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*On a model for the codiffusion of radioactive isotopes*

We consider a model for the diffusion of  $n$  species of radiative isotopes of the same element in a medium. The model is based on the assumption that, since the isotopes are chemically indistinguishable, the flux of each isotope depends on the gradient of the total concentration of the element weighted by the relative percentage of the isotope itself. In this assumption one obtains a hyperbolic-parabolic system with free boundaries.