

control radiation level, to fix common conformity to natural laws for diffusing radionuclides in environment, to get correct information in scientific-research works and to solve various ecological problems.

We continued investigations of radioactive level changes in laboratory. From May 1998 to May 1999 radioactive was measured five times a day by the method. Analysis of measurement results show that intensity change of radioactive background during several months is not essential and varies in the range of $(54 \div 70) \cdot 10^{-2}$ Bk. There are the same values of intensity of radioactive background in August, November, December, January and February. A moderate increase of radioactive background was observed in May, June, September, and decrease of radioactivity was in October and March.

Apparently, such moderate changes of radioactive background intensity is connected to variations of pressure and temperature of atmosphere because the intensity of cosmic rays can change. Midsquare error of the measurement was (5-6)%.



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RADIATION TECHNOLOGY OF WATER DESALINATION

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Preparing of high quality potable water is an actual problem in some regions of Uzbekistan as well as in various countries of the World. Many different chemical and physical methods are used to solve this problem. One of them is based on distillation. However, this method consumes large amount of energy and requires a large volume of cooling water.

The purpose of this work is creating a cheap and low energy consuming water desalination technology based on using radioisotopes. In the paper a new water distillation technology is described. Radiator of ultrasonic waves and source of alpha-particles are suggested to use as the evaporator and ioniser of water aerosols, respectively.

The water is transformed into aerosols by means of the ultrasonic waves with the frequency about 2 Mcy, the aerosols get a charge by means of the alpha-particles. A valve formed by a controlling electrical field leaks through itself only saturated vapour pressure of which at the aerosols surface is higher than at the flat surface. The vapour is transformed into liquid in the condensation camera.

Influence of the ultrasonic waves power and the controlling electrical field voltage on the salts concentration in the distilled water are given in the paper. Test results show that the optimal ultrasonic waves power is 40 W and the controlling electrical field voltage is 50 V and the method efficiency decreases when the power and voltage increase higher than these values.

As an example, test results of 2 kg water contained 2-4 g/l of NaCl and CaCl₂ are given. The distillation process lasts 30 minutes, power is 20 W and the purification coefficient is 10^4 .