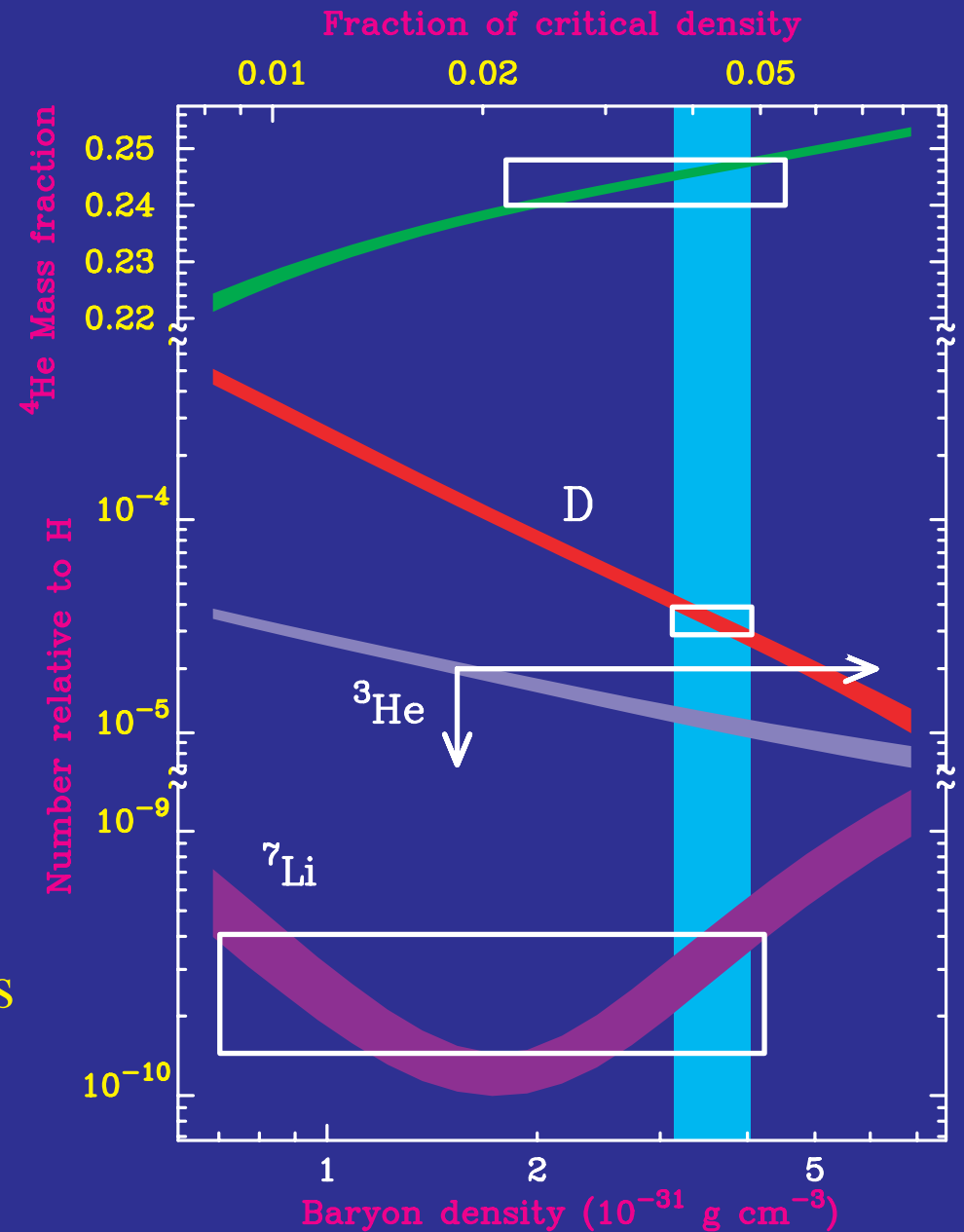


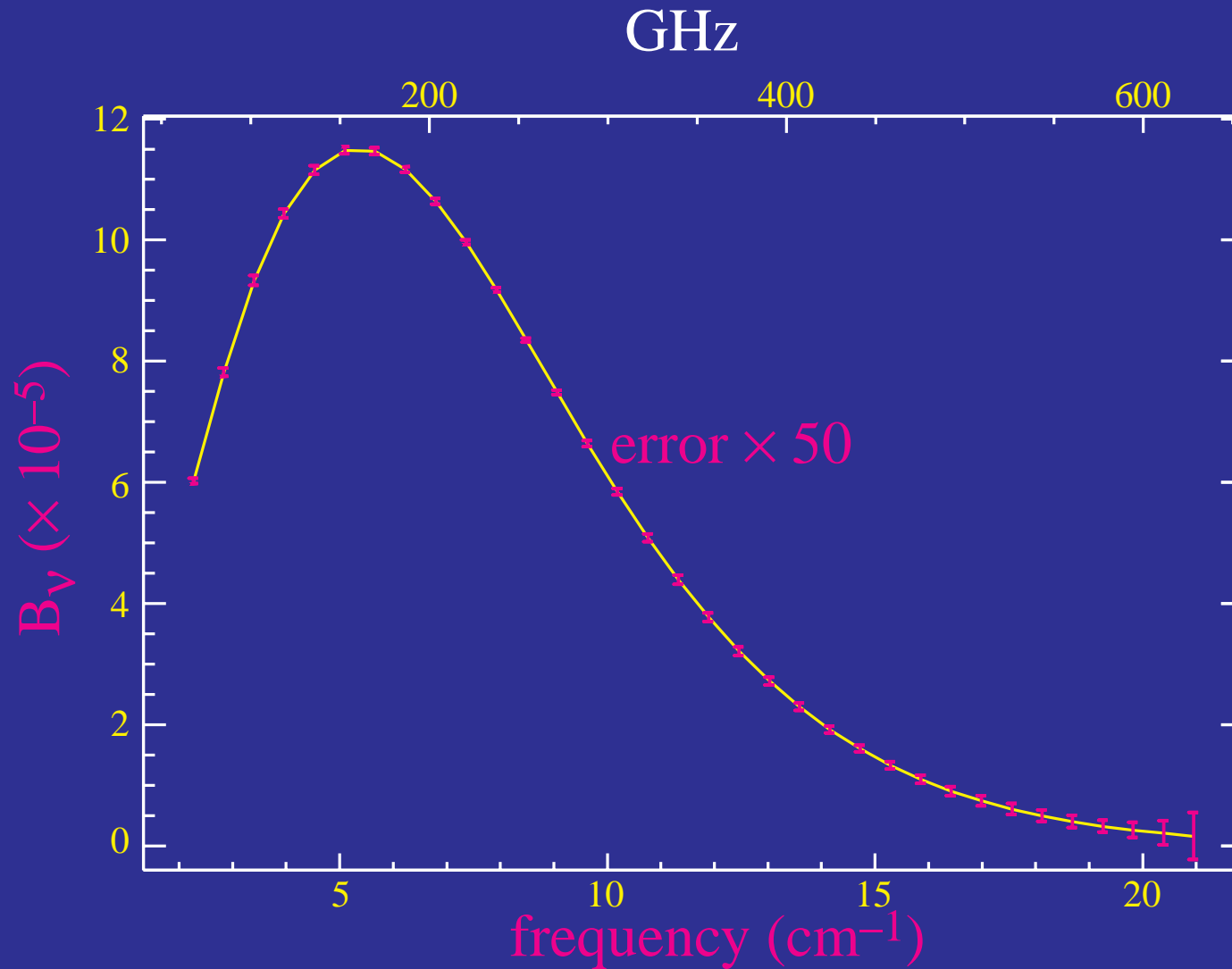
Nucleosynthesis

- Light element abundance depends on **baryon/photon ratio**
- Existence and temperature of **CMB** originally **predicted** (Gamow 1948) by light elements + visible baryons
- With the CMB photon number density **fixed** by the **temperature** light elements imply **dark baryons**



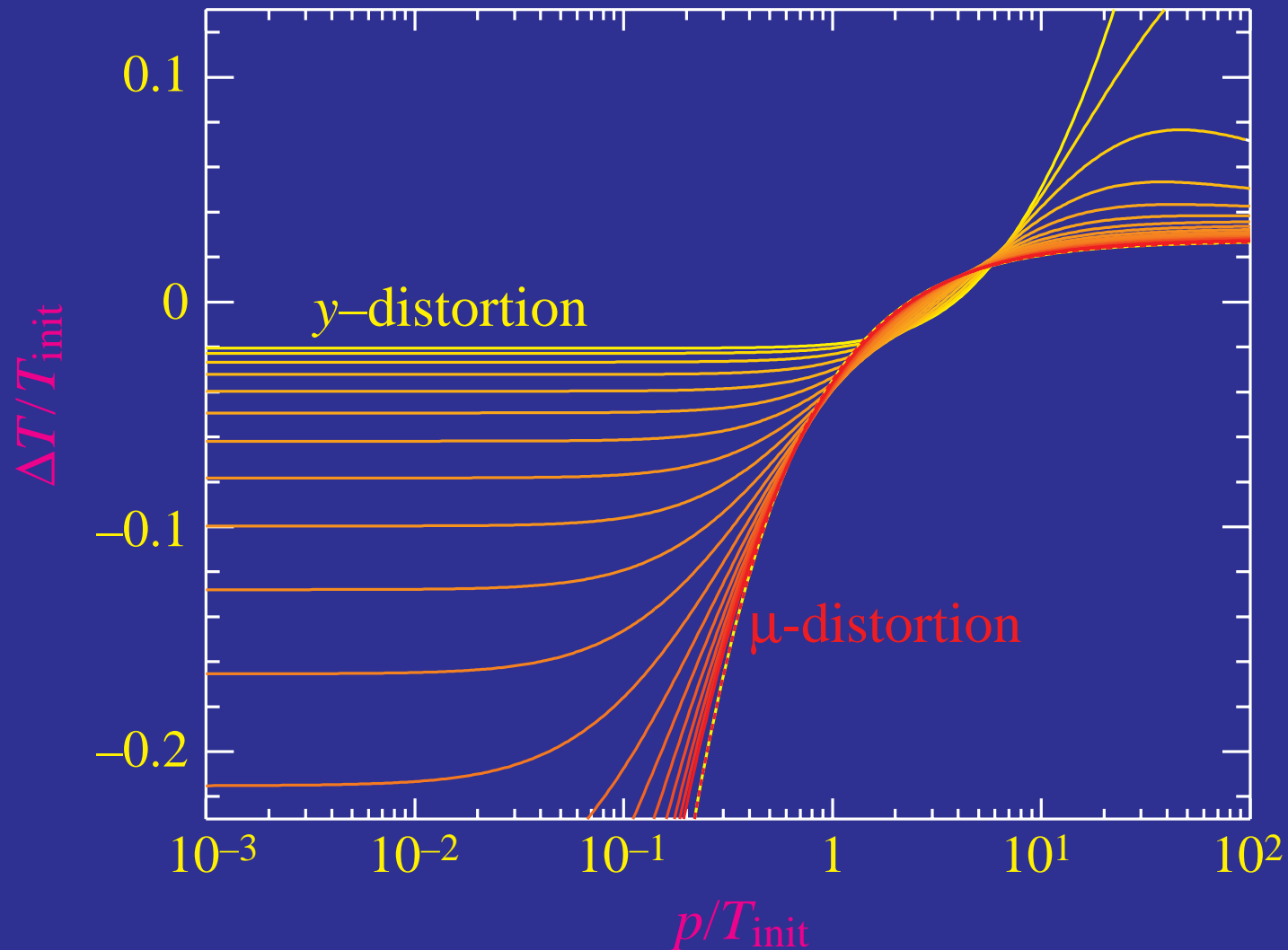
Spectrum

- FIRAS Spectrum
- Perfect Blackbody



Thermalization

- Compton upscattering: y -distortion
- Redistribution: μ -distortion



Recombination

- Hung up by **Ly α opacity** (2γ forbidden transition + redshifting)
- Frozen out with a finite **residual ionization** fraction

