Annex 31

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**Ti/CU2O photoelectrodes in photoelectrolytic solar cell**  
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Cuprous Oxide thin films deposited on Ti substrates were investigated as photoelectrodes in a photoelectrochemical cell. Electrodeposition was carried out in an electrochemical cell containing aqueous solutions of cupric acetate and sodium acetate.X-ray diffraction (XRD) and scanning electronmicrographs (SEM) confirmed that the films are polycrystaline Cu2O films. X-ray photoelectron spectroscopy (XPS) revealed that the films are pure CU2O and there are noanyother phases. The photoresponse of the films in a PEC produced a zero bias photocurrent (XBPC) with an n-type photoresponse. Comparing with the thermally grown Cu2O films, an enhanced spectral response in the long wavelength region could be obtained with electrodeposited Cu2O on Ti substrate. A charge separation mechanism at the Ti/Cu2O interface isproposed as the possible reason for the observed spectral response enhancement.