

The STM

The STM (scanning tunneling microscope) tip is $L = 0.18 \text{ nm}$ from a metal surface.

An electron with energy of $E = 6 \text{ eV}$ in the metal approaches the surface. Assume the metal/tip gap is a potential barrier with a height of $U_0 = 12 \text{ eV}$.

What is the probability that the electron will tunnel through the barrier?

