ON A COMPRESSION ALGORITHM FOR ECG SIGNALS

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Abstract: The paper presents a new algorithm for ECG signal compression based on local extreme extraction, adaptive hysteretic filtering and LZW coding. Basically the method consists in smoothing the ECG signal with a Savitzky–Golay filter, extraction of the local minima and maxima, a hysteretic filtering and LZW coding. The reconstruction of the ECG signal is done by cubic interpolation. The algorithm is robust with respect to noise, has a rather small computational complexity and provides good compression ratios with excellent reconstruction quality. The results of the algorithm compare favourably to other algorithms like AZTEC, SAPA, TP, CORTES, SPHIT, JPEG2000 and wavelet–based ECG compressions.