CuO/ZnO based Solar Cells with Various Device Structures

김진환, 김련탁, 양화영[1], 한윤봉[2,*]
전북대학교; [1]전북대학교 화학공학부;
[2]전북대학교 반도체화학공학부
(ybhahn@chonbuk.ac.kr*)

We present ZnO/CuO based solar cells with various device structures, which were prepared by rf magnetron sputter and plasma enhanced atomic layer deposition. Heterojunction solar cells were fabricated on indium tin oxide(ITO)-coated glass. The structural properties of CuO/ZnO solar cells have been analyzed by field emission electron microscope (FESEM), X-ray diffraction (XRD) and UV-vis spectroscopy. The Ag/Cu/N:CuO/N:ZnO/ZnO heterojunction solar cell fabricated on ITO glass showed a power conversion efficiency of 0.42% with VOC=0.43 V, JSC=2.74 mA/cm2 and 35.30% fill factor under AM 1.5G illumination.