VALIDATION OF A MODIFIED CARBON SENSOR BY NANOSTRECTURED MATERIALS FOR ISOPROTURON TRACE ANALYSIS IN WATER

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Abstract.

A new electrochemical sensor based on nanostructured carbon paste electrodes (CPEs) is developed for the sensitive detection of Isoproturon in water. The CPEs were nanostructured by incorporation of carbon nanotubes (NTCs) and synthetized copper oxide nanoparticles (CuO). They were characterized using the voltammetric methods. Electrochemical experiments showed that the adsorption of Isoproturon onto (GC-NTC-CuO)-CPE associated with nanomaterials (NTCs and CuO) provided remarkable analytical performances of the sensor such as a large quantification range from 2 - 200 μ g/L with a detection limit of 0,1 μ g/L of isoproturon and no interferences of some another pesticides tested. The sensor was successfully used to determine isorpoturon at level trace concentration in water indicating that it is suitable for the monitoring of this pesticide.

Keywords: Carbone Paste Electrode, nanostructured composite material, traces analysis, isoproturon.

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