EFFECT OF LITHIUM ON THE ENERGY BALANCE OF DEUTERIUM PLASMA

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Abstract

The study analysed the effect of lithium on the energy balance of deuterium plasma featuring a DD reaction. Combustion of the tritium generated creates high-energy neutrons. We investigated whether it is possible to obtain 14 MeV neutrons in deuterium plasma with added lithium. The mixture of lithium and deuterium is a potentially useful source of fast neutrons. Permissible ratio between concentrations of lithium and deuterium is 0.3…0.4 for the plasma temperature of approximately 100 keV.

Keywords

Fusion plasma, deuterium, lithium, fast neutrons, Lawson criterion, neutron yield, energy balance

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