34 External Radiation Doses in Semipalatinsk City

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The radiation effects on residents following the Semipalatinsk nuclear weapon tests have been studied since 1995. Especially thermoluminecsence technique are applied for dosimetric study. We noticed highly external dose around 1 Gy in Dolon village as a result of the first field mission. Here we report thermoluminecsence dosimetry in Semipalatinsk city having population of thirty five thousand as a result of the second field mission in 1996. Bricks were sampled at five buildings which had been constructed before 1949. The results from bricks sampled from five buildings in the city support external dose of several ten cGy.

35 The Radiation Exposures on the High Background Radiation Areas of China.

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As a part of China-Japan cooperative research on radiation epidemiology, we have studied on the ways for the personal dose assessments of inhabitants exposed on the High Background Radiation Area (HBRA). We have examined on the distribution characteristics of the numerical measured environmental radiation doses, the personal exoposure doses and the occupancy factors with interview and analyzed the variables concerned, using different kinds of dosemeters in order to obtain with accuracy the information for the exposure dose estimation on every hamlet members. The estimated personal exposure dose rate on the Madi hamlet is 0.32 μ Gy/h, annual exposure dose rate 2.8 mGy on the basis of the environmental radiation dose and occupancy factor, and the variation coefficient 15% on the ratio of the estimated values to measured values.

36 A New System for Measuring the Environmental Radioactivity Using Ge-detectors and other radiation detectors.

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A New System for Measuring the Environmental Radioactivity was developed. Intrinsic Ge-detectors were used, mainly. To detect γ-ray emitters such as ^{137}Cs sensitively, a large size of detector (rel. eff. = 110 %) was equipped. γ(x)-type detectors (rel. eff. = 50 %) and LEPS were also equipped, in order to measure the low-energy γ-emitters such as ^{210}Pb and ^{234}Th which were important to the investigation of environmental behavior of radionuclides and geochemistry. Liquid scintilation counter, α- or β-ray spectrometer and 2π-gas flow counter were also connected to this system. In Ge-background spectra, ^{210}Pb and ^{234}Th were not detected in γ(x)-Ge detectors (<0.1 cpm), although ^{234}Th was detected in LEPS (about 0.5 cpm).