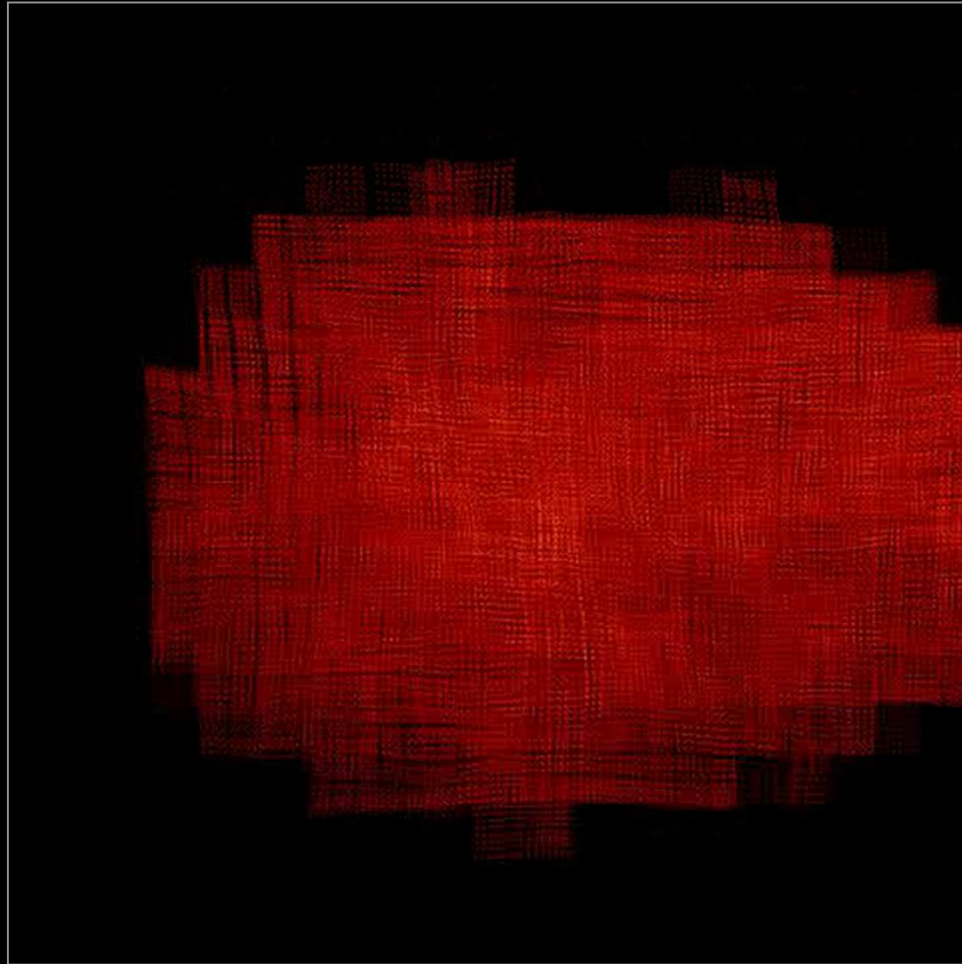


Hierarchical Galaxy Formation:

CDM

$$P(k) \propto \text{CDM}$$

20 kpc box



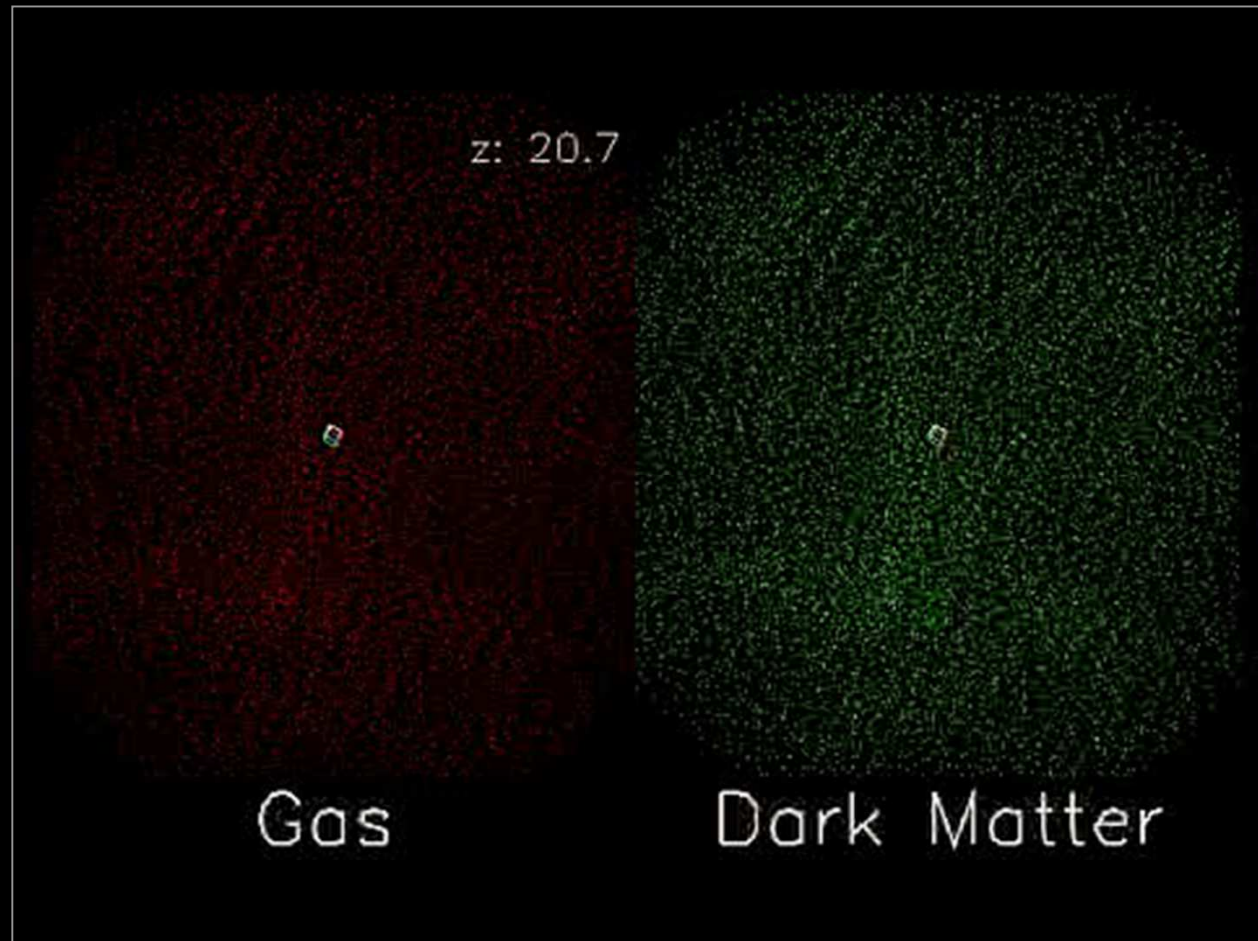
Credits: Matthias Steinmetz

<http://www.aip.de/People/MSteinmetz/E/movies.html>

Hierarchical Galaxy Formation:

CDM

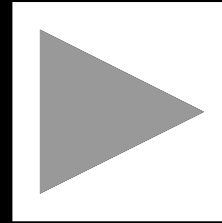
$$P(k) \propto \text{CDM}$$



Credits: Matthias Steinmetz

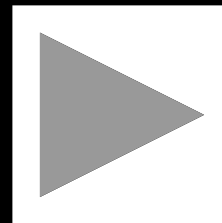
<http://www.aip.de/People/MSteinmetz/E/movies.html>

The universe today:

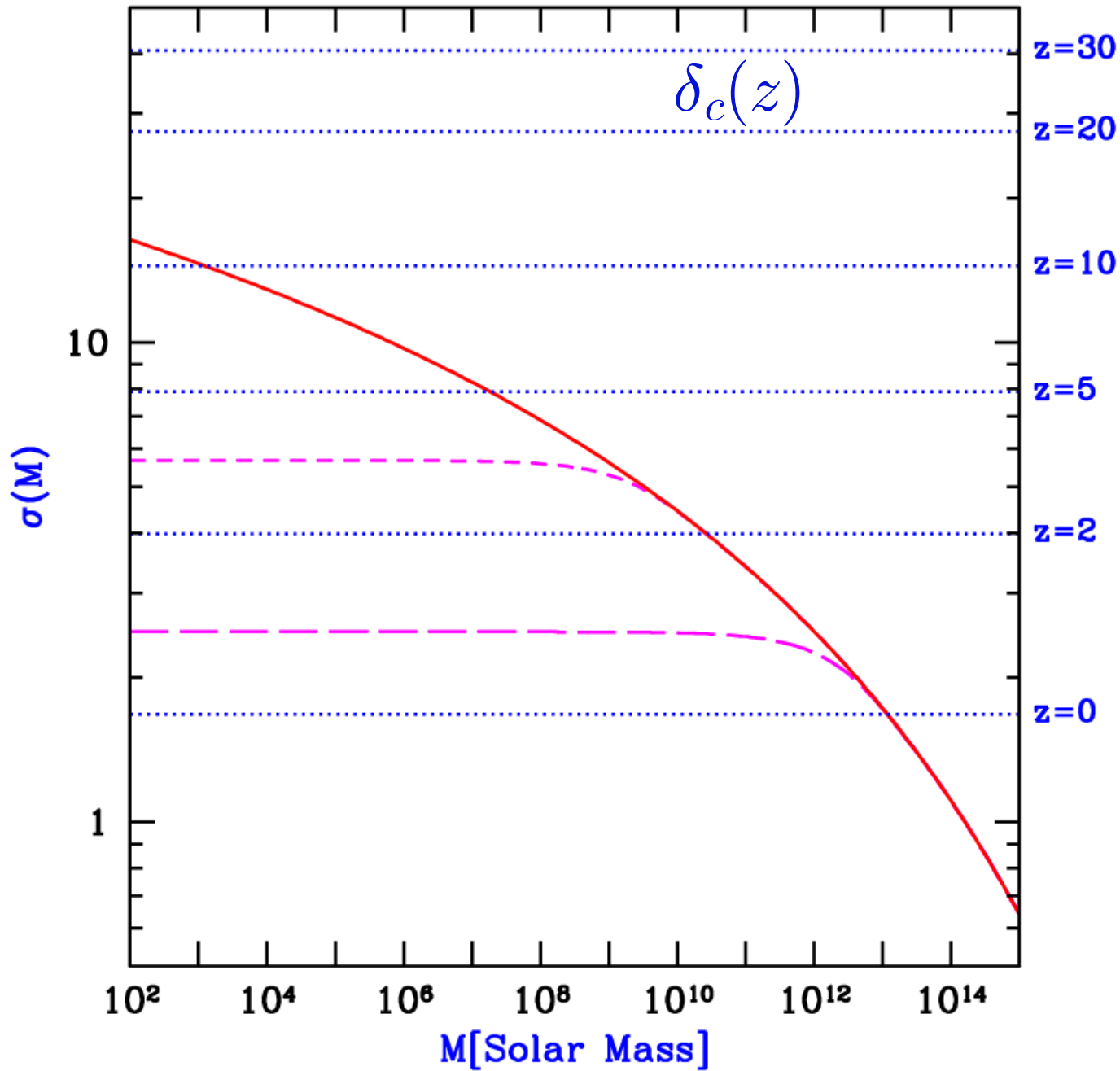


<http://www.mpa-garching.mpg.de/galform/millennium/>

Formation of a
galaxy cluster:

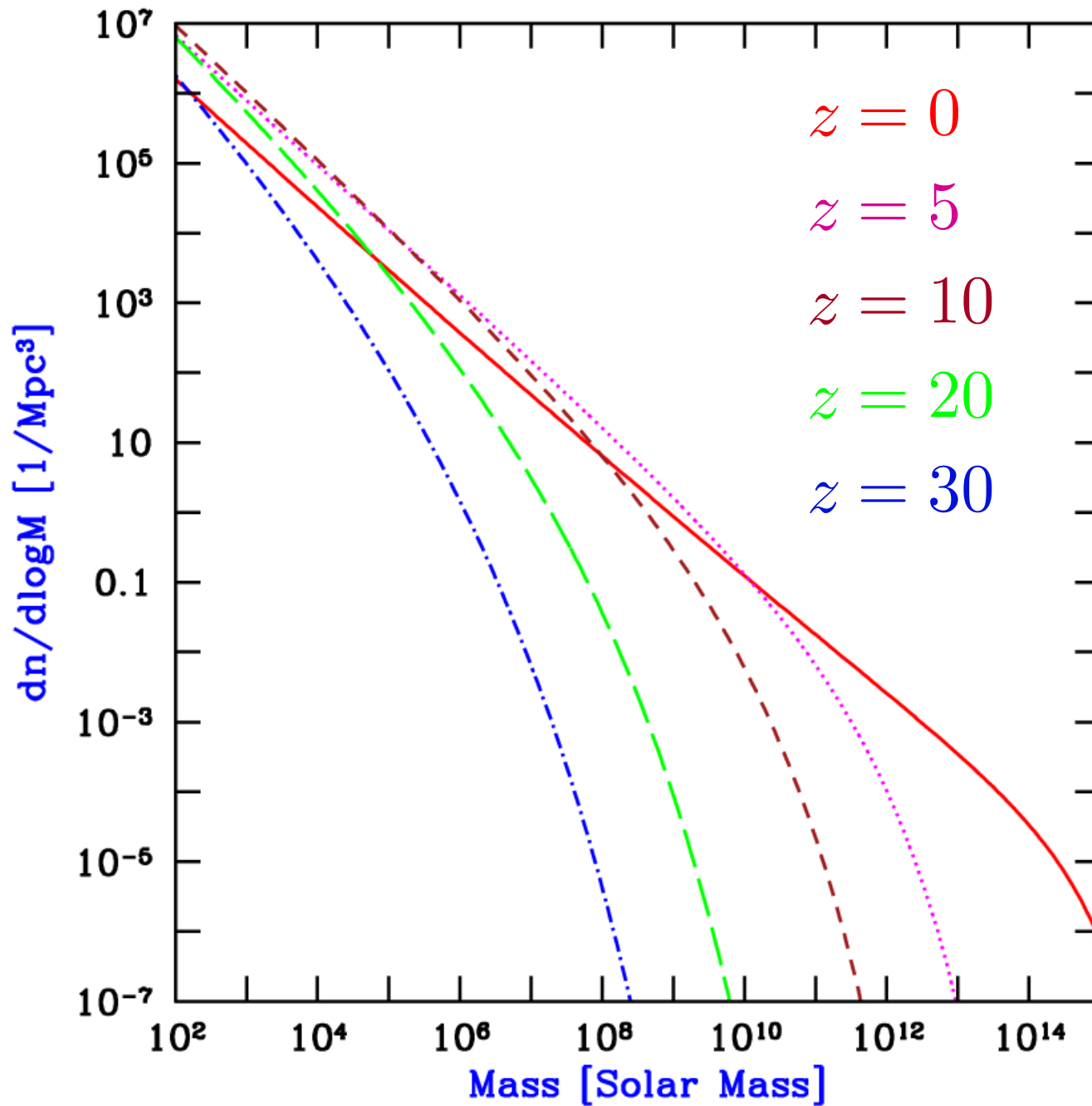


http://www.mpa-garching.mpg.de/galform/data_vis/



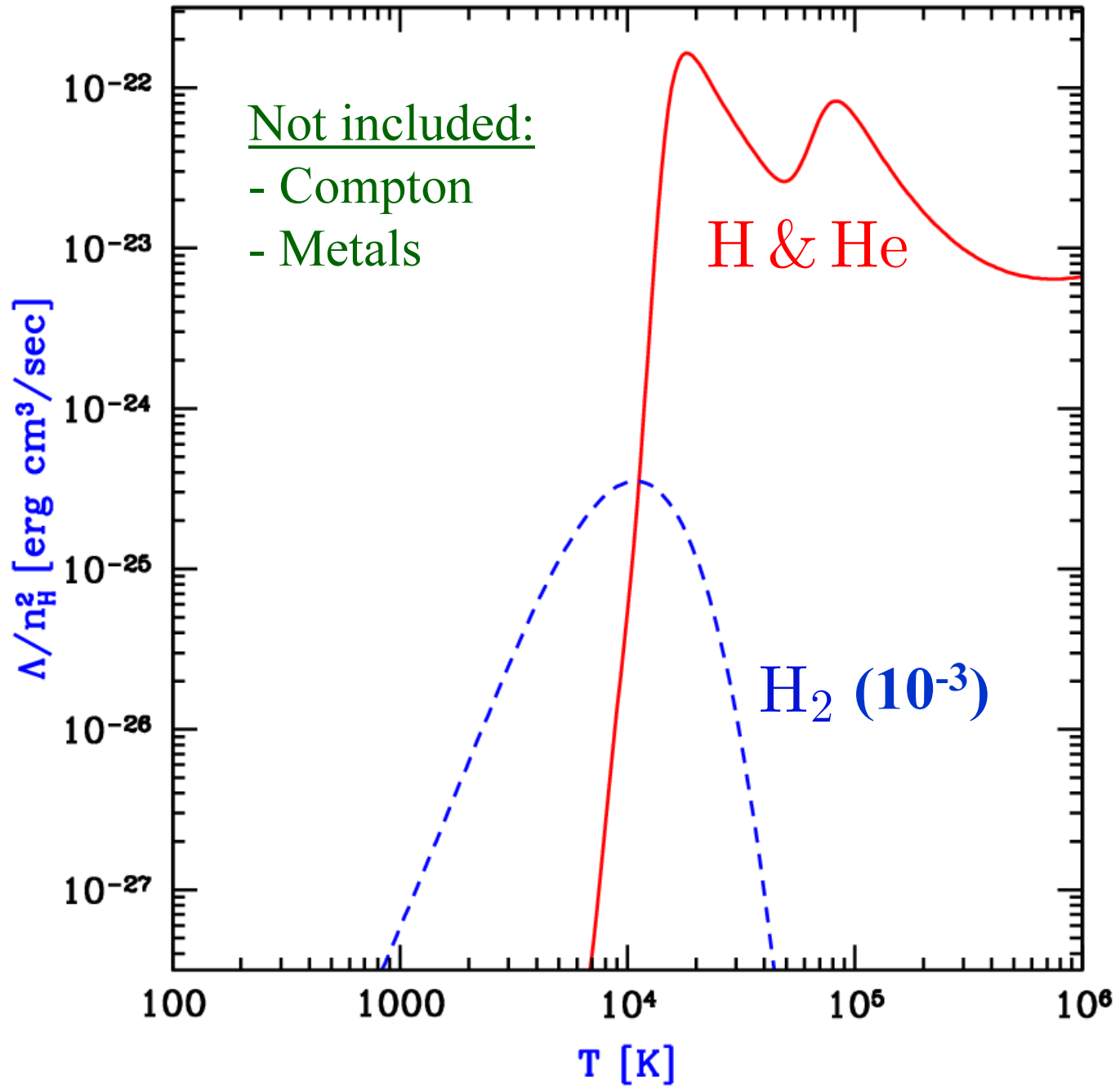
**Typical
fluctuations
compared
with the
critical value**

**Barkana
& Loeb
2001**



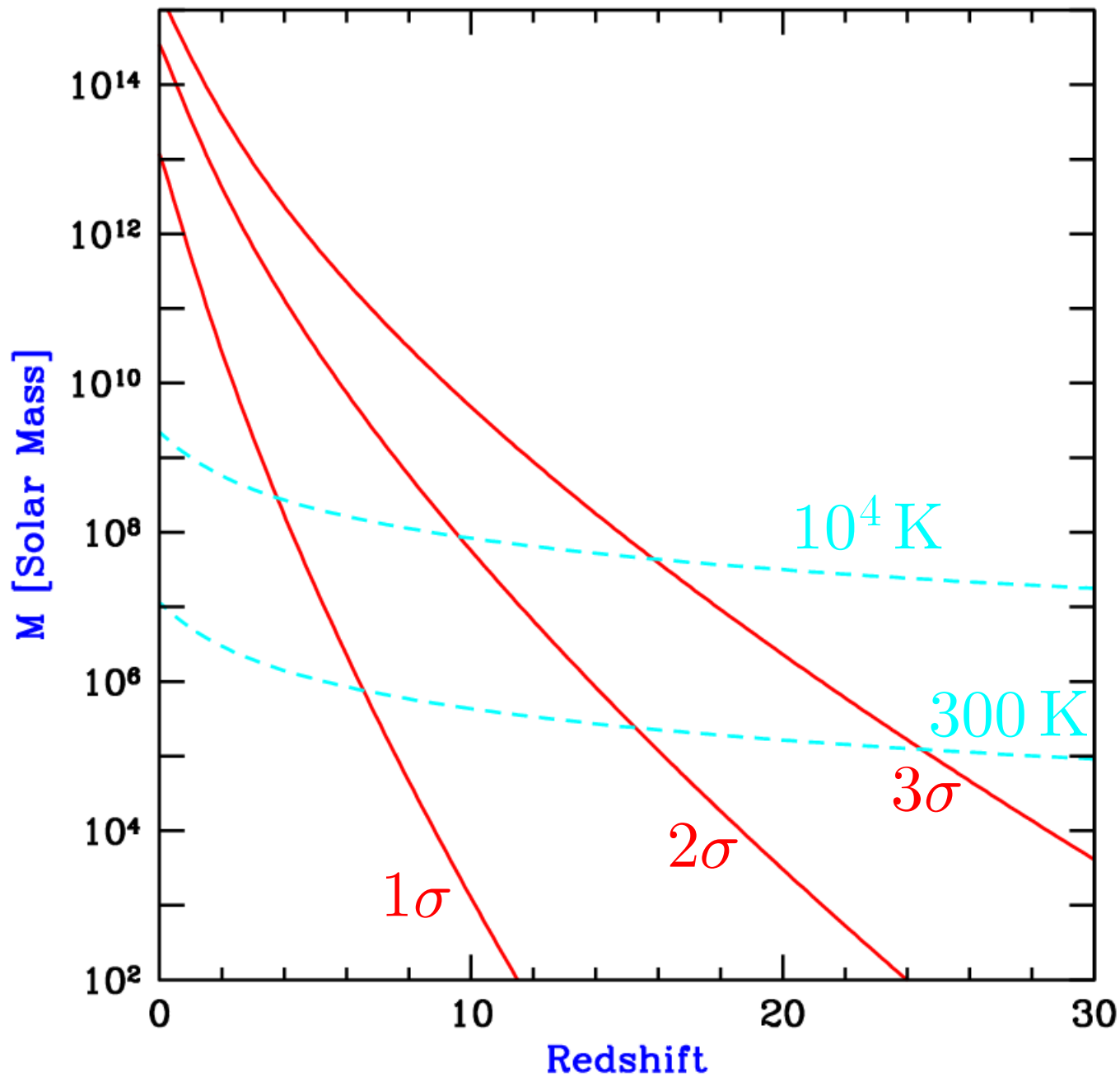
**The
Press-
Schechter
halo mass
function**

**Barkana
& Loeb
2001**



**Cooling
 rate of a
 primordial
 cosmic gas**

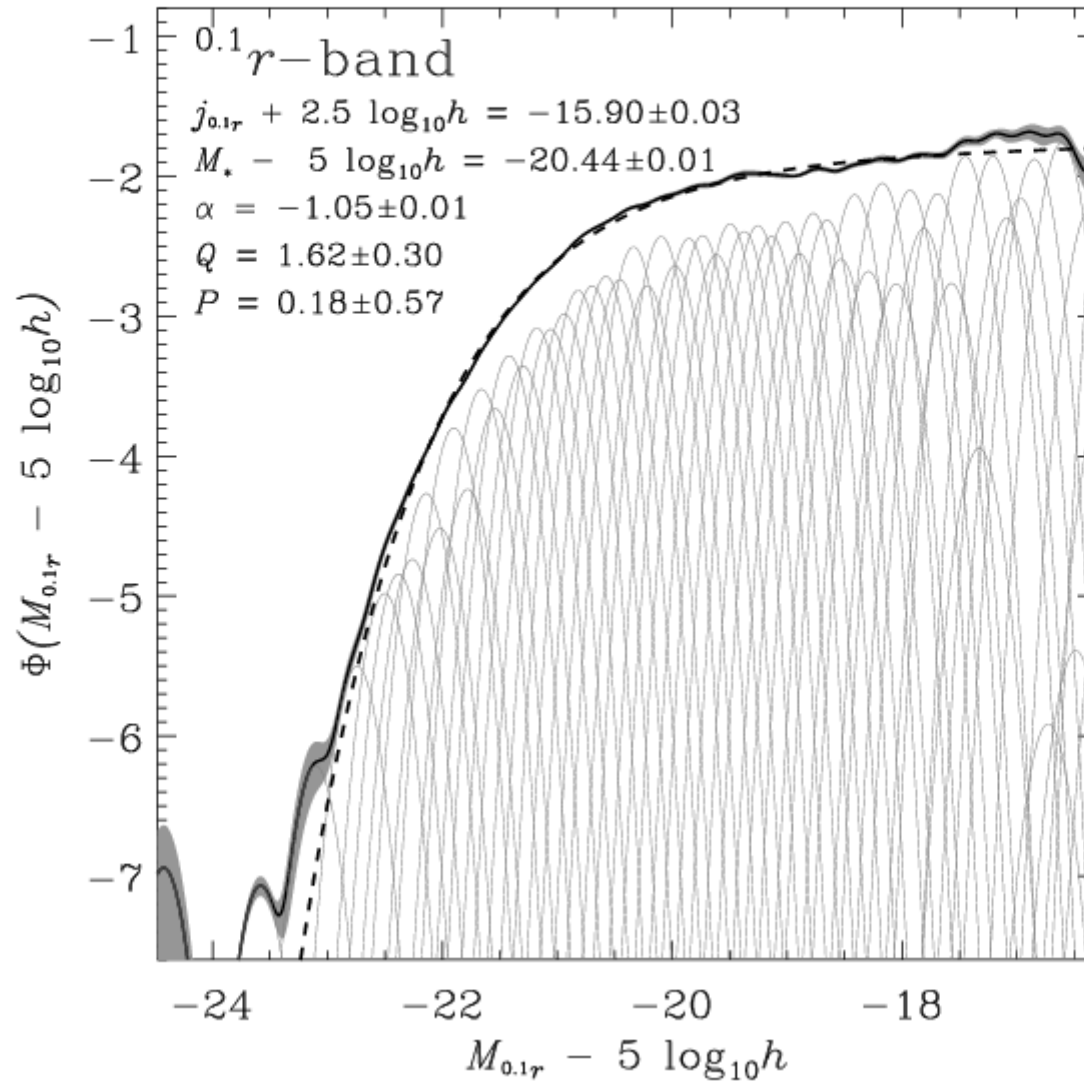
**Barkana
 & Loeb
 2001**



**Galactic
halos**

**Barkana
& Loeb
2001**

Galaxy Luminosity Function



Sloan Digital
Sky Survey:
148,000
galaxies

Blanton
et al.
2003

Power Spectrum

