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Reactivity measurements for the NSC KIPT subcritical neutron source facility

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In accordance with the program of NSC KIPT Subcritical Neutron Source physical start up that was approved by State Nuclear Regulator the basic measurement method of reactivity and keff is an area ratio measuring method. In the method, the neutron response of the SCA on the electron beam pulse is measuring. For on-line monitoring of the system reactivity the neutron flux to beam current ratio method was accepted. For brief estimation of the system reactivity and estimation of the critical rate of core loading the one over N method is used.

The neutron flux measurement system of NSC KIPT Subcritical Neutron Source is used CFUF34, CFUF54 detector set (6 over graphite reflector inside ADS tank) and CFUF28 (3 outside the core).

In the paper, the reactivity and keff measuring methodology and measurement results are presented.

Funding Agency

Footnotes

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Yes

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