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Determination of anthropogenic contamination by ^{137}Cs , $^{240}\text{Pu}/^{239}\text{Pu}$ and $^{235}\text{U}/^{238}\text{U}$ in lichens and mosses from Russian Arctic areas

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Lichen and moss samples were collected from Russian Arctic areas (Kola Peninsula, Franz Josef Land and few other locations) in the 1990s. In 2020, ^{137}Cs was determined by HPGe gamma spectrometry from these samples after which isotopes of Pu and U were radiochemically separated from the samples. Mass ratios $^{240}\text{Pu}/^{239}\text{Pu}$ and $^{235}\text{U}/^{238}\text{U}$ were determined by ICP-MS for utilizing the characteristic isotopic fingerprints of different nuclear events. The aim of the work was to survey radioactive contamination sources in terrestrial environment in Russian Arctic regions, which have not yet been completely explored in respect to anthropogenic isotopes and their origin in the environment.