

### Fabrication of Solution Processed n-ZnO/p-CuO Based LED

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ZnO has been a promising material in the development of exciton-based optoelectronic devices such as light-emitting diode (LEDs) and photovoltaic cells because of its direct bandgap of 3.3 eV at room temperature and large exciton binding energy of 60 meV. Moreover, from a material point of view, for wide applications, development of p-type semiconductor such as CuO can be presented as an interesting candidate. Due to its wide application, we have adopted simple and straight forward approach for the growth of ZnO nanorods as an n-type substitute and solution processed CuO nanoparticles films as a p-type. The Crystallinity and structure properties of as grown ZnO and as deposited CuO Nanoparticles films were further characterized by various analytical tools. Heterojunction CuO /ZnO based devices have been fabricated using solution based growth methods. We have investigated various influencing parameters, i.e temperature effect, type of electrode on the performance of as fabricated devices.