A new handheld biochip-based microsystem

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Abstract: This paper presents a recently developed hand-held biochip-based microsystem. The microsystem is based on a magneto-resistive array biochip composed of a number of sensing sites with magnetic tunneling junctions (MTJ) and diodes. To drive the MTJ, different techniques are addressed with different types of signals. Filtering strategies are also presented, which allow the recovery of bio signals from the noise without increasing too much nor the time required to access all the sensors, nor the power consumption of the board. In conclusion, experiments with the system in a setup to detect actual bio signals are presented with encouraging results.

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