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Секция 3. Математическое моделирование в фундаментальных и прикладных исследованиях**

THRESHOLD PROCESSES IN TECHNICAL SYSTEMS WITH URANIUM AND THORIUM

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Accuracy of neutron and fuel composition nucleus interaction cross-section estimation is a prime consideration for secure evaluation of the uranium-thorium NFC effectiveness. Currently, there are many diverse experimental and theoretical nuclear data. They are completely represented in the following libraries of evaluated nuclear data – ENDF (USA), JEFF (Europe), JENDL (Japan), TENDL (RF), ROSFOND (RF).

However, information about threshold neutron reactions on ^{232}Th nuclei is practically absent at all subsisting and valuated nuclear data basis but available values of efficiency and profile differ from arrangements.

In the work the results of resources and numerical experiments are quoted. These results are focused on the determination of the nuclear physics and radiation characteristics of core and thorium storage system. Requirement for correction of nuclear constant which is used in calculation for core and thorium storage system criticality is shown.

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SIMPLE PHYSICAL MODELS IN PRACTICAL APPLICATIONS FOR NEW ENGINEERING

TASKS

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There is a traditional opinion that modern physics can evolve only by using more and more complex mathematical and physical models. In practice, this often appears as division of a single common problem to multiple small problems with complex description. In this case, complete picture of actual process can be lost in a huge amount