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Feasibility Study of ITER In-Vessel Coils Bracket Manufacture and Integration

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Feasibility study of ITER In-vessel coils bracket manufacture and integration had been developed in Institute of Plasma Physics, Chinese Academy of Sciences. The ITER In-Vessel Coil system is comprised of Edge-Localized Mode (ELM) and Vertical Stabilization (VS) coils. The ELM coils are used to mitigate the Edge Localized Modes and the VS coils are used to provide Vertical Stabilization of the plasma. Designed bracket for IVC coils is a kind of building block type three or four stacked components with arcuate groove matching with round conductor. This paper describes structure design, manufacture and integration process of the ELM and VS bracket. R&D of bracket weld and assembly sequence optimization are carried out to determine the welding and assembly process. At last, three brackets are integrated in ASIPP.
Index Terms—ITER IVC bracket, structure design, manufacture and integration, welding technology

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