Sessions: Sustainable education

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Title. Nanomaterials adsorbing Heavy metals

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Abstract:

In addition to microorganisms in water from the seas, rivers and lakes, there may be heavy metals together from red mud from industrial ecological disasters. It is happening frequently. However, the energy consumption, to keep the high pressure and high temperatures inside the nanofilter[1] is still very high. In this work we study the heavy metal nanofiltration in the water using nanomaterial to adsorb heavy metals liberating only pure water. The methodology is performing classic molecular dynamics of fixed nanosystems (perovskite, graphenes, nanotubes, nanoparticles, mixed nanomaterials) interacting and adsorbing heavy metals.

References:

1. L.D. Nghiem; A.I. Schafer; M. Limelech. Removal of Natural Hormones by

Nanofiltration using nanomembranes: Measurement, Modeling, and Mechanisms, Environ. Sci. Technol. 2004, 38, 1888-1896.