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# Blood Oxygen Saturation Measurement System Using Broad-Band Light Source with LabVIEW Program

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**Abstract :** Blood oxygen saturation system is a well-established, noninvasive photoplethysmographic method to monitor vital signs. Conventional blood oxygen saturation measurements for the two LED light source is the ambiguity of the oxygen saturation measurement principle and the measurement results greatly influenced and heat and motion artifact. A high accuracy in order to solve these problems blood oxygen saturation measuring method has been proposed using a broadband light source that can be easily understood by the algorithm. The measurement of blood oxygen saturation based on broad-band light source has advantage of simple testing facility and easy understanding. Broadband light source based on blood oxygen saturation measuring program proposed in this paper is a combination of LabVIEW and MATLAB. Using the wavelength range of 450 nm-750 nm using a floating light absorption of oxyhemoglobin and deoxyhemoglobin to measure the blood oxygen saturation. Hand movement is to fix the probe to the motor stage in order to prevent oxygen saturation measurement that affect the sample and probe kept constant interval. Experimental results show that the proposed method noticeably increases the accuracy and saves time compared with the conventional methods.

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