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Determination of some elements and radon concentration in ancient bones by neutron activation analysis and CR-39 detectors

Vasidov Abdisamat
Institute of Nuclear Physics, Uzbekistan

The research of early kinds of archeological remains of bones gives important information at initial stages of life origins of mammals and its development at the Earth to archeologists, anthropologists, geochronologists and historians. The bones of dinosaurs, mammoths, animals and other beings are much collected at the archeological excavations. In results of ten million years skeleton bedding in cultural layers of the earth, in bones there are accumulations of several biological and archeological information. The main aim of the work was to study of profiles of radiogenic and some elements in bones of mammoths and dinosaur, and the element comparisons with standard bones and its soils by instrumental neutron activation analysis (INAA) and radon concentration by solid state nuclear track detectors type of CR-39. The bone samples of the dinosaurs, southern mammoths, bear and archantrope had been discovered in the territory of Uzbekistan. As a results of INAA in bones of the mammoths and dinosaurs a high contents of Uranium and rare earth elements have been registered. The radon concentrations from samples were measured in isolated plastic chambers by CR-39 within 35 days. The values of radon exhalation rates were determined very much in ancient bones than in standard bone and soils.

Biography

Vasidov Abdisamat has got his PhD degree from the Institute of Nuclear Physics, Uzbekistan Academy of Sciences. His scientific directions include the activation analysis on the charged particles of a cyclotron and on neutrons of the nuclear reactor and radon monitoring by means of solid state track detectors. He has published three monographs and more than 100 articles in journals and collected papers. At present he works to obtain technology of the x-ray radioisotopes for brachytherapy, which are products of the cyclotron and nuclear reactor irradiations.

samad@inp.uz

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