



Health monitoring using textile sensors and electrodes: An overview and integration of technologies

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 2010 Annual International Conference of the IEEE Engineering in Medicine and Biology
 Published: 2010

Sleep Monitoring Through a Textile Recording System
 2007 29th Annual International Conference of the IEEE Engineering in Medicine and Biology Society
 Published: 2007

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Metadata**Abstract:**

This paper gives an overview of technologies and results of integration and test of textile integrated sensors and electrodes for monitoring of biosignals (electrocardiographic - ECG and electromyographic - EMG), breathing and moisture. Using a seamless jacquard knitting machine, it is possible to integrate these sensors and electrodes directly into the fabrics, which can then be used in clothing for monitoring of elderly people, in sports or in hazardous occupations. The total integration of the sensing elements and connections into the garment presents great advantages in physical as well as psychological comfort of the user. It has been shown that the measurements are of adequate quality for most of the applications. In some cases, as is the case of ECG and EMG, signals acquired are similar to those obtained using conventional electrodes.

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