

Abstract Submitted
for the FWS19 Meeting of
The American Physical Society

Study on the Biological Effects of Radiation and Removal of Radioactive Elements Using Nanoparticles DANIEL MIN-HYUK CHO, Chadwick International, HO JEONG KWON, NYU — Reprocessing harmful radioactive elements such as separation and isolation of the components from nuclear fuels or human body is a challenging task. Radiation causes somatic mutation and genetic alteration and they reproduce rapidly. Identifying metal oxides, carbon nanotubes, and metal-organic framework that captures and holds the harmful radioactive elements, researchers have studied on the removal of radioactive elements. To determine the effectiveness of the process, this paper compares and analyzes various nanoparticles including porous metal-loaded crystalline with regular pore openings. This paper employs computational simulations to examine the safety of nanomaterials such as functionalized nanoparticles with high surface area, strong mechanical properties and high chemical stability. Computational editing programs is used in an effort to discover the optimal method and to compute the measurements of stability of the molecules. To determine optimization energy and electrical activity, an auto optimize tool was used for each compound in this project. Also, the Universal Force Field (UFF) option was selected and applied to all compounds modeled in this research.

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Date submitted: 07 Oct 2019

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