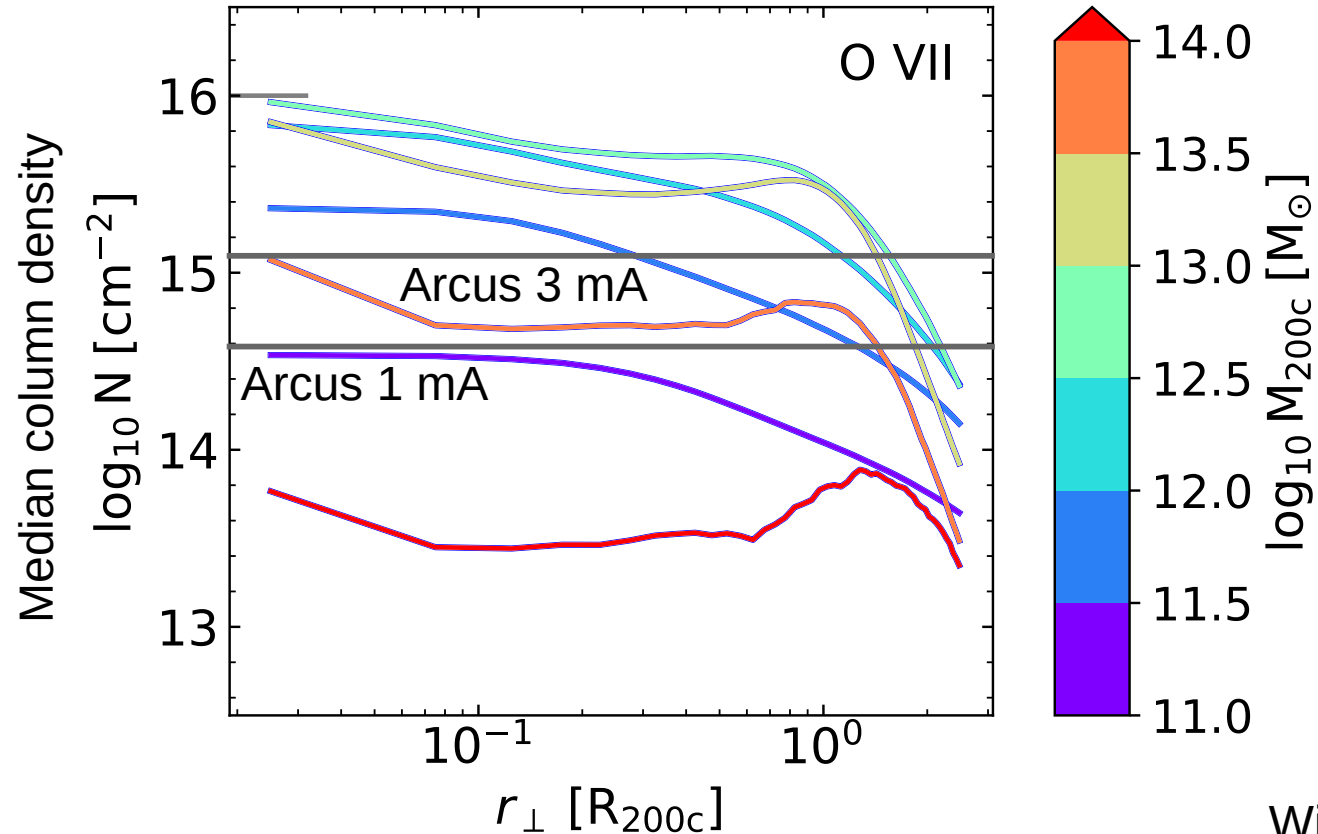


Wijers et al. (2020)

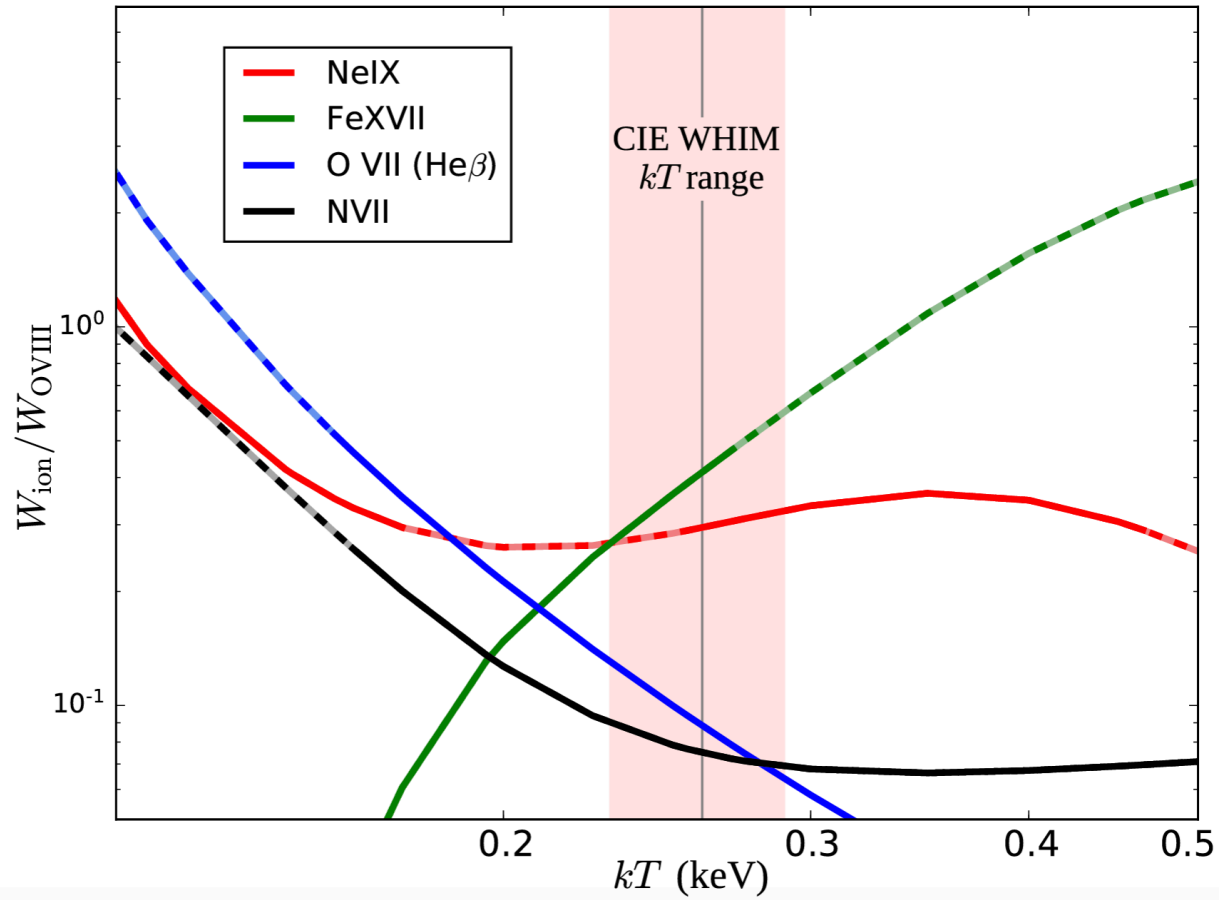
What can we see: IGM/CGM



What can we see: CGM extent



UV + X-ray: a powerful combination



Measured:
O VIII, Ne IX,
O VI, H I
Upper limit:
O VII
→ had to be 2
phases, T for
both

Ahoranta et al.
(2019), Fig. 5

Summary: Arcus

- Great potential for X-ray observations of CGM and some IGM
- UV/X-ray synergy to probe multiphase gas
 - Constrain single/multi-phase
 - Multiple lines per phase: model temperature, possibly metallicity and density