Energy loss model:

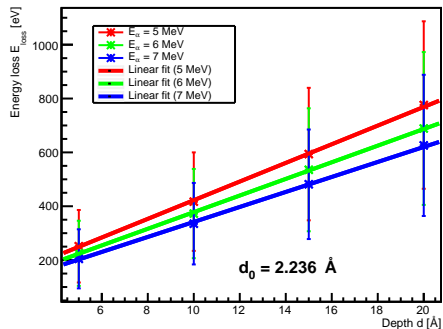$$E_{loss}(d, E_\alpha) \approx \left[\frac{\partial E_{loss}}{\partial d}(E_\alpha) \right] (d + d_0)$$

$$\frac{\partial E_{loss}}{\partial d}(E_\alpha) \approx \frac{C_0}{E_\alpha} + C_1$$

E_{loss}: energy loss in the SUS303 [eV]

d: depth [Å]
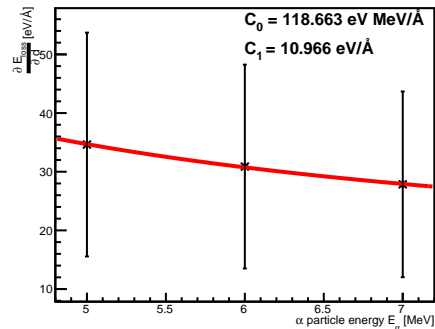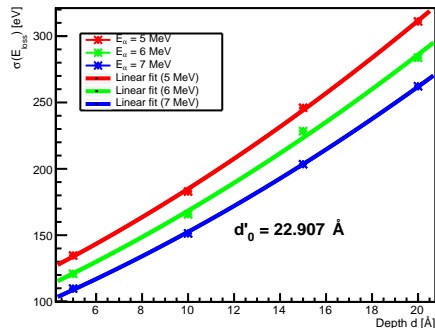
E_α: α ray energy [MeV]

StDev energy loss model:

$$\sigma\left[E_{loss}(d, E_\alpha) \right] \approx C_\sigma (d + d'_0)^2$$

$$C_\sigma(E_\alpha) \approx C_2 - C_3 \log\left[\frac{E_\alpha}{(1\ \text{MeV})} \right]$$

Depth dependence of energy loss of α particles in SUS303

d_0 = 2.236 Å

E_α dependence of $(\partial E_{loss}/\partial d)$

C_0 = 118.663 eV MeV/Å

C_1 = 10.966 eV/Å

Depth dependence of StDev of energy loss of α particles in SUS303

d'_0 = 22.907 Å

E_α dependence of C_σ

C_2 = 0.247 eV/Å^2

C_3 = 0.052 eV/Å^2