



# 3D Radiation-SPH Simulation on Galaxy Formation

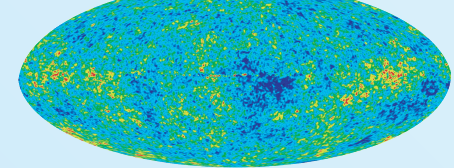
## Cosmic History

**Big Bang**

**$10^{-44}$  sec**

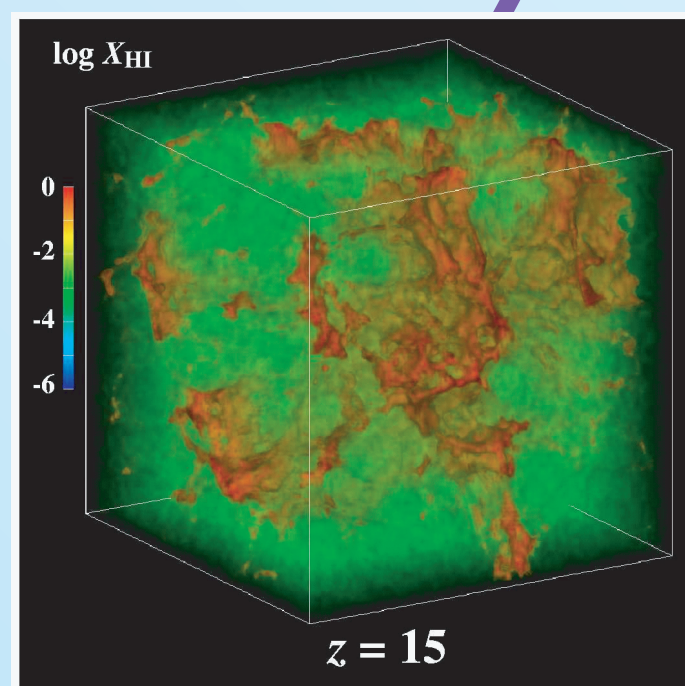
**Cosmic  
Recombination**

**0.1 Myr**



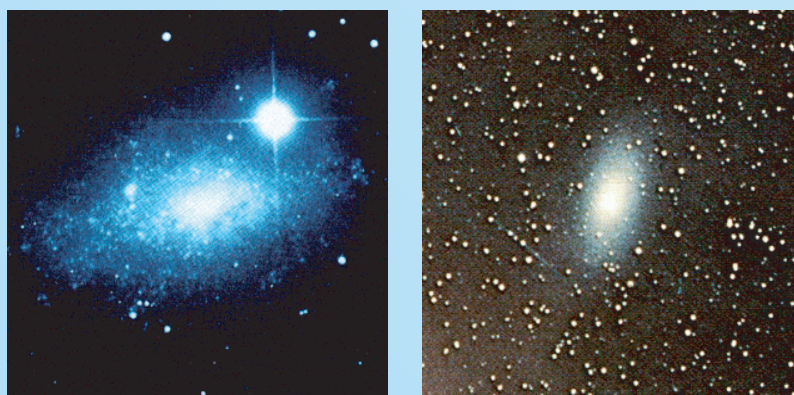
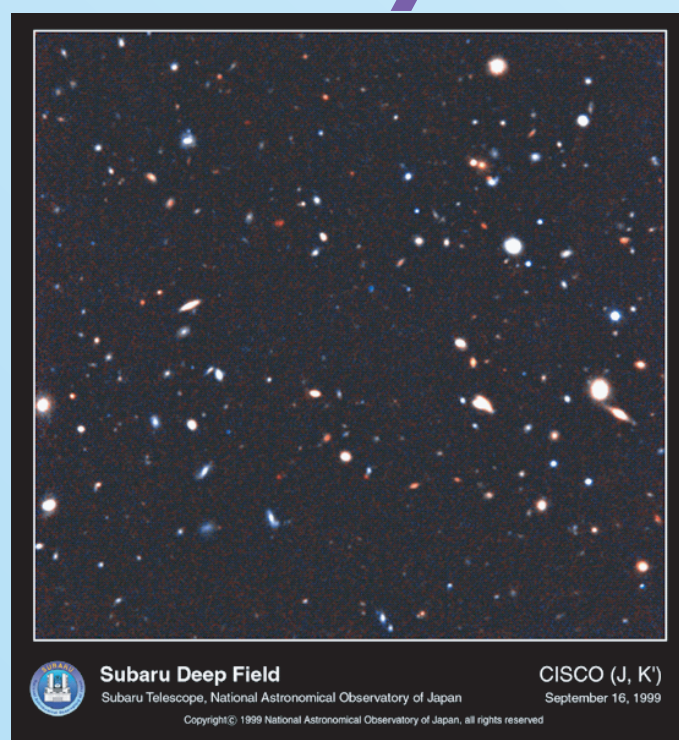
**Cosmic  
Reionization**

**0.5 Gyr**



**Galaxy Formation**

**2 Gyr**

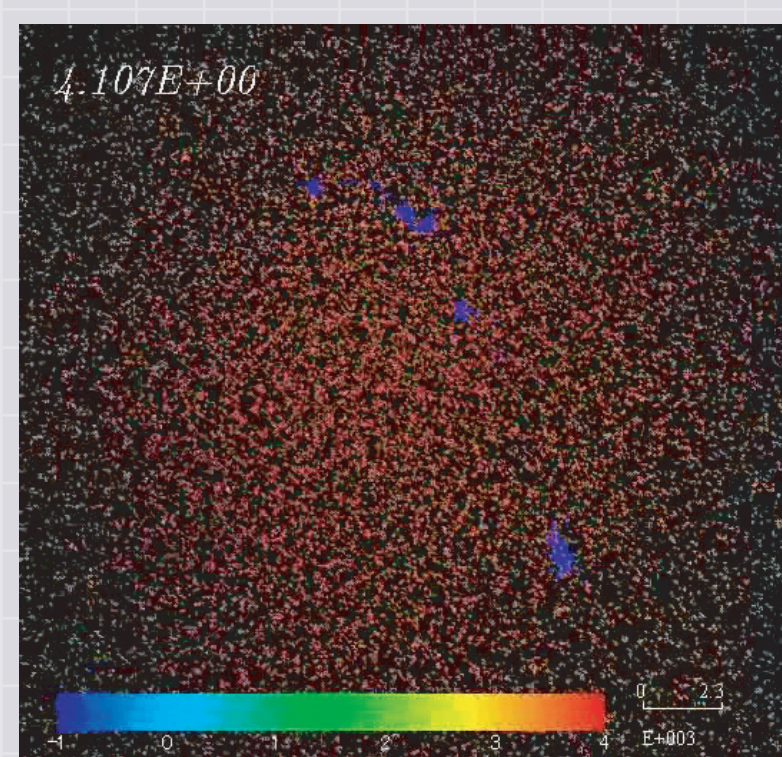
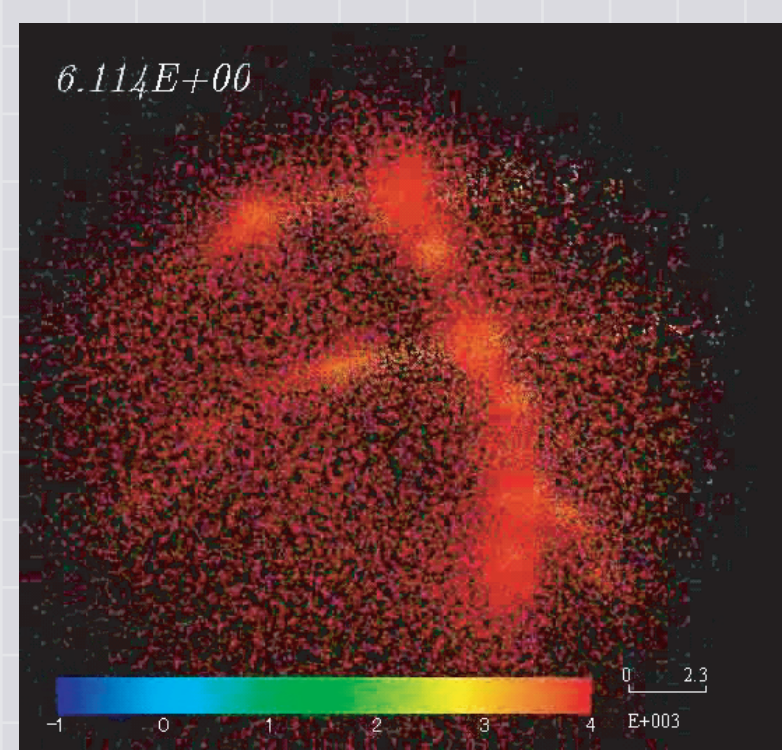
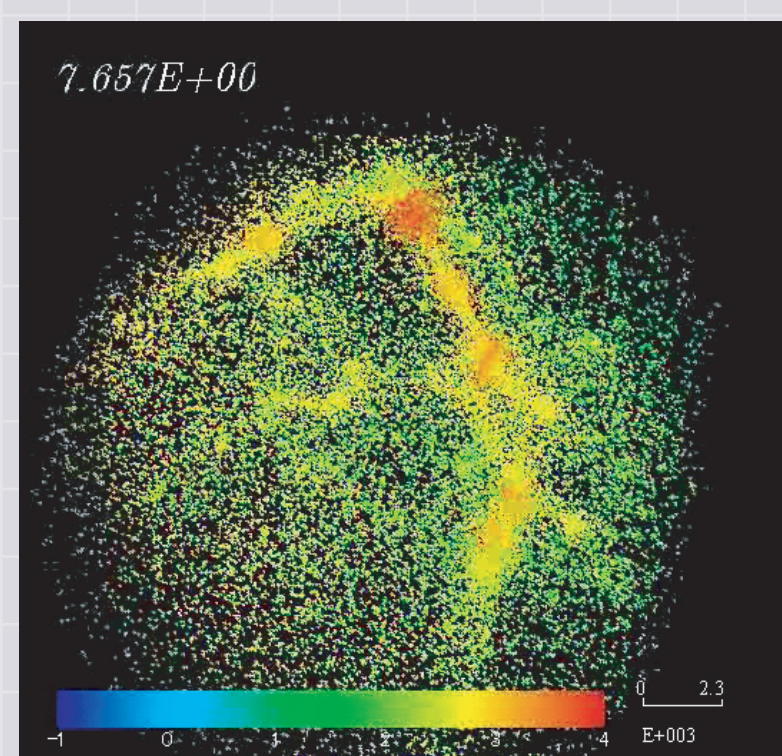
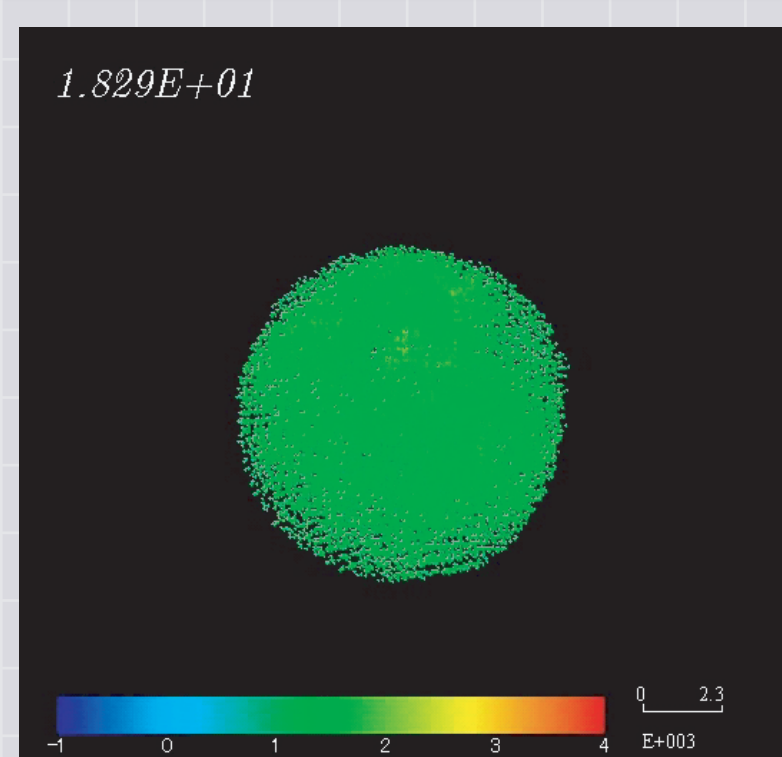


**15 Gyr  
(Present Day)**

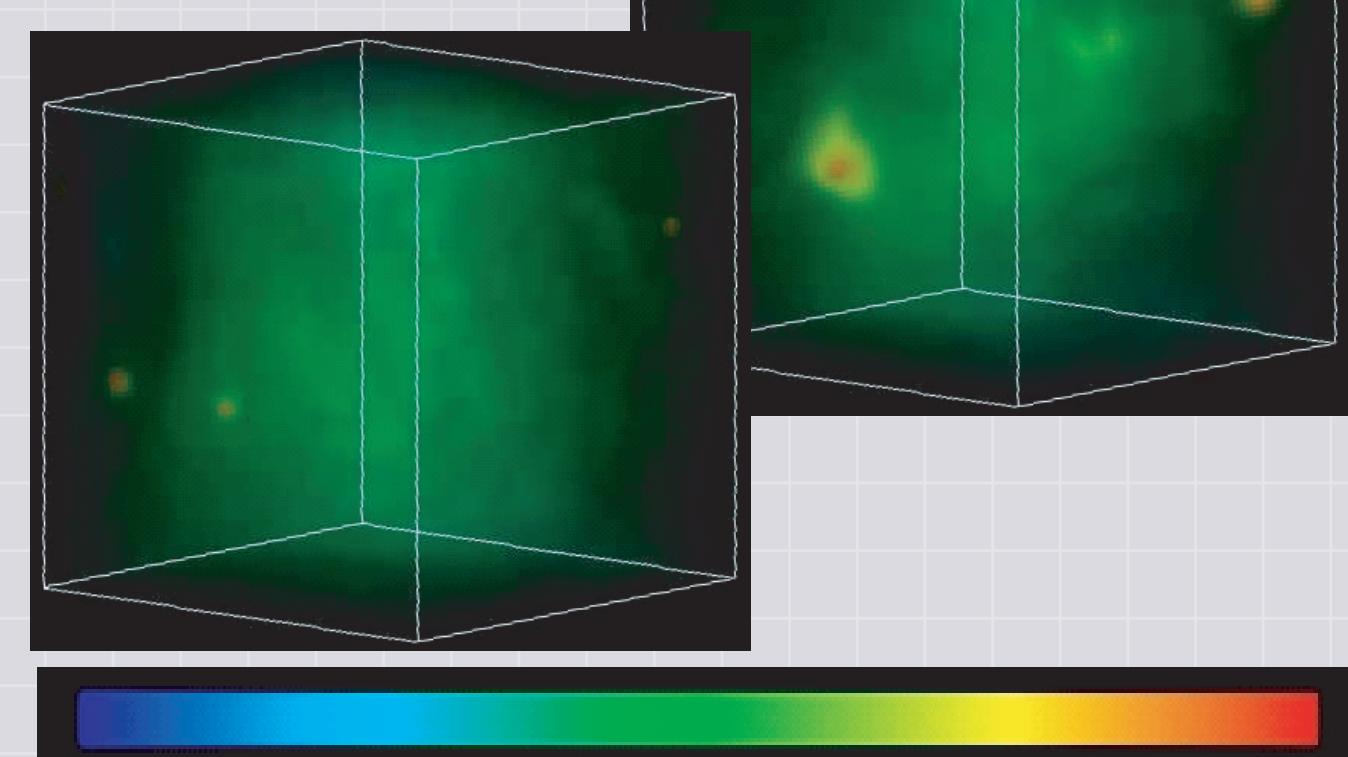
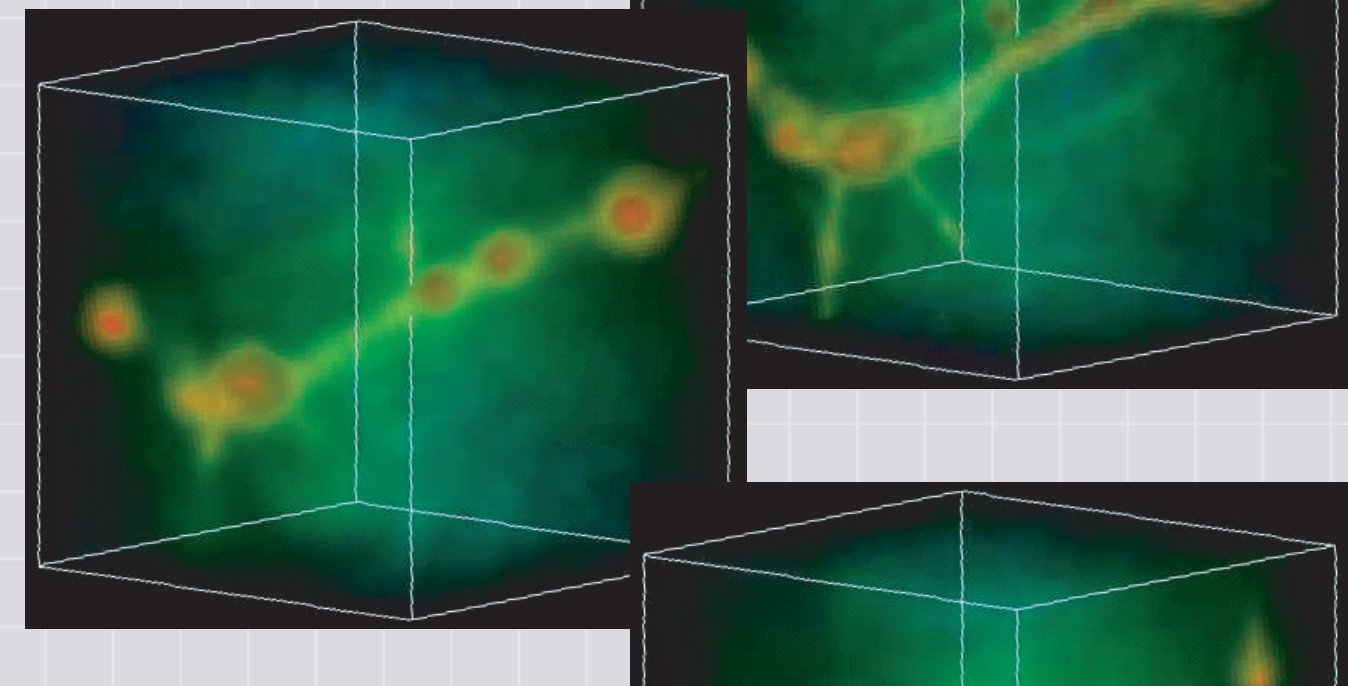
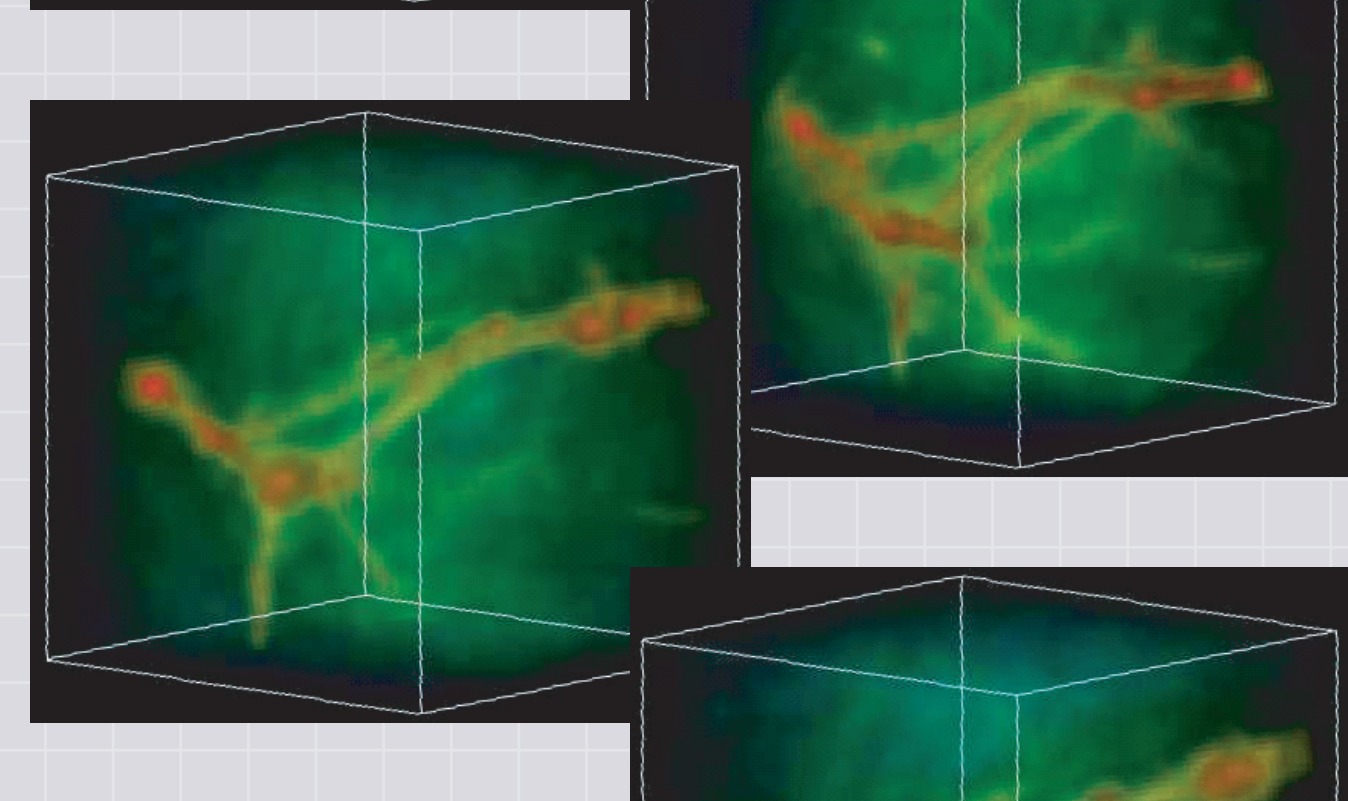
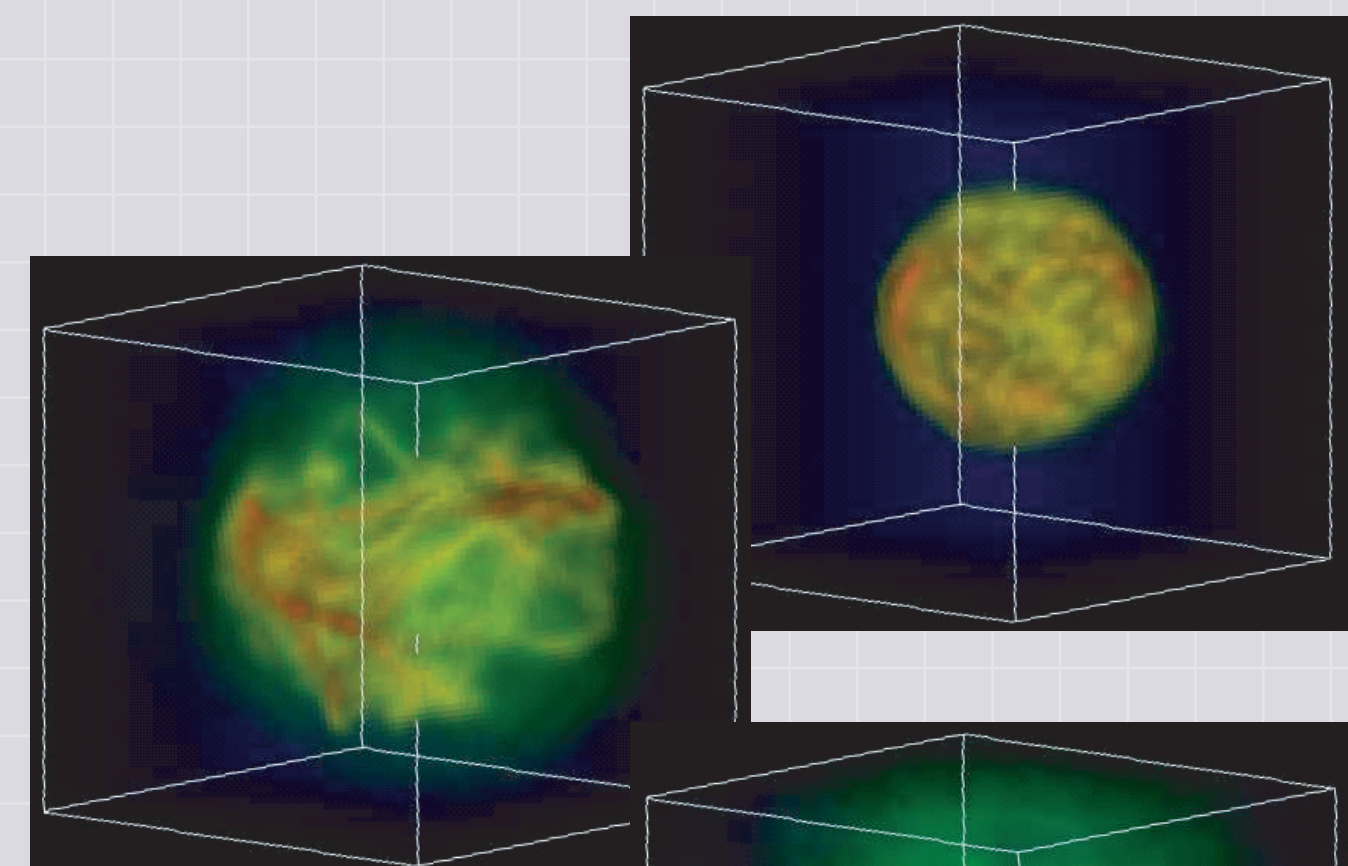
**Formation of Dwarf Galaxies is simulated  
in UV background radiation with HMCS**

Baryonic gas falls into dark matter potential to form filamentary structures. After the universe is reionized, metagalactic ultraviolet irradiates the filamentary clouds. The bulk of gas is evaporated due to heating by ultraviolet, leaving small galaxies.

**All Components**



**Gas Component**



blue dots = stars  
red dots = ionized gas  
green dots = cold gas

colors = density levels