E1-09: Spectral response of semiconductor-liquid interfaces

R A S S Gunasekera, K T L de Silva, J K D S Jayanetti
(Dept. of Physics, Univ of Colombo, Colombo 3)

Investigation of the photoresponse spectra of semiconductor- liquid interfaces under short circuit conditions can be used to identify the states due to imperfections at or near surfaces of semiconductors. The spectral response of GaAs/$Fe(CN)_6^{3-4-}$ interface was studied in a semiconductor septum photovoltaic (SC- SEP) cell. The response of GaAs was nearly zero at photon energies exceeding the band gap 1.4 eV. This indicated the absence of defect states with energies in the band gap of GaAs. The fall of response at shorter wavelengths was partly due to the absorption of light by the electrolyte.