

# Carbon Nanotube Sensors for Synthetic Skin

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## **Abstract**

Hello World.

# 1 Introduction

## 1.1 Orthotic Rehabilitation

## 1.2 Carbon Nanotubes

## 1.3 something something something

## **2 Method**

### **2.1 Preparation**

### **2.2 Evaporation**

### **2.3 CNT Deposition**

### **2.4 Optional ILL**

### **2.5 Optional RIE**

### **2.6 Dielectric Layer**

### **2.7 Device Encapsulation**

### 3 Results

1. Capacitive sensors for strain and touch applications  
This should show that it is possible to both compress the sensor, that is change the dielectric thickness for a response. It also should show that it is possible to stretch the sensor, both compressing the dielectric thickness and decreasing the plate coverage area. The devices should be able to withstand 200% strain and decent compressive forces.
2.  $\Omega/\square$  film characterisation  
This should show that the gauge factor increases as we approach sensor destruction during stretch events. So we have a trade off between a sensor that is reliable and a sensor that provides the performance characteristics required for mobile applications.
3. Overshoot removal and power improvements  
This should show that the capacitive sensors remove overshoot when compared to resistive sensors, and that the dielectric leakage from the devices is much less than the resistive sensors. This will indicate the sensors have improved power consumption performance for mobile applications when compared to the resistive devices

## **4 Evaluation**

### **4.1 Comparison to objectives for orthotic rehabilitation**

## **5 Conclusion**

- 5.1 Indicative results indicate the potential for this to be applied to rehabilitation devices**