



Overview of Fusion, ITER, Tritium Breeding Technology

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ABSTRACT

ITER is a large-scale scientific experiment that aims to demonstrate that it is possible to produce commercial energy from fusion. During its operational lifetime, ITER will test key technologies necessary for the next step: the demonstration fusion power plant that will prove that it is possible to capture fusion energy for commercial use. Tritium Breeding Blanket (TBB) ensuring tritium breeding self-sufficiency is a compulsory element for a demonstration power reactor (DEMO), the next-step after ITER. Although a TBB is not required for ITER, since it will procure the tritium from external sources, it is included among the ITER missions that “ITER should test tritium breeding module concepts that would lead in a future reactor to tritium self-sufficiency, the extraction of high grade heat and electricity production”. All activities related to this mission correspond to the so-called “ITER TBM Program”. A successful ITER TBM Program represents an essential step for any fusion power development plan of all the seven ITER Members (IMs). In this presentation, ITER and TBM Programs are briefly introduced.

Keywords

ITER, Plasma Facing Component, DEMO, TBM, Blanket.