عنوان مقاله:

Numerical prediction of 137Cs transportin clayey soil

محل انتشار:

دومین همایش ملی مدیریت پساب و پسماند در صنایع نفت و انرژی (سال: 1390)

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خلاصه مقاله:

137Cs has been introduced to soils and groundwater over the past five decades by nuclear accidents, as fallout from nuclear testing, and as a byproduct-of nuclear research and weapons production[1]. In this paper the transport phenomena involved in the leaching of radioactive material from a clayey soil has been investigated through the finite difference method. Modelling of the leaching processes which take place in clay barrier system is an invaluable tool as it is often not possible to conduct experiments over sufficiently long time scales in order to observe the long term leaching behaviour of nuclear wastes. Cesium was selected as a reactive contaminant. One dimensional solute transport is used for simulation of radionuclide transport. Computational programs were written with Crank-Nicolson scheme using MATLAB software. Experimental results are used for the calibration of the model. The proposed numerical model shows good agreement with experimental results. Finally Numerical model used for prediction of .radionuclide concentration versus depth and time

کلمات کلیدی:

Cs, transport, numerical modeling