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Progress in Development of the ITER Plasma Control System Simulation Platform.[1] MICHAEL WALKER, DAVID HUMPHREYS, BRIAN SAMMULI, General Atomics, GIUSEPPE AMBROSINO, GIANMARIA DE TOMMASI, University of Naples Federico II, MASSIMILIANO MATTEI, Second University of Naples, GERHARD RAUPP, WOLFGANG TREUTTERER, Max Planck Institute for Plasma Physics, AXEL WINTER, ITER Organization — We report on progress made and expected uses of the Plasma Control System Simulation Platform (PCSSP), the primary test environment for development of the ITER Plasma Control System (PCS). PCSSP will be used for verification and validation of the ITER PCS Final Design for First Plasma, to be completed in 2020. We discuss the objectives of PCSSP, its overall structure, selected features, application to existing devices, and expected evolution over the lifetime of the ITER PCS. We describe an archiving solution for simulation results, methods for incorporating physics models of the plasma and physical plant (tokamak, actuator, and diagnostic systems) into PCSSP, and defining characteristics of models suitable for a plasma control development environment such as PCSSP. Applications of PCSSP simulation models including resistive plasma equilibrium evolution are demonstrated..

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