



CZ9827850

THORIUM (IV) ADSORPTION ON *Ircilia Muscarum* AND ITS SORPTION KINETIC

Mahmoud A. A. Aslani, Sema Akyil

Ege University Institute of Nuclear Sciences 35100 Bornova, İzmir-Turkey

The accumulation of heavy metals and radionuclides, and the adsorption of uranium and thorium for the recovery or removal from aqueous systems using various micro-organisms and biological substances have investigated by several groups of workers.

The uranium adsorbing abilities of various biopigments, microalgae and chitin, a most abundant organic resource, and its derivatives were also investigated by numerous workers. Heavy metals, radioactive substances such as actinides, chlorinated organics and other compounds have been analysed in bivalves to monitor contamination impacts on marine environments. Carell et. al. studied the environmental information preserved in the annual increments of mussel shell by means of element analyses and radioactivity by using three nuclear analytical techniques, the proton microprobe (μ -PIXE), instrumental neutron activation analysis (INAA), and α -track autoradiography.

At this paper, the uptake of thorium from aqueous systems by a marine species which is called *Ircinia Muscarum* (Schmidt, 1864) has been investigated. The *Ircinia Muscarum* samples were collected from Kusadasi in Turkey. We studied the continuous adsorption of thorium on *Ircinia Muscarum*. The experimental study was carried out at the optimum conditions of thorium uptake. For these conditions firstly, the adsorption isotherm was formed. Since, this isotherm follows as non-linear sorption of the Langmuir model, we assumed that this phenomena can be an adsorption system. Then we investigated the thorium adsorption at different time intervals at the temperatures of 24°C, 50°C and 70°C, respectively.