

Kelvin probe

Description:

It is a non-contact measurement system (Instytut Fotonowy, Krakow, Poland) that includes an oscillating capacitor consisting of two electrodes, the actual sample to be measured acting as one electrode and an oscillating gold grid reference electrode serving as the other. The device is further equipped with a radiation source for illuminating the sample with radiation of different wavelengths.

Specification of adjustable parameters:

- Kelvin probe with the possibility of positioning the sample to be measured in the X, Y axes with an accuracy of 10 μm .
- Shielding of the sample from external sources and electrical noise using a Faraday cage.
- Radiation source 150 W Xe lamp 300-1000 nm.
- Voltage range: -5 to 5 V
- Reference gold electrode (5.1 eV).
- Computer software for evaluation of measured data.

Usage:

The Kelvin probe allows the measurement of the work function of various semiconductor materials in pellet form with high precision and accuracy. This information is used to characterize the surface properties of prepared semiconductor photocatalysts, e.g. corrosion, adsorption/desorption, surface charge, catalytic activity, etc.

