**Overview:**

Several works are done on the ZnO thin film. It has excellent performance in short wavelength devices because of its large excitation binding energy. These types of characteristics provide a stable excitonic emission at room temperature [1].

In our working process the thin film deposition technique is followed by sol-gel process, specifically spin coating deposition technique. The key benefit in this process is the usage of rotational velocity of the substrate, which assist to spread the film on the surface of the glass substrate. In addition, this is a lower cost process, provide a simple way of deposition, optimum level of homogeneity, and the lower processing temperature [2].

It also helps in the growth of a highly pure product, so this is used in the highly pure precursor solution with controlled molar fractions [3]. Thus, both manipulation and controlling of solid-state components and thin films are accurate by the sol-gel process [4].

The choice of Y as a dopant is primarily motivated by its close atomic radius to that of Zinc, which facilitates the Y ions insertion into ZnO lattice. Thus, recent studies have demonstrated the capability of Y as a dopant to ameliorate the electrical and optical features of ZnO, as well to decrease its native point defect densities [5-6].

It was found that the resistivity of YZO thin films was diminished by adding Y doping at different levels, and also reported that a large number of electrons were introduced after incorporating Y in the lattice of ZnO, and therefore increased the conductivity [7].