

New Non-Contacting Method for Detection of Infant Apnea

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Abstract

This paper presents a novel non-contacting method for infant apnea monitoring. It is based on optical principle that uses a non contacting infrared (IR) sensor to monitor the abdomen motion. The main advantages of this method in comparison with the conventional ones for apnea monitoring are that it improves the infants' comfortability, eliminates the effects of motion artifacts and skin irritation, enhances the capability of continuous monitoring, improves the accuracy and safety, does not require frequent calibration and finally it is suitable for home applications. The experimental evaluation of the electronic system that realizes this method showed that this new method is accurate and suitable for the detection of infant's apnea.