APPLICATION OF THE MONTE-CARLO METHOD TO THE DESCRIPTION OF THE DYNAMICS OF THE SPREAD OF SALVO POLLUTION COMPLICATED BY ADSORPTION

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Abstract. The possibilities of application of the Monte-Carlo method for simulating the consequences of pollutants emissions with specific adsorption on the underlying surface were considered. The basic techniques for the implementation of the model in the VBA-Excel environment are shown. The possibilities of the developed software toolkit for the application of the Monte-Carlo method to solving problems of the spatio-temporal dynamics of a pollution spot in natural conditions are demonstrated. Effective methods of obtaining kinetic curves for the concentration of a pollutant for a selected square on the field and constructing contamination profiles for a specified time are analysed. The estimation of the necessary parameters of the model for obtaining high-quality kinetic curves was performed and recommendations for their optimization are given. Specific fronts for the spot propagation were obtained and visualised.

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