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**Safe trapping of Cs radionuclides in sintered matrix of zeolites**

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Cesium aluminosilicate phases are of the great interest as possible host for Cs immobilization in radioactive waste management. The possibility to use zeolite as a host material for radioactive Cs immobilization was investigated. Cs-exchanged forms of clinoptilolite and 13X which were prepared by ion-exchange treatment were compacted. The powders compacts of exchanged zeolites were thermally treated at 1200 °C. The XRD analysis showed that Cs was successfully immobilized after heat treatment by formation of stable cesium-aluminosilicate ceramic forms. Thermal and mechanical properties of the sintered samples were investigated. From the perspective of these characteristics, Cs-exchanged zeolite (clinoptilolite and 13 X) can be considered as a potential material for safe waste disposal.