Future Research

The One Bin model calculates too low an average for the integrals of ρ_{ν_i}. Perhaps one can modify the way the model calculate reaction times so that the model will give an average that always agrees with the MultiBin results. Also, I want to quantitatively establish exactly how much $\Delta\lambda$ changes $\Delta X_{^4He}$ and when Nucleosynthesis in each model occurs, to determine with certainity why the One Bin model has a higher $X_{^4He}$ at the end. I'll also look for better ways to determine the timestep so that the graphs of physical quantities will be smooth at the highest temperatures. The number of bins can be increased and extended to higher values of p_i. I believe that those modifications will solve the Boltzmann equation more accurately and reduce the depletion of the current highest bins. Then one can apply the MultiBin model to anisotropic or inhomogeneous models of the universe.

Sources

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