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## **The Neutronics Analysis of Blankets for the Hybrid Fusion Neutron Source**

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In this work it is investigated the capabilities of hybrid fusion neutron source (FNS) blankets in reprocessing of spent nuclear fuel and generation of nuclides  $^{233}\text{U}$ ,  $^{239}\text{Pu}$  and tritium. The basic kinds of blankets are considered. There are the blanket with use of heavy water solutions of salts and oxides of uranium and thorium, solid-state and molten salt blanket. The structure and geometrical parameters of blankets, moderator and fertile materials are optimized to obtain the ultimate nuclear fuel yield at the least accumulation of radiation toxic wastes. The neutronics comparative analysis of the different blanket models is presented. In the result, the optimal FNS blanket models are chosen.

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Russian Federation

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