

TRITIUM REGISTRATION IN THE THERMONUCLEAR REACTOR

A.I. Markin, N.I. Siromyatnikov

State Research Center of the Russian Federation Troitsk Institute for Innovation and Fusion Research, Troitsk, Moscow region, Russia, 142190, (+7-4953345580), marmagmik@triniti.ru.

Tritium is one of two fuel ingredients of the thermonuclear reactor. Basic data on interaction of hydrogen isotopes with reactor materials are actively studied at present time by a method of calculated analysis and experimental simulation on samples. The complex structure of the tritium distribution in a boundary layer and diffusion features in polycrystalline structure of metals were founded. Unique measurements of the tritium diffusion properties in stainless steel at room temperature were carried out. It is revealed, that the basic contribution to a diffusion process introduces an intergranular flux of tritium. Calculations of a tritium trapping by metals in the reactor ITER were carried out.