Project report

Submitted by:

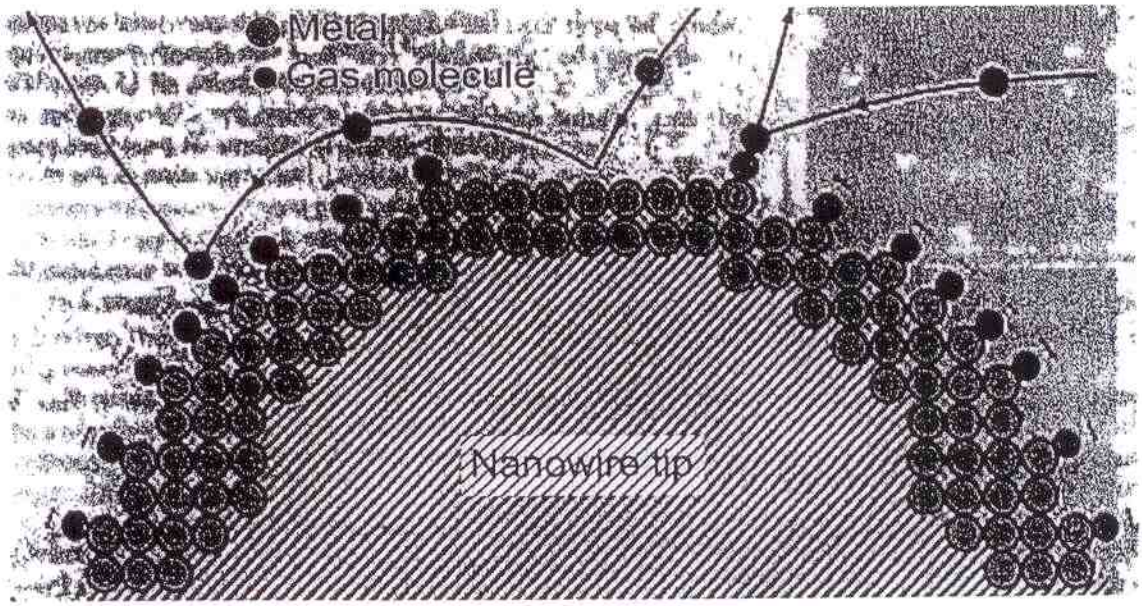
Example (1) p1/2

If the conditions are the same, ...

analyte gas is defined as selectivity of metal oxide semiconductor,Semicond... selectivity due to reaction of reducing gases with absorbed oxygen.

$$\text{Selectivity}_{S_{(P)}} = \left|\frac{S_{gas(a)} - S_{gas(b)}}{S_{gas(a)}}\right|$$

1.4. Gas detection in GIS



Ref to fig 1 Slide #5

Fig2 shows ionization of gas molecules in locality of positively charged nanowire tip

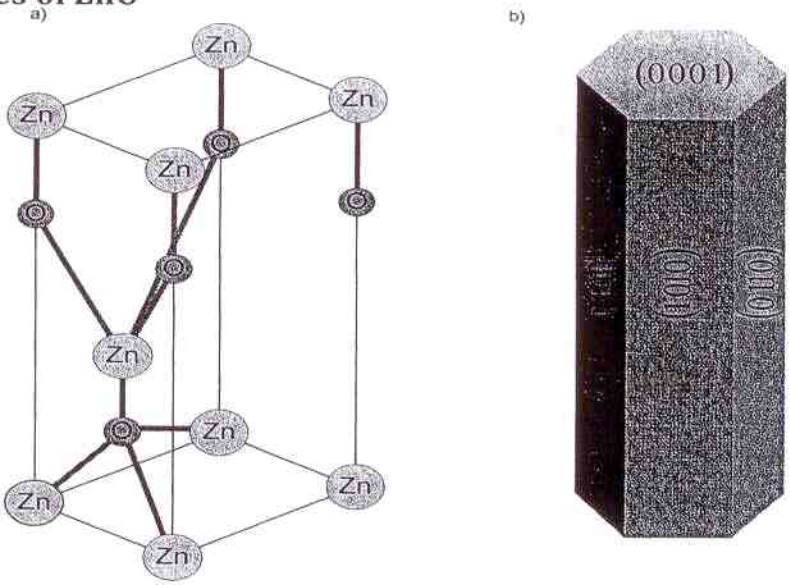
In a field of few volts per angstrom at low temperature the emitter surface is field evaporated. The image gas atoms are attracted to the emitter surface by polarization force. These atoms hop around the surface and are field ionized when they pass through the ionization zone which is represented by dashed line. When they are ionized they are accelerated to the screen to form aa field ion image of the surface[11].

2. Material of GIS

gas ionization sensors can be fabricated using

Example ①
pg 12

3.1. Properties of ZnO



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Slide # 14

Ref to Fig

Figure7. Crystal structure of ZnO:

Zinc oxide occurs in hexagonal wutzite or cubic structure. Zinc oxide is a colourless and clear II-VI compound semiconductor. Miller-Bravais index is used with hexagonal and rhombohedral lattice system. Here i=h-k is redundant index. Given the redundant index the similarities of planes are clearer. The excitation binding energy of Wutzite structure is 60mV and is most stable. The polar bond produces strong infrared activity of some of the zinc oxide lattice vibration modes. Bond polarity and the noncenro symmetric crystal structure give rise to piezoelectric characteristics. The coherent energy perbond is 7.52eV which produces a very high thermal stability. Each zinc ion is connected to four oxygen atoms which gives rise to a tetrahedral geometrical structure. Zinc oxide is connected withZn^{2+} and O^{2-} ions through covalent bonding with some degree of polarity.

Example (2)
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UNIVERSITE Concordia UNIVERSITY

Department of Electrical and Computer Engineering

Graduate Seminar in Electrical and Computer Engineering

ELEC 6961

Report on the MASc Thesis Defended by

Example (2) p2/2

5.3 Experimental Setup and Results ← P48

The researcher described that, for poly-crystalline module, 30 thermocouples were connected and for mono-crystalline 2 thermocouples were connected for temperature records. In both cases, temperature was recorded by FLIR 800 infra red camera.

In poly-crystalline module 10.9 ^{0}C temperature variation was observed within the 18 cells. In P60 mono-crystalline module, cell temperature variation with wind is clearly visible with various hot spots. Near the wind system, panel was cooler than the further edge. But the highest hot P62 spot was identified in Sp2. Mono-crystalline module without wind had a very high temperature (more than 70 ^{0}C) in the cells; figure 5.1 clearly defines the distribution. Temperature was P62 measured in total 18 spots with highest and lowest temperatures 61.8^{0}C and 54.6^{0}C P62 respectively in no wind condition. Open circuit voltage was calculated considering temperature distribution in figure 5.1 as follows. In the same time it was compared with measured open circuit voltage in no wind condition. All measurements were done on the surface glass cover of the module. P62

Measurements	°C
Sp1	59.4
Sp2	59.3
Sp3	54.6
Sp4	61.1
Sp5	60.8
Sp6	57.6
Sp7	61.2
Sp8	61.8
Sp9	57.8
Sp10	60.2
Sp11	60.4
Sp12	56.2
Sp13	59.5
Sp14	58.7
Sp15	55.2
Sp16	57.2
Sp17	56.0
Sp18	54.6

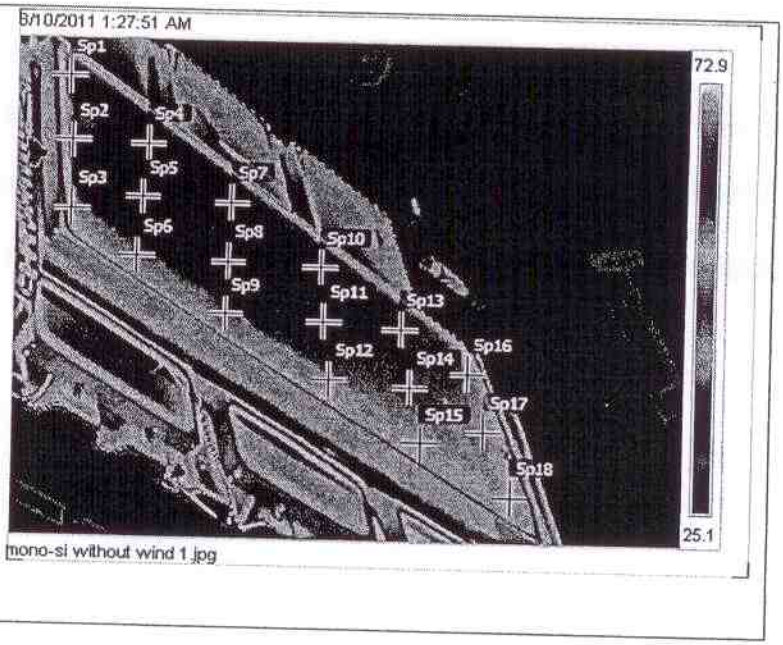

Figure 5.1: Temperature variation in mono-crystalline module without wind [8]

A Seminar
in
The Department
of
Electrical and Computer Engineering

Example (3)
p1/2

Presented in Partial Fulfillment of Requirements
For the Degree of Master of Engineering at
Concordia University
Montréal, Quebec, Canada

applications in clouds and he proposed another architecture for a virtualized IVR infrastructure that enable the composing and management of IVR application in the cloud with a focus on IaaS that is consist of a set of IVR substrates supplied by different substrate providers.

? Repeat..

Thesis Organization

where is section 2?

Section 2 focus on the requirements and the state of the art on IVR development application in cloud based settings. Section 3 introduces the proposed architecture for a virtualized IVR infrastructure. In addition, it describes the business model, the architectural components and the interfaces. Section 4 is dedicated to the software architecture and the design and implementation of the proposed prototype. Also, this chapter includes the first performance measurements. Section 5 concludes the thesis by summarizing briefly the overall contributions, and suggests some future work issue.

p5 p5 p5 p6 p6

Performance Measurements

Figure 7 shows the collected measurements of the execution plane of the composed service. Wireshark tool was used to capture the network traffic and collect the times. The first column represents the time needed for the SIP INVITE message to travel between the two clients in a virtualized environment whereas the second columns shows the same measurements where IVR run on in a non-virtualized environment.

V	
498	556
522	626
496	559
509	557
502	549
508	583
622	553
502	547
498	560
523	567
518 ms	566 ms

Figure 7: Performance Measurements

The time difference between the two environments will prove that the system's performance is not affected . In addition, the use of the proposed architecture enables the service providers to develop and manage its own IVR services with all the benefits of the virtualized environment.