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Theoretical Aspects of Nanosensors for Radiation Hazards Detecting

G. Tatishvili, T. Marsagishvili, M. Matchavariani & Z. Samkharadze

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Abstract

Theoretical aspects of using the modern opportunities of nanotechnology for creation of new type sensors for determination of lowest concentration radiation sources are under consideration.

Taking into account abilities of modern high sensitive facilities for analytical signals registration, are suggested sensors based on changing of electroconductivity of the system while the adsorption of impurity particle on the semiconductor electrode under the radiation

influence. It is recommended to use such sensors for determination of radioactive substances in biological liquids and in water ecosystems.

The Green function technique makes possible to analyze the kinetics of the elementary act of charge transfer processes in detail.

Analytical expressions for kinetic parameters of charge transfer processes in such systems are obtained.

Keywords

Nanosensor **Radiation** **Electroconductivity** **Adsorption** **Charge transfer** **Green function**

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Author information

Authors and Affiliations

R. Agladze Institute of Inorganic Chemistry and Electrochemistry of Iv. Javakhishvili Tbilisi State University, Tbilisi, Georgia

G. Tatishvili, T. Marsagishvili, M. Matchavariani & Z. Samkharadze

Corresponding author

Correspondence to G. Tatishvili .

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