

From chemical or biochemical microsensors to fast detection systems

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Summary

The market of chemical and biochemical sensors is increasing and represents a large opportunity. The problem of chemical and biochemical detection involves the use of one/several transducing layer/interface. Several types of detection exist. Among them, acoustic wave devices present many advantages. The paper deals with surface acoustic waves devices and their implementation. The role and properties of the sensing layer are discussed for chemical sensors and biochemical sensors as well. Examples of realizations are presented taking into account the microfluidic approach.

Keywords: Surface acoustic waves; chemical sensors; biochemical sensors; microfluidics; sensor array; mesoporous sensing material; bacteria and virus detection