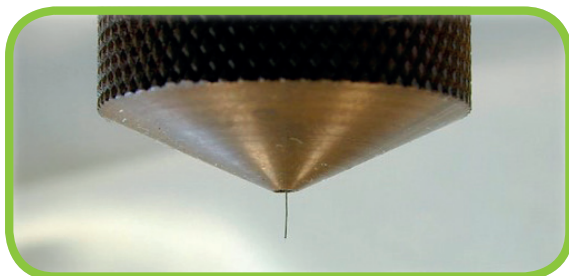
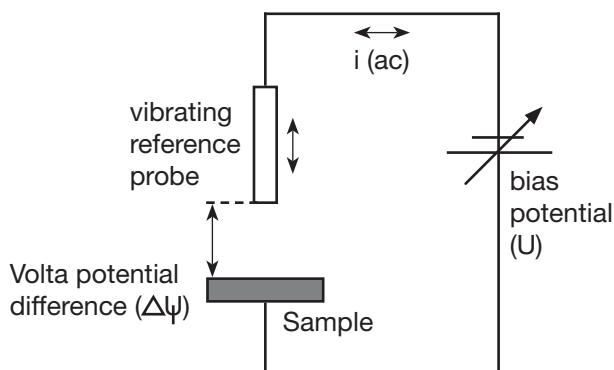


Scanning Kelvin Probe (SKP)

The Kelvin Probe, or Kelvin's vibrating capacitor technique, is one of the most sensitive measuring procedures in surface physics and a well-established means of determining metallic work functions. The technique utilises a vibrating electrode, typically a 125 μ m gold wire. The SKP is purely potentiometric and probably the electrically least perturbing of all electrochemical techniques.

SKP measures the Volta potential difference ($\Delta\psi$) between sample and vibrating probe. An external bias (U) is switched into the external circuit (below) to null the current. Measured values of U can be converted into corrosion potential (E_{corr}).



Key Features and Specification

- ⬆ Scan area: 50mm x-axis, 50mm y-axis, 50mm z-axis
- ⬆ High spatial resolution
- ⬆ Lockin Amplifier
 - ⬆ Amtek Signal Recovery 7265
 - ⬆ Low noise 13fA/ $\sqrt{\text{Hz}}$
- ⬆ Carefully selected and designed components
 - ⬆ Stable signal detection
 - ⬆ Repeatable experiment

Applications

Measurement of the electrochemical potential of surfaces covered by extremely thin and resistive electrolyte layers i.e. atmospheric conditions.

Study of local electrochemical processes occurring beneath poorly conducting films, such as organic or inorganic coatings.

Potential measurements can be spatially resolved allowing the characterization of localised electrochemical phenomena such as localised corrosion.

Enquiries
regarding:

- ⬆ Purchase
- ⬆ Contractual work
- ⬆ Use of equipment
- ⬆ Training

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