

The concept of lithium based plasma facing elements for steady state fusion tokamak-reactor and its experimental validation

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The modern results on the implementation of the Russian strategy in the development of designs of long-operating plasma facing element for steady state fusion reactors are considered and analyzed on an example of liquid metal limiters of tokamaks T-15 and FTU. The experimental validation of this strategy is presented and results on liquid metal CPS behavior in tokamak conditions, effective heat removal up to 12 MW/m² with low pressure heat transferring medium (0.2 MPa) on the basis of a gas-water spray are considered. The promising scheme of liquid metal divertor target plate for DEMO reactor is presented and discussed.

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