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Progress of conceptual design study on Japanese DEMO

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This paper presents the recent progress of a conceptual DEMO design in Japan. First, the divertor concept is built under the feasible engineering technology. Second, the circulating power in DEMO is precisely investigated as for the cooling power and the water detritiation system to ensure the substantial net electric power. Then, 3D eddy current analysis shows the prospect for plasma elongation ~ 1.7 and increase the electric power output. Finally, safety analysis on an ex-vessel LOCA is carried out, and it is found that a vault of the tokamak cooling water system(TCWS) with a pressure suppression system(PSS) can mitigate it.

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Japan

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