

DOI: 10.34854/ICPAF.52.2025.1.1.233

ITER UPPER PORTS MATERIALS ACTIVATION COMPUTATION ^{*)}

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Designing of a fusion device requires estimating the level of construction materials activation during the lifetime irradiation and the dynamics of the active nuclides decay. Besides, it is necessary to know the level of shutdown dose rate from the irradiated materials and content of produced dangerous nuclides, in particular, of tritium. The major problem for such computation are a complicated shape of irradiated construction elements and complicated irradiating neutron field. This causes the need to run computation for every combination of a material and field and then run the complicated process of integration or results over specific components.

The paper represents the approach to automation of the computation on an example of computation for ITER [1] upper port 08 Radwaste Checklist (RWCL). The suggested method is organization of multivariate runs of FISPACT [2], which is recommended by ITER for that purpose, with the following integration of the results of every variant to the analytical database. The process is based on R2S-RFDA software [3]. After all, the results are integrated both for formally required RWCL document, and to a dataset containing the complete information about activated components. The suggested dataset is complete, but it is also provides convenient tools for further analysis. The dataset can be thought as a prototype for unified activation data representation. The elaborated data scheme can be used not only on ITER, but for TRT [4] as well.

The work was carried out within the framework of the R&D agreement under State Contract No. N.4a.241.19.24.1024 dated March 20, 2024.

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^{*)} [abstracts of this report in Russian](#)