



Comparitive study of the nanostructure, optical and electrical properties of the growth of random ZnO nanostructure by different synthesis techniques.

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The size and shape of the nanostructures of materials from which optoelectronic devices are manufactured, are extremely important, since these properties directly control the optical and electronic properties of the device. In my research I investigate the material science and engineering of nanostructures experimentally. The objective is to enhancement both the optical and electronic properties of the material by developing different, cost-effective synthesis

techniques to easily scale up and manufacture commercially nanotubes, nanorods, nanowalls, and nanowires from semiconductor materials such as ZnO. The results of my research can be applied in various industries such as the manufacturing of diodes, sensors, solar cells, LEDs and oscillators. In particular, methodologies for the synthesis of different types of ZnO nanostructures which have a high electron mobility are being studied within the context optoelectronic technologies.

