Where are the radioactive materials concentrated?

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Abstract

Surface soils were sampled in green zone of residential area in Ibaragi prefecture on July, 2011. The samples were analyzed for SiO_2, Al_2O_3, Fe_2O_3, K_2O, TiO_2, MgO, Na_2O, CaO, MnO, P_2O_5, Cl, S, Nb, Zr, Y, Sr, Rb, Pb, Pd, Zn, Cu, Hg, Te, As, Se, Ga, V, Cr, Br and Mo with X-Rey fluorescence method and PIXE method and for Loss On Ignition with muffle furnace. Radioactive ^{137}Cs and ^{134}Cs were measured by germanium detector with multi-channel analyzer. Relationships between these elements were discussed. Radioactive Cs was concentrated in top surface on the ground. Surface soil survey with a GM counter found that the radioactive materials were enriched twofold under conifer trees than hardwoods, and the least amounts were found in green grass, suggesting the differences of the airborne particle trapping efficiency of vegetation.