

**APPARATUS AND METHOD FOR NON-INVASIVELY SENSING PULSE RATE
AND BLOOD FLOW ANOMALIES**

ABSTRACT

The present invention provides an apparatus and method for non-invasively sensing pulse rate and blood flow anomalies using a localized, uni-directional, and constant magnetic field. The apparatus comprises a magnetic source for producing the magnetic field, a signal acquisition module with a magnetic sensor for detecting the modulations of the magnetic field caused by the blood flow; and a signal processing module for processing the acquired signals so as to produce data of pulse rate and blood flow anomalies. The method senses pulse rate and blood flow anomalies by providing a localized, uni-directional, and constant magnetic field in proximity to a blood vessel; detecting the variations of the magnetic field caused by the flow of pulsatile blood within the blood vessel; and processing the signals of the detected variations so as to monitor the blood flow.

FIG 1.