

## **Mechanism of current transport for a photoelectrochemical cells of ITO/Cu<sub>2</sub>O/PVC-LiClO<sub>4</sub>/graphite**

### **Abstract**

This paper deals with the current transport mechanism of solid state photoelectrochemical cells of ITO/Cu<sub>2</sub>O/PVC-LiClO<sub>4</sub>/graphite as well as the physical properties of a component of a device affecting its performance. The principle of operation used in the photoelectrochemical cells is presented. The device makes use of ITO films, Cu<sub>2</sub>O films, PVC-LiClO<sub>4</sub> and graphite films as photoanode, photovoltaic material, solid electrolyte and counter electrode, respectively. The device shows rectification. The J<sub>sc</sub> and V<sub>oc</sub> obtained at 100 mW cm<sup>-2</sup> were 3.2 × 10<sup>-11</sup> mA/cm<sup>2</sup> and 0.92 V, respectively.

### **Keywords**

Cuprous oxide; Current transport; Mechanism; Photoelectrochemical cell