

# Rain Detection Measurement System Using Infrared Transceiver

ELEN4006

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*Abstract—*

*Index Terms—*

## I. INTRODUCTION

THE purpose of this project is design and simulate a windshield moisture detection measurement system for an electric vehicle. The system is meant to produce produce an output with information on the amount of moisture on the windshield. This information can then be sent to other systems of the vehicle. The measurement system's design is based on fundamental principles of measurement systems. This report includes sections on the general characteristics of a measurement system, Static & Dynamic Characteristics, Noise, Sensing Element, Conditioning Element, Simulation Results and a Strengths Weaknesses Advantages and Threats (SWAT) evaluation of the measurement system.

## II. BACKGROUND

*A. Measurement Systems*

*B. Literature Survey*

*C. Optics (Refraction Business)*

*D. Real World Simulation (Noise business and real components)*

## III. DESIGN

## IV. SIMULATION RESULTS

## V. SWAT ANALYSIS

## VI. CONCLUSION