

# SENSITIVITY ANALYSIS OF A SAMPLE ENTROPY ESTIMATOR ON ITS PARAMETERS IN APPLICATION TO ELECTROHYSTEROGRAPHICAL SIGNALS

Dariusz Radomski

*Institute of Radioelectronics, Warsaw University of Technology, Warsaw, Poland*

## **Abstract**

An electrohysterographical signal (EHG) represents a bioelectrical activity of a pregnant uterus. The most frequently used method of analysis of EHG is based on entropy indexes, e.g. an approximate entropy or sample entropy index which are dependent on two parameters. Hitherto, these parameters were selected arbitrary apart from their influence on physiological meaning of the EHG signals. The aim of the presented paper was an evaluation of sensitivity of the sample entropy index on its parameters. Moreover, it was computed such value of these parameters which ensured prediction of an upcoming labor on basis on the EHG description by the sample entropy index.

**Keywords:** sensitivity analysis, nonlinear signal analysis, pregnancy monitoring