

7.5] $T = 5780 \text{ K}$, $\chi_i = 0,75 \text{ eV}$, $\log P_e = 0,2$, $\frac{B(\text{H}\text{I})}{B(\text{H})} = 2$

$$\log \frac{N(\text{H}\text{I})}{N(\text{H})} = \frac{5}{2} \log T - \chi_i \frac{5040}{T} - \log P_e + \log \frac{2B(\text{H}\text{I})}{B(\text{H})} - 0,48 = 8,67$$

$$\frac{N(\text{H}\text{I})}{N(\text{H})} = 4,7 \cdot 10^8$$

$T = 5780 \text{ K}$, $\chi_i = 7,9 \text{ eV}$, $\log \frac{2B_{r+1}}{B_r} = 0,5$, $\frac{N_{r+1}}{N_r} = 4,56 \cdot 10^{-2}$

$$\log P_e = \frac{5}{2} \log T - \chi_i \frac{5040}{T} - \log \frac{N_{r+1}}{N_r} + \log \frac{2B_{r+1}}{B_r} - \underline{1,48} = 2,87$$

$$n_e = \frac{P_e}{kT} = \underline{\underline{9,3 \cdot 10^{21} \text{ m}^{-3}}}$$