

A STUDY OF RADIOECOLOGY OF THE VARDAR RIVER SYSTEM

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Abstract

By using various isotope methods and techniques the study of the radioecology of the Vardar river system has been made with special attention to the Krivolak region where construction of a nuclear power plant is planned (see fig. 1). In an attempt to establish the relation between the surface and underground waters, measurement of the distribution of natural isotopes (^3H , D, ^{18}O and others), was made as well as injection of artificial radioisotopes (^{131}J and ^{82}Br), in several regions along the Vardar river.

The distribution coefficients of Hg, Co, Zn, Sc, La and Sb in inorganic samples along the Vardar river were determined using activation analysis, giving preliminary data about their behaviour and mechanism of transport which are analogical to the transport of corresponding radioisotopes.

In addition, measurement of the environment radioactivity of Krivolak region has been started. Total beta radioactivity was measured in samples of water, soil and food products. Specific activity of ^{40}K in some food products has been also measured, which can contribute to establish the release limits.

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