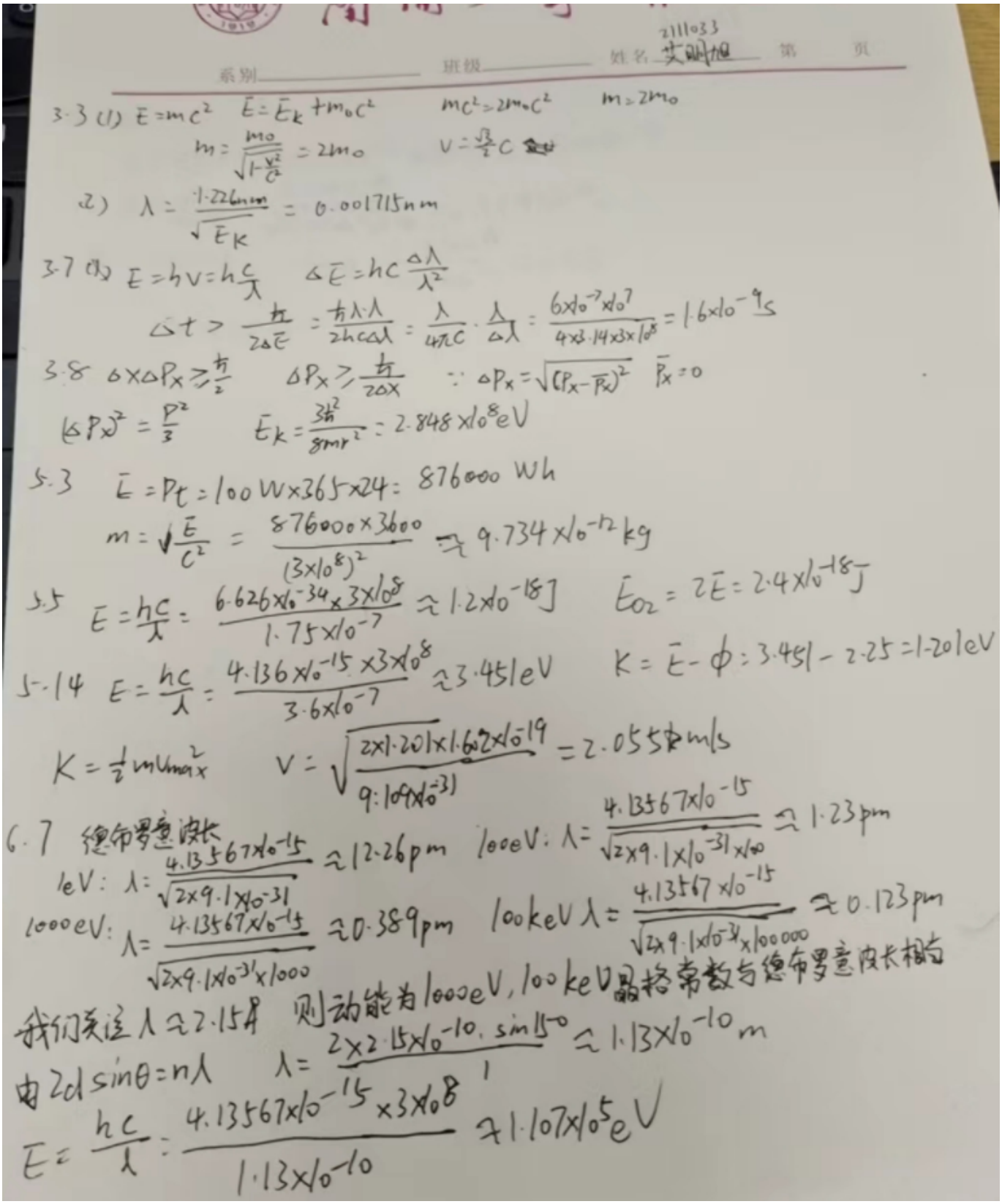
2111033艾明旭原子物理第三次作业



6.

$$E = \frac{3}{2}kT = \frac{3}{2} \times 1.38 \times 10^{-23} \times 298.15 \approx 6.2104 \times 10^{-21}$$

$$\lambda = \frac{h}{\sqrt{2mE}} = \frac{6.626 \times 10^{-34}}{\sqrt{2 \times 1.675 \times 10^{-27} \times 6.2104 \times 10^{-21}}} \approx 2.47 \times 10^{-10}\ m$$

由 $2d\sin\theta = n\lambda$

$$\sin\theta = \frac{2.47 \times 10^{-10}}{2 \times 2.82 \times 10^{-10}} \approx 0.438$$

$$\theta \approx 25.7°$$