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A preliminary consideration of CFETR diagnostic system

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Chinese Fusion Engineering Test Reactor (CFETR), which is under conceptual design to bridge gaps between ITER and DEMO, is envisioned to produce a fusion power (50-200 MW for phase I and up to 1GW for phase II) with tritium breeding ratio (TBR)≥1.0 and a duty cycle time of approximately 0.3-0.5. This presentation will introduce the current work for the conceptual design of CFETR diagnostic system. Based on the experience obtained in the development of ITER diagnostics and combined with CFETR machine requirement, some preliminary considerations for CFETR diagnostic system have been described. They mainly includes: 1. the conditions and constraints in CFETR environment. 2. First considerations for the conceptual design. 3. One list of proposed measurements and candidate diagnostic techniques for CFETR early phase with discussions on the possible R&D activities. At the end, several issues have been discussed and the plan of future work will be outlined.

Eligible for student paper award?

No

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