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(71) 申请人: **深圳市倍轻松科技股份有限公司 (SHENZHEN BREO TECHNOLOGY CO., LTD.)** [CN/CN]; 中国广东省深圳市罗湖区深南东路 5033 号金山大厦 22 楼 2205 室, Guangdong 518000 (CN)。

(72) 发明人: **马学军 (MA, Xuejun)**; 中国广东省深圳市罗湖区深南东路 5033 号金山大厦 22 楼 2205 室, Guangdong 518000 (CN)。 **吴明辉 (WU, Minghui)**; 中国广东省深圳市罗湖区深南东路 5033 号金山大厦 22 楼 2205 室, Guangdong 518000 (CN)。

(74) 代理人: **深圳中一专利商标事务所 (SHENZHEN ZHONGYI PATENT AND TRADEMARK OFFICE)**; 中国广东省深圳市福田区深南中路 1014 号老特区报社四楼西区 5 号信箱, Guangdong 518028 (CN)。

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(54) **Title**: METHOD AND SYSTEM FOR MEASURING OXYHEMOGLOBIN SATURATION IN BLOOD

(54) **发明名称** : 血液中血氧饱和度的测量方法及系统

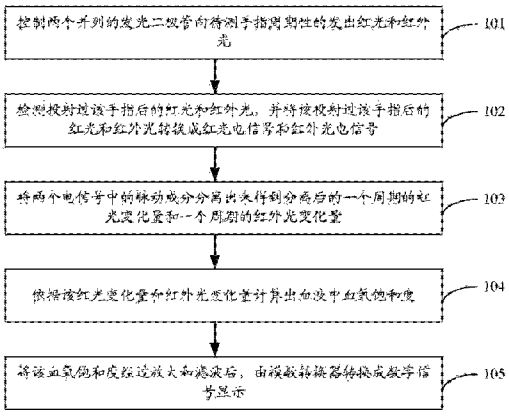


图 1 / FIG. 1

101 CONTROL TWO PARALLEL LIGHT EMITTING DIODES TO PERIODICALLY EMIT RED LIGHT AND INFRARED LIGHT TO A FINGER TO BE DETECTED
102 DETECT THE RED LIGHT AND THE INFRARED LIGHT PROJECTED THROUGH THE FINGER, AND CONVERT THE RED LIGHT AND THE INFRARED LIGHT PROJECTED THROUGH THE FINGER INTO A RED LIGHT ELECTRIC SIGNAL AND AN INFRARED LIGHT ELECTRIC SIGNAL
103 SEPARATE PULSE COMPONENTS IN THE TWO ELECTRIC SIGNALS TO OBTAIN A SEPARATED RED LIGHT VARIATION IN ONE PERIOD AND A SEPARATED INFRARED LIGHT VARIATION IN ONE PERIOD
104 CALCULATE AN OXYHEMOGLOBIN SATURATION IN BLOOD ACCORDING TO THE RED LIGHT VARIATION AND THE INFRARED LIGHT VARIATION
105 AMPLIFY AND FILTER THE OXYHEMOGLOBIN SATURATION, AND THEN CONVERT INTO A DIGITAL SIGNAL BY USING AN ANALOG-DIGITAL CONVERTER FOR DISPLAY

(57) **Abstract**: A method and a system for measuring an oxyhemoglobin saturation in blood. The method comprises: (101) controlling two parallel light emitting diodes to periodically emit red light and infrared light to a finger to be detected; (102) detecting the red light and the infrared light projected through the finger, and converting the red light and the infrared light projected through the finger into a red light electric signal and an infrared light electric signal; (103) separating pulse components in the two electric signals to obtain a separated red light variation in one period and a separated infrared light variation in one period; (104) calculating an oxyhemoglobin saturation in blood according to the red light variation and the infrared light variation; and (105) amplifying and filtering the oxyhemoglobin saturation, and then converting into a digital signal by using an analog-digital converter for display. The method has the characteristics of non-invasive detection and real-time detection.

(57) **摘要**: 一种血液中血氧饱和度的测量方法及系统，该方法包括：控制两个并列的发光二极管向待测手指周期性的发出红光和红外光（101）；检测投射过该手指后的红光和红外光，并将该投射过该手指后的红光和红外光转换成红光电信号和红外光电信号（102）；将两个电信号中的脉动成分分离出来得到分离后的一个周期的红光变化量和一个周期的红外光变化量（103）；依据该红光变化量和红外光变化量计算出血液中血氧饱和度（104）；将该血氧饱和度经过放大和滤波后，由模数转换器转换成数字信号显示（105）。该方法具有无创检测、实时检测的优点。

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