Geophysical Research Abstracts
Vol. 15, EGU2013-13557-3, 2013
EGU General Assembly 2013

Old and new radionuclide presence in Romania after Chernobyl and Fukushima disasters

Constantin Cosma (1), Andra Iurian (1), Dan Nita (1), Ana Pantelica (2), and Eugen Prodan (3)

(1) Babes Bolyai University, Cluj Napoca, Romania (constantin.cosma@ubbcluj.ro), (2) IFIN-HH, Bucharest, Romania, (3) Cabinet Prodan, Memorandumului, 8, Cluj-Napoca, Romania

Our laboratory measured the radionuclide presence in Transylvania region both after Chernobyl and Fukushima accidents. The paper presents old and new data connected with these disasters obtained not only by us but also by others laboratories from Romania. It is an attempt to mark the mainly aspects regarding the radioactive contamination in our country connected with these catastrophes. After the Chernobyl accident the radioactive cloud passage over Romania on NE - SW direction brought relatively intesive radionuclide deposition. On this direction the highest deposition were found in the areas where this passage during April 30-st and May 1-st were accompanied by rainfalls. In the rain water and fresh sediment colected at May 1-st, 1986 and measured the next days, all radionuclide species from Chernobyl could be identified [1]. Additional measurements of 90Sr and 239/240Pu have been made several years later in different environmental samples (roof sediment, soil, pollen, sand, roof-water, street dust) collected in 1986 from Cluj-Napoca, Romania [2].

In the case of Fukushima disaster the air transport from west and north-west brought small quantities of radionuclides over the Romanian teritorry. Even if in this case the radioactive cloud was very dilluted, 131I could be clearly identified and measured in air, rain water and other products as: milk, vegetables, grass, fresh meat from the NW of Romania [3]. Measurements have been also conducted in Bucharest and Pitesti. During the last 5 years suplimentary 137Cs measurements were made in different areas as an attempt to use this radionuclide as soil and sediment tracer.

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