

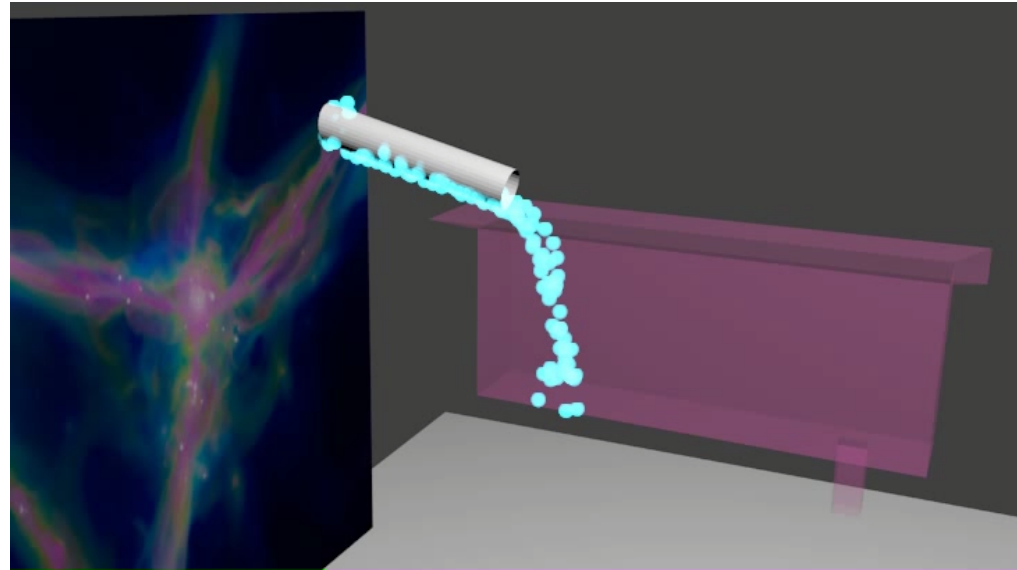
Does Mgas play any role ?

SFR (& Mgas) follows accr. Rate (hence $t_{\text{depl.}}$)

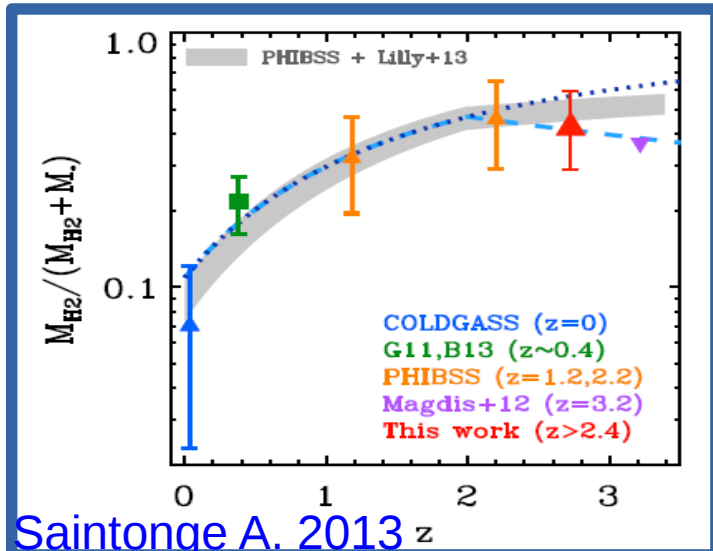
→ Reach a quasi-steady state under condition: $t_{\text{sfr}} \leq t_{\text{acc}}$

The 'Bathtub' / regulator model

$$\text{SFR} \approx \frac{\epsilon_{\text{in}} f_B}{1 + R + \eta} \dot{M}_{\text{DM}}$$



Bouché et al. 2010 Also Feldman 2013, Lilly 2013
Dekel et al. 2014 ...



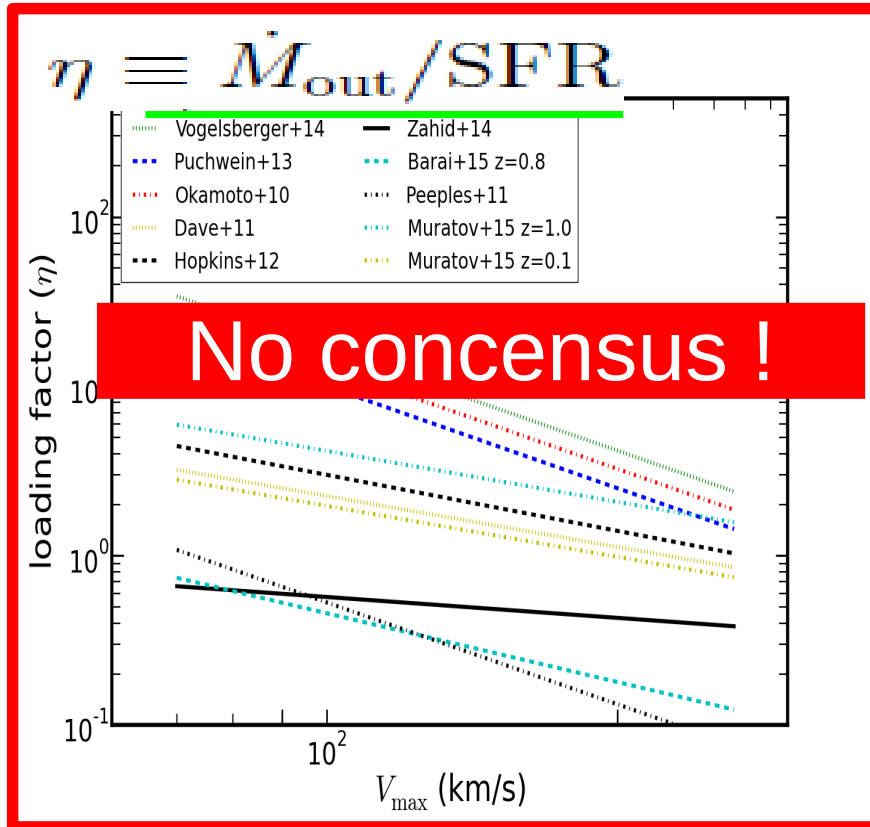
Saintonge A. 2013

also Genzel et al. 2014, Sargent 2013

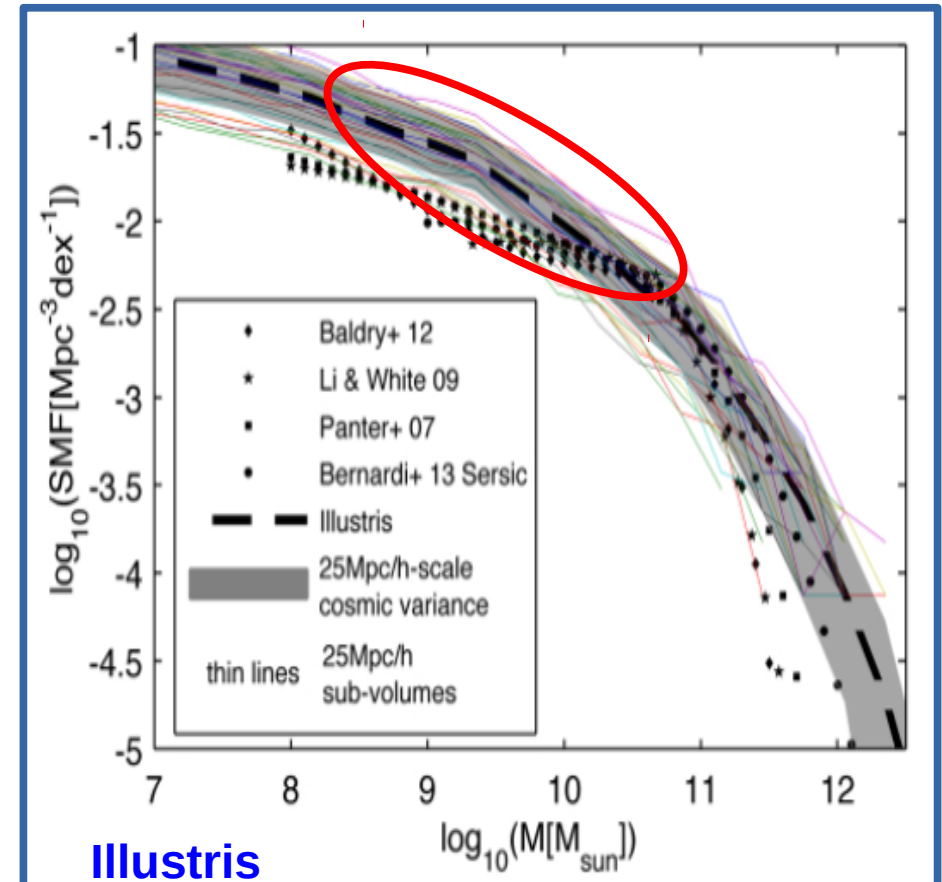
Yesterday and today' s challenge: The low baryon fraction

Solution: invoke winds

choose between sizes or N(m)



See also Zahid 2014



Illustris

Genel 2014

Vogelsberger 2014

$$\dot{M}_{\text{out}}(b) = 0.41 M_{\odot} \text{yr}^{-1} \frac{\mu}{1.5} \frac{\Omega_w}{2} \frac{N_H(b)}{10^{19} \text{cm}^2} \frac{V_{\text{out}}}{200 \text{km s}^{-1}} \frac{b}{25 \text{kpc}}$$

