

MONTE CARLO CALCULATION OF GAMMA RADIATION FIELD DUE TO IODINE-131 RELEASED TO THE ENVIRONMENT

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ABSTRACT

Properties of the radiation field due to iodine-131 distributed on the air-ground interface and in the atmosphere are evaluated by means of a one-dimensional Monte Carlo transport code for the propagation of gamma radiation in two medium geometry.

Figures 1 and 2 show the calculated data on the height distribution and on the energy and angular distribution of flux density and exposure rate from the iodine-131 source.

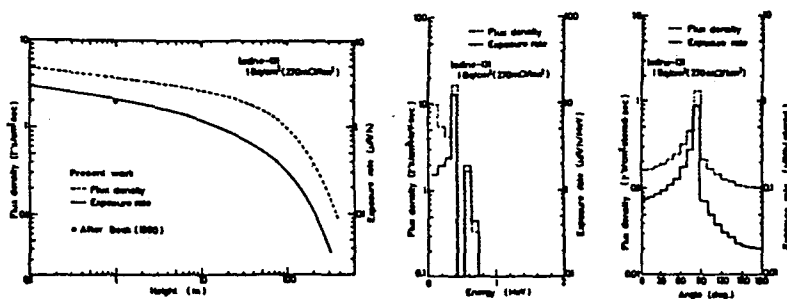


Fig.1 Height distribution and energy and angular distribution of flux density and exposure rate from I-131 infinite plane isotropic source on the air-ground interface. (1 Bq/cm²)

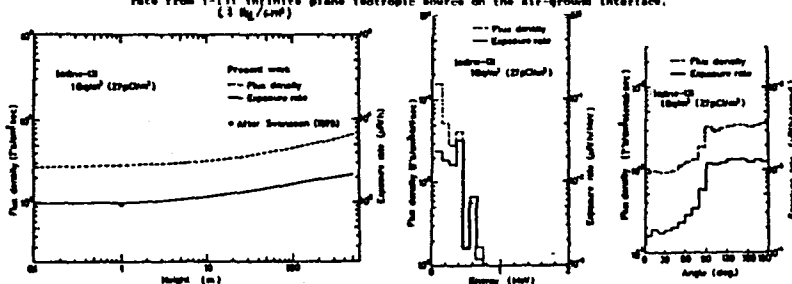


Fig.2 Height distribution and energy and angular distribution of flux density and exposure rate from uniformly distributed I-131 source in the atmosphere. (1 Bq/m³)