

54 **External Radiation Doses in Cities near Semipalatinsk nuclear test site**

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Thermoluminescence technique is applied for dosimetric study in cities near the Semipalatinsk nuclear tests site. We discuss estimations of resident external dose and dose in air from dose in brick sample and report the values in Ust'-Kamenogorsk industrial city whose population is 350 thousand. 150 people got acute radiological disease just after nuclear explosion 1956.

55 **Residual Radioactivities around the Semipalatinsk Nuclear Test Site (2)**

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The effects of radioactive fallout following nuclear weapons tests on the population in the Semipalatinsk region have been studied by a collaboration between Hiroshima Univ. and Kazakhstan Scientific Research Institute since 1995. Although main purpose is to conduct research concerning radiation dosimetry and associated diseases in the population, we have started to investigate the present situation of radioecology in and around the test site at the same time. Here we report the contamination levels of land by Cs-137 and Pu isotopes around the Ustkamenogorsk (about 200 km east of Semipalatinsk City) in East Kazakhstan region. Our methods involve the determination of the Cs-137, Pu-238 and Pu-239,240 levels and the Pu-240/Pu-239 atomic ratios in the soil. A surprising feature was that, even far from about 300 km east from the test site, most of the areas we visited were contaminated at somewhat elevated levels of Pu-239,240 with weapons-grade Pu.