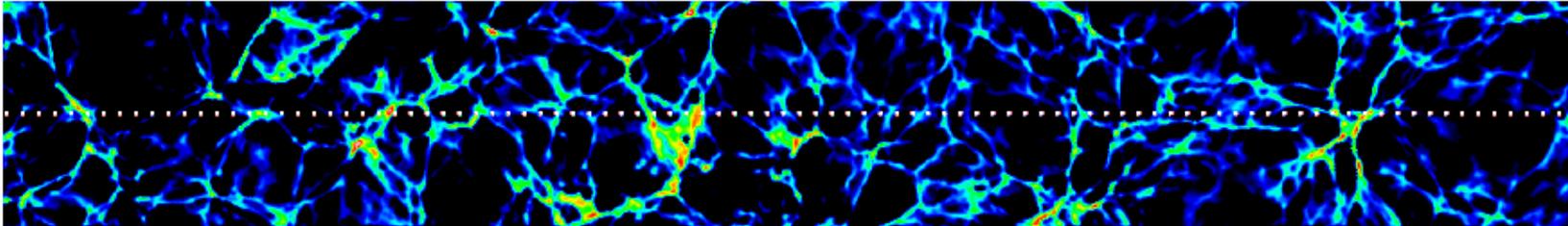# Absorption Line Predictions

Line of sight through favorite simulation

- Blind search of Universe for hot gas with O VII

- Then look for hosts

- Lines under-resolved by 20x

- Detections are 1 pixel depressions (5% depth)

- S/N limit determines science explored

- S/N = 50-100 (nominal) reaches dense parts of galaxy halos (groups?)

- Need S/N ~ 500 to get outer galaxy, Cosmic Web

- Need best energy resolution a calorimeter can deliver

Special S/N Considerations | Athena nominal

$R > R_{200}$ L* halos | $0.2\ R_{200} < R < R_{200}$ L* halos

Cosmic Web | Galaxy Groups | Inner Halos

dN/dz

EW(mÅ)