

Band Offset Measurement Studies on $\text{Cu}_2\text{SnS}_3/\text{ZnMgO}$ Thin Film Heterojunction

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We present an investigation of the interface between earth-abundant absorber Cu_2SnS_3 and ZnMgO buffer layer using photoelectron yield spectroscopy (PYS) as the probing technique. PYS is advantageous for probing electronic structure of the $\text{Cu}_2\text{SnS}_3/\text{ZnMgO}$ because of the relative long mean long mean free path of photo excited electrons with very low kinetic energy in PYS. The valence-band offset and conduction-band offset is determined for $\text{Cu}_2\text{SnS}_3/\text{ZnMgO}$ junction with Mg concentration. The related energy band diagram was developed and the obtained results discussed with more elaborated manner.