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Научная программа конференции включает устные и стендовые доклады.
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A NEW APPROCH FOR GROWTH OF CARBON NANOTUBES ON DIATOMITE: APPLICATION FOR REMOVAL OF LEAD IONS

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Presence of fresh pure water is a necessary condition for the existence of all living organisms on the planet. Fresh water, suitable for consumption, accounts for only 3% of its total quantity. Despite this, a person in the course of his activity mercilessly pollutes it. Thus, a very large volume of fresh water has now become completely unsuitable. A sharp deterioration in the quality of fresh water has occurred as a result of contamination by chemical and radioactive substances, pesticides, synthetic fertilizers and sewage sludge, and this is already a global environmental problem of our time.Heavy metals are one of the most serious problems of environmental pollution of our time, threatening global stability as not biodegradable.These circumstances lead to the search for alternative, safer methods for human, water disinfection methods.

In the last 27 years or so, since the discovery of nanotube by Ijima, they have been widely studied different physicochemical properties and these excellent physicochemical properties make CNTs as promising materials for many application, such as energy storage, thermal conductive materials, biomedical application, hydrogen storage. Recently, the tremendous research works proved that CNTs have great potential for new adsorbents in removing heavy metals.

In this regard, the essence of this investigation is to obtain promising, carbon nanomaterials, in particular on the basis of the Kazakhstan's diatomite for the purification of industrial waste wastewater. On condition, the multiwalled nanotube was obtained by chemical vapor deposition method using diatomaceous earth as a substrate and nickel salt catalyst.

The conditions of the experiment: firstly argon gas supplied with 160cm^3/min yield at the 400 °C temperature and second propane was supplied at 800 °C with 55 cm^3/min inlet. For catalyst support the $NiNO_3 \cdot 6H_2O$ salt was used in 1 M concentration. Further step includes the acid activation of fabricated MWCNTs with HNO_3 and lead adsorption experiments were performed in 50 mL flasks placed on an ultrasonic bath with 1000 ppm concentrations of Pb^{2+} ions. To the initial solutions of lead solution 0.05 g of CNTs was added. After sonication the flasks for 60 min, 120 min, 180 min, the solid mass was separated with a filtration and the residual solution was used to analyze Pb^{2+} concentration by AAS.

After that, examines on the adsorption efficacy of using CNTs for lead removal were carried out and maximum the maximum uptake capacity was 302 mg/g after 180 min of sonication bath experiment with initial concentration 1000 ppm of lead solution.