



An operational model for the accidental release in Hungary

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A multi-layered (32) Eulerian passive tracer transport model has been developed for the statistical investigation of the spatial distribution and deposition of radionuclides or chemically toxic substances over Central Europe. Partial differential equations related to the transport and reaction of species have been solved by 'method of lines technique'. The two main components of a method of lines are application the spatial discretization and time integration routine. The model is discretized partial differential equations on an equidistant rectangular grid with a resolution of 0.0375×0.025 degrees. Vertical transport has been parameterised using K-theory via calculation of Monin-Obukhov length. This model has been coupled with the ALADIN meso-scale limited area numerical weather prediction model used by the Hungarian Meteorological Service. The efficiency of the transport model has been illustrated by the set of simulations of a hypothetical nuclear accident at the Paks NPP, in Central Hungary. The aim of our work was to develop a transport sub-model for the coupled TRansport-EXchange (the so-called TREX) model.