

## E1

**THIN FILM UNDOPED AND P-DOPED GaN AS  
SENSOR**

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**ABSTRACT-** A GaN thin film based sensor is demonstrated for sensing detection. The GaN thin film was grown on a sapphire substrate by using Metal Organic Chemical Vapour Deposition (MOCVD). An undoped and p-doped GaN thin film were used to investigate their reaction upon exposure. The interaction between the GaN surface and molecules, and the sensing mechanism were inspected. It was found that the electrical resistance of semiconducting GaN thin film decreases as time increases. The Undoped GaN (U1) demonstrates good sensitivity, stability and low resistivity by increasing time compare to other samples.

**Keywords:** GaN, Undoped, p-Doped, Thin Film.