

AST 300B – Spring 2018
Homework Due: Friday January 12

1. The total mass of neutral gas in the Milky Way Galaxy is $\sim 4 \times 10^9 M_{\text{sun}}$. Assume it is uniformly distributed in a disk of radius 15 kpc and thickness of 200 pc and that it is a mixture of Hydrogen and Helium with $\text{He}/\text{H} = 0.1$ (by number). What is the average number density (cm^{-3}) of neutral atoms within the disk of the Milky Way (quote your answer to 2 significant digits).

