

PARA-ACYLCALIX[N]ARENES AS GAS SENSORS

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In this paper we will present the use of para-acylcalix[]arenes as the active layers for sensing various gases and volatile organic compounds using Surface Accoustic Wave technology for the signal transduction.

The initial work concentrated on the detection of hydrocarbon gases methane, ethane, propane, butane and their unsaturated analogues. Later work was oriented towards detection of various Volatile Organic Compounds including aromatics, esters, ethers, nitroalkanes, detection at concentrations as low as 50ppb have proved possible. These sensors are impervious to humidity and air.

The final part of the work involves multiplexing the sensors using technology developed at FEMT ST Besancon. We will show how the multiplex sensor was built and demonstrate its use in VOC detection.