INVESTIGATION OF RADIONUCLIDES DISPERSION
USING A LAGRANGIAN PARTICLE MODEL

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A Lagrangian Particle Model based on Langevin Equation, coupled with mesoscale model (TVMnh), is used to investigate the dispersion of radionuclides over an area of complex terrain. A total of 20,000 particles are released during a period of 24 hours, by a continuous point source located at 10 m, in the center of 50 km by 50 km domain. In this new version of the Lagrangian Particle Model, the negative buoyancy effects over the particles are included explicitly by adding a correction factor and assuming that the radionuclides is composed mainly by Cs-137. The results compared satisfactorily with the ones available in literature for homogeneous and flat terrain conditions.