

## **MEASUREMENT OF BLOOD GLUCOSE USING NEAR INFRARED SPECTROPHOTOMETRY**

**U. M. CHASKAR, A. PARALIKAR AND S. L. PATIL**

### **Abstract**

This study investigates a novel approach for non-invasive measurement of blood glucose. For this purpose we use a technique which is similar to pulse oximetry based on near infrared spectrophotometry. An infrared light of intensity (I) is passed through fingertip containing an arterial pulse component of light of intensity ( $\Delta I$ ) is analyzed. Spectra related only to the pulsatile blood component are derived, thus minimizing influences of basal components such as resting blood volume, skin, muscle and bone. The experimentation is carried out in a pathological laboratory and the results are verified. This work is part of a continuing effort in the development of technology toward non-invasive glucose sensing for diabetics.

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**Keywords:** Non-invasive, Glucose measurement, Diabetes, Pulse Oximetry