

CMB Challenge

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Problem 2. What average distance could a photon travel before being scattered by an electron just before recombination? (Hint: you will need an estimate of the baryonic mass & volume of the observable universe, the redshift of the CMB, the Thomson scattering cross section.)

1 Initial Assumptions

Definition 1.1. Let's call the baryonic mass and baryonic volume of the observable universe m_b and V_b respectively.