

## White–Yellowish Light Emitting Diodes Based On Solution Processed n–ZnO Nanorods/p–CuO Quantum Dots Ink

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Recently, ZnO has been a promising material in the development of exciton-based optoelectronic devices. Moreover, quantum dots have potential in next-generation electronic and optoelectronic devices because of their unique physical properties, which arise due to the quantum confinement effect. From a materials 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 quantum dots based films as p-type. We have investigated various influencing parameters i.e. temperature effect, type of electrode, current spreading layer on the performance of as-fabricated devices. I–V characteristics exhibited nonlinear rectifying behavior with a forward-bias voltage of ~1–2 V, which may corresponds to the bandgap of CuO and showing white/yellowish emission.