Figure 1

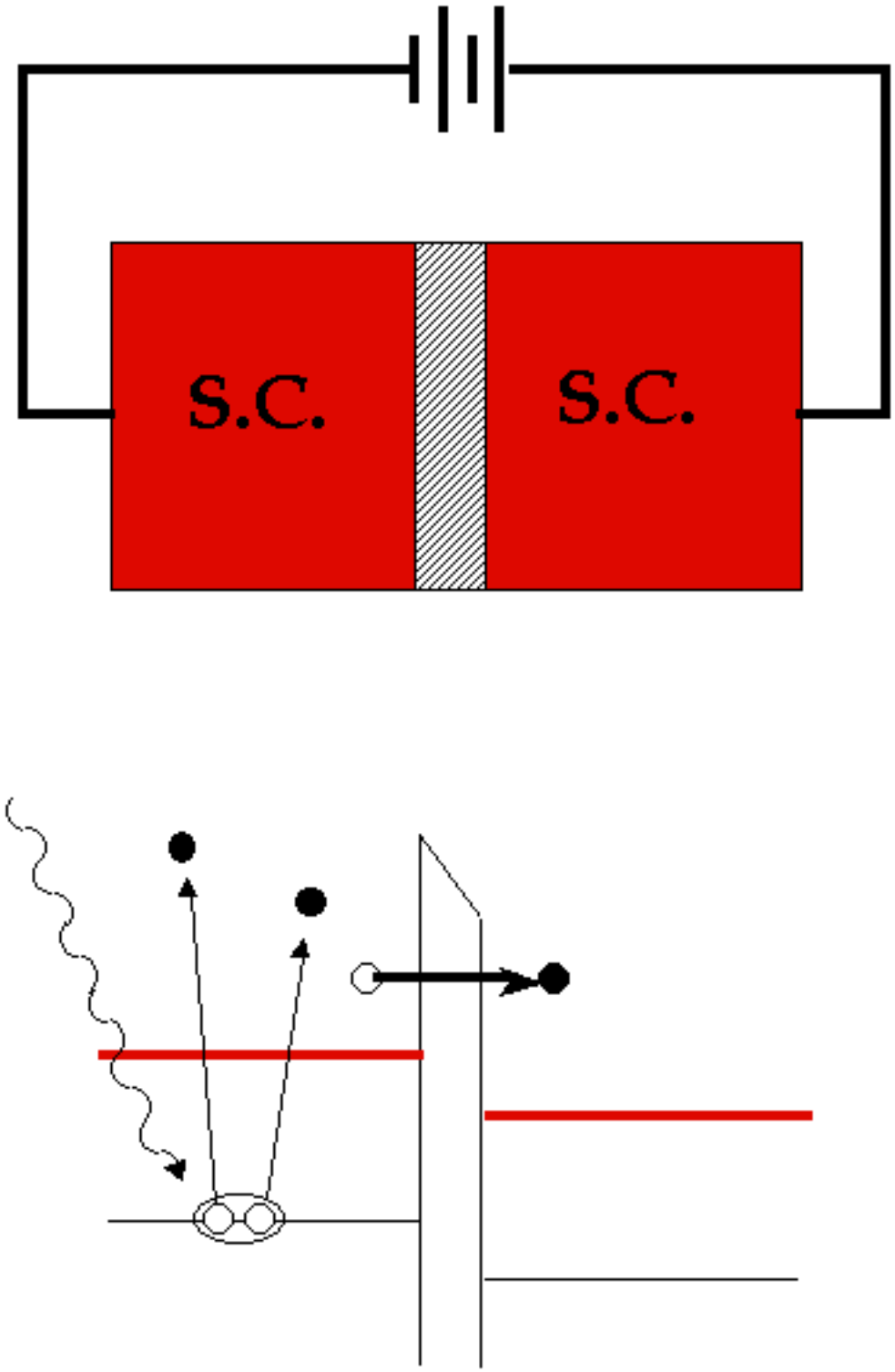

Fig 1 Schematic of STJ detection process. The photon is absorbed in the left-hand electrode, and its energy breaks Cooper pairs, producing single electrons with charge Q H 0.6 e (E / D_{Ta}); E is the photon energy and e the electron charge; D_{Ta} H 0.7 meV is the gap of the Ta absorber. These quasiparticles tunnel as a current to the other superconducting electrode, and the charge is given by the integral of the current increase. The charge Q is used to deduce the photon energy.