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ITR/P5-37: Evolution of the ITER Diagnostic Set Specifications

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The ITER diagnostic set [1] and proposed specifications, developed jointly with the ITPA [2], were formally reviewed together in 2007. Key results of this process were presented in ref. [3]. Since then, ITER diagnostic designs have progressed [4] and been taken through their conceptual design reviews (CDRs), a process that is about 2/3rds complete. In the process of arriving at a diagnostic specification for each CDR, the ability of a diagnostic to meet its contribution to the project measurement requirements (PR, [5]) is also reviewed. In turn, this allows a review of the justification of these requirements. To ensure consistency, and to ensure that the integrated diagnostic set performance meets ITER needs and, in particular, the needs for plasma control, a parallel process of recording the rationale behind the measurement parameter specifications, expanding the specification to deal with specific conditions and justifying the diagnostic roles is underway. Parameters that have already undergone extensive review include most the density-related parameters and all of the parameters with a primary contribution from magnetic diagnostics as well as the current profile. A complete update will be included in the contributed paper, together with key implications for the ITER diagnostic set.

References:

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