

Homework 7

(1) Two gas clouds collide with relative velocity of $\Delta V = 100\text{km/sec}$. Gas in each cloud has temperature of $T_{\text{gas}} = 10^4\text{K}$. For the first stages of the collision the flow of gas is almost one-dimensional with two shock waves traveling along the line joining centers of the clouds. Find temperature at the shocks. Assume the simplest case: strong shock; homogeneous density inside the clouds; no change in the ionization state; ideal monoatomic gas.