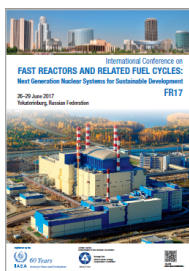


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Hot test of technique separation of americium and curium

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Modern technology for reprocessing of spent nuclear fuel (SNF), corresponding to a closed fuel cycle concept is developed in the framework of the «PRORYV» PROJECT». This technology require separation of Am from Cm and REE. Americium can be transmuted in fast reactors.

Two-stage technology of Cm and Am separation from REE-TPE concentrate was tested on Mayak Production Association. Used concentrate was produced from reprocessing SNF WWER-440.

Token-308 cation-exchange resin was used in the final separation stage. The resin grain size was 0.2 mm. About 14 g of Cm was separate. 9 g of pure Cm fraction contained 6 activity % of Am. The Cm-Am fraction contained about 4,6 g ²⁴⁴Cm and about 40 g ^{241,243}Am.

Content of Cm lower than 0.8 mass. % and ^{154,155}Eu lower than 0.1 activity % in pure fraction of americium.

Keywords: separation Am-Cm, sorption, cation resin, reprocessing SNF, hydrometallurgy

Country/Int. Organization

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