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PII: S0039-9140(14)00680-8
DOI: http://dx.doi.org/10.1016/j.talanta.2014.08.010
Reference: TAL15021

To appear in: *Talanta*

Received date: 6 May 2014
Revised date: 4 August 2014
Accepted date: 5 August 2014

Cite this article as: Liang Wang, Die Yang, Cheng Fang, Zuliang Chen, Peter J. Lesniewski, Megharaj Mallavarapu, Ravendra Naidu, Application of neural networks with novel independent component analysis methodologies to a Prussian blue modified glassy carbon electrode array, *Talanta,* http://dx.doi.org/10.1016/j.talanta.2014.08.010

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Application of neural networks with novel independent component analysis methodologies to a Prussian blue modified Glassy Carbon Electrode array

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Keywords: Ion Selective Electrode (ISE) array; Prussian blue modified Glassy Carbon Electrode (PB-GCE); Genetic Algorithm (GA); Independent Component Analysis (ICA); Back-propagation Neural Network (BPNN); Orthogonal Experimental Design (OED);

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Accepted manuscript

Abstract

Sodium potassium absorption ratio (SPAR) is an important measure of agricultural water quality, wherein four exchangeable cations (K^+, Na^+, Ca^{2+} and Mg^{2+}) should be simultaneously determined. An ISE-array is suitable for this application because its simplicity, rapid response characteristics and lower cost. However, cross-interferences caused

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