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**Laboratory tutor: Spin Coating technique**

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### **Laboratory tutor: Spin Coating technique**

Electrical conductivity of some metal oxide semiconductors usually changes when exposed to certain gases. On the basis of this phenomenon, many types of gas sensors have been synthesized by using ZnO, SnO<sub>2</sub> and TiO<sub>2</sub>. Among them, ZnO was one of the earliest sensors developed because of its chemical sensitivity to volatile and other radical gases, its high chemical stability, suitability to doping, non-toxicity and low cost. This material has been used for gas sensors in the form of single crystals, sintered pellets, thick and thin films.

We will describe the technique of spin coating to prepare thin films. Then, we elaborate ZnO thin layers by this technique, under various experimental conditions (viscosity, speed of the spinner, temperature, concentration...), onto glass substrates using the sol-gel method.

The structural and electrical properties of the prepared films will be analyzed by different techniques.