

Prediction of fusion power in DEMO reactor under various scenarios using integrated predictive modeling code

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In this study, a prediction of the ratio of thermal power output to fusion power input (Q value) of the DEMO reactor under various scenarios using integrated predictive modeling code is studied. DEMO is the first fusion reactor designed to generate electric power, using the knowledge gained from the International Thermonuclear Experimental Reactor (ITER). DEMO has been proposed to be built in various countries, such as Japan, Korea, China, Russia, India, and the EU. In this study, the core transport is described using a combination of neoclassical transport model and anomalous core transport model. The simulations are carried out for plasma temperature and density profiles using the BALDUR code.

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