

$$X = \frac{^{206}\text{Pb}}{^{204}\text{Pb}}$$

$$Y = \frac{^{207}\text{Pb}}{^{204}\text{Pb}}$$

$$Y = mX + mC_1 + C_2$$

For a given  $t$ ,  $m$  is constant

$$m = \frac{^{235}\text{U}}{^{238}\text{U}} (e^{\lambda^{235}t} - 1)$$

today  $\rightarrow$   $^{238}\text{U}$

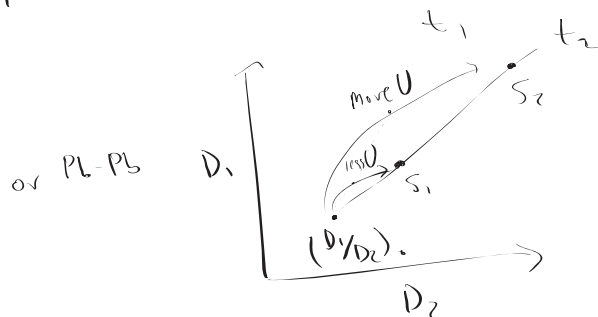
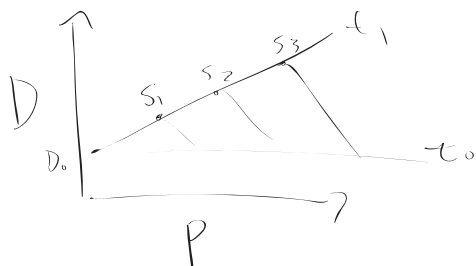
$$Y = mX + b$$

$$b = mC_1 + C_2$$

$$C_1 = \left( \frac{^{206}\text{Pb}}{^{204}\text{Pb}} \right)_0 \quad C_2 = \left( \frac{^{207}\text{Pb}}{^{204}\text{Pb}} \right)_0$$

solve for  $m$  and  $b$  from data/line to get  $C_1, C_2$

We can solve for  $m$  by measuring reservoirs of same age, same initial Daughter compositions, different parent composition



metroites  $\rightarrow$  same  $t$ , same  $U$  is earth, same Pb isotopes