2.2.2

$$v=\sqrt{2*\frac{1{,}6*10^{-19}C}{9{,}1*10^{-31}}*1{,}8*10^{6}\frac{m}{s}}=25*10^{6}\frac{m}{s}$$ ER: $$\sqrt{\frac{CV}{Kg}}=\sqrt{\frac{J}{Kg}}=\sqrt{\frac{Kg*m^2}{s^2*Kg}}=\frac{m}{s}$$

2.3 → Kapitel 11/12!!

I $x=V_0*t \Rightarrow t=\frac{x}{V_0}$ II $y=\frac{1}{2}*a*t^2$ $F_C=q*E$

$$m*a=\frac{q*U_{Ay}}{d} \Rightarrow a=\frac{q*U_{Ay}}{m*a} \Rightarrow y=\frac{\frac{1}{2}*q*U_{Ay}}{m_e*d}*\frac{x^2}{V^2}$$

$$y=\frac{1}{2}*\frac{q*U_{Ay}}{m_e*d}*\frac{x^2}{2*\frac{e}{m_e}*U_B} \Rightarrow y=\frac{U_{Ay}}{4*d*U_B}*x^2$$

2.3.2

X1 mit $y=\frac{U_{Ay}}{4*d*U_B}*x^2$; wobei x=h ; $\tan(\alpha)=\frac{y_2}{L}$ = Steigung

$$y_2=\frac{U_{Ay}}{4*d*U_B}*l$$

$$y_{ges}=y+y_2 \Rightarrow y_{ges}=\frac{U_{Ay}}{4*d*U_B}*l^2+L*\frac{U_{Ay}}{4*d*U_B}*l$$

$$y_{ges}=\left(\frac{U_{Ay}*l}{4*d*U_B}\right)*(l+2*L) \Rightarrow \frac{l(l+2L)}{4*d*U_B}*U_{Ay}$$

2.3.3 y_{ges} = 6,92mm = <u>6,9mm</u>

2.3.4

$$I=\frac{\Delta Q}{\Delta t} \Rightarrow \Delta Q=I*\Delta t=3{,}2*10^{-9}C$$

$$N=\frac{\Delta Q}{e}=2{,}0*10^{10}$$