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Present Progresses and Activities on the Chinese Fusion Engineering Test Reactor

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The Chinese Fusion Engineering Testing Reactor (CFETR) is the next device for the Chinese magnetic confinement fusion (MCF) program which aims to bridge the gaps between the fusion experiment ITER and the fusion power plant. CFETR detail engineering design and R&D project have been approved by Chinese government. The activities have been started in the end of last year. CFETR new design focus on the high magnetic field by using high performance Nb3Sn wire for TF and 2212 HTc CICC for CS, and large size with major radio 7m. Steady-state operation and tritium self-sustainment will be the two key issues for the first phase with a modest fusion power up to 200 MW. The staged operation for late phases will explore for DEMO validation with a fusion power over 1 GW and Q over 20. Operational scenarios with L-mode, hybrid H-mode and steady state advanced H-mode physics will introduced in this presentation together with R&D activities for H&CD, diagnostic, VV, divertor, superconducting magnets, T-plant and related technology, material, remote handling, physical validation on EAST tokamak aiming high performance steady state operation, and future developing plan.

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