

$$\Delta KE = -\Delta PE = -q(V_b - V_a) = -qV_{ba} \quad \text{end point}$$

$$\frac{1}{2}mv^2 - 0$$

$$E = \frac{-V_{ba}}{d}$$

$$W = q(V_b - V_a)$$

Voltage difference:

$$V_2 - V_{\text{satellite}}$$

$$2.304 \cdot 10^{-10} \text{ V} - -7.88 \cdot 10^{-10} \text{ V}$$

$$\text{Voltage difference} = 3.072 \cdot 10^{-10} \text{ V}$$