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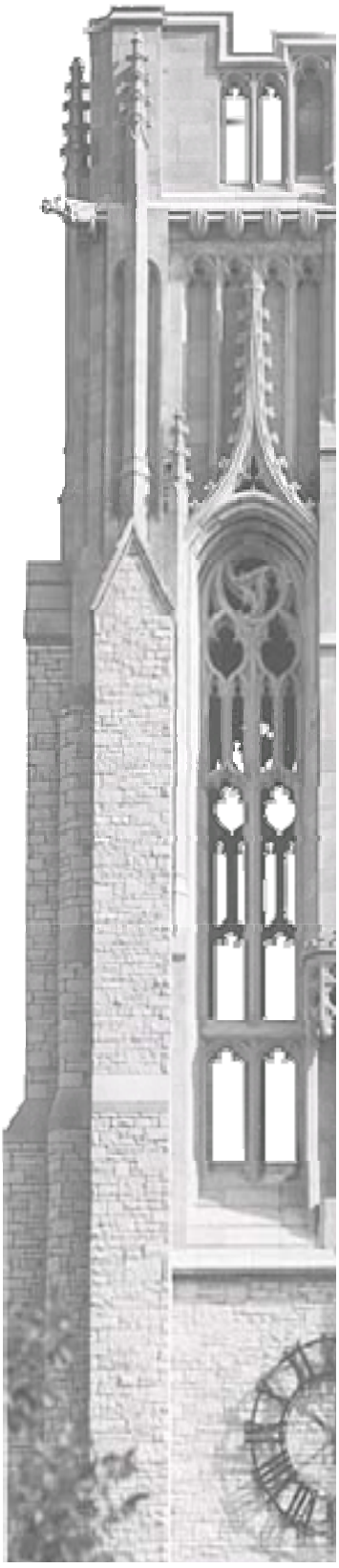
Nano-Crystalline Metal Oxide Thin Film Sensors



Detection of various toxic and pollutant gases such as carbon dioxide, carbon monoxide, hydrogen sulfide, ammonia, sulfur dioxide and nitrogen oxide, in addition to combustible gases such as hydrogen and methane is becoming more important. For example, hydrogen is increasingly being used as a fuel and has the highest combustion energy release per unit of weight of any commonly occurring material. Hydrogen, however, is potentially explosive and has other characteristics that make it dangerous. Users of fuel cells and other applications using hydrogen thus need to avoid the risk of an explosion caused by hydrogen. Thus, there is a need for a reliable, intelligent sensor technology which detects a leakage of hydrogen quickly and securely to protect people and machinery. Therefore, a system has been developed for making nanocrystalline metal oxide thin film sensors for sensing various gases.

The University of Toledo is seeking a company interested in making or utilizing these gas sensors to quickly detect the existence of such gases as hydrogen and carbon monoxide.

Applications:

1. Can be configured to sense one or more of various gases
2. Where high sensitivity is required
3. Miniaturized and compact equipment

Advantages:

1. New technology and application of metal oxide thin films
2. Breakthrough in the field of sensors for carbon monoxide and hydrogen
3. Favorable response times
4. Favorable recovery times

This invention is patent pending

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