



Numerical simulation of radon transport in heterogeneous media

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Diffusive-convective model is widely used for simulation of radon transport in porous media and has simple analytical solution in the case of relatively homogeneous (1-layer) media. Real geological structure is stratified therefore it is necessary to consider two or more layers with different parameters when simulating. Analytical solution is impossible for heterogeneous geological structure especially when coefficients of radon transport equation (parameters of media) are functions but not constants. In this case numerical simulation methods are helpful for solving of radon transport equations. Validity of different numerical methods for solving of radon transport equation with discontinuous coefficients was analyzed. Integro-interpolation method (balance method) for construction of difference schemes gives good results when values of coefficients jump at the boundary of two layers. Algorithm of solution of radon transport equation with discontinuous coefficients is developed and described in the paper. Calculation results for some heterogeneous structures are given.