

Signals evaluation of a chaotic generator-based sensor for environment conductometric measurements

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<https://doi.org/10.1109/EHB.2015.7391387>

Abstract

We describe the evaluation of a new conductometric and impedancemetric sensor based on nonlinear dynamics in the determination of the water pollution with salts at very low concentrations. The sensor is based on the change in dynamics produced in a nonlinear dynamic circuit that includes a circuit element composed of the measured salt solution and the measuring interdigital electrodes. The experimental results obtained on various salt solutions that are known pollutants show a high sensitivity and a partial specificity, which can be enhanced by using appropriate signal processing.

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E-Health and Bioengineering Conference (EHB)
19-21 Nov. 2015, Iasi, Romania

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