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Verification of the delta-f kinetic electron physics in XGC PALLAVI TRIVEDI, JULIEN DOMINSKI, MICHAEL COLE, Princeton Plasma Physics Laboratory, ALEXEY MISHCHENKO, Max Planck Institute for Plasma Physics, STEPHAN BRUNNER, LAURENT VILLARD, cole Polytechnique Fdrale de Lausanne (EPFL), CHOONG-SEOCK CHANG, Princeton Plasma Physics Laboratory — The High-Fidelity Whole Device Modeling project aims at delivering a core-edge coupled simulation including kinetic electron physics. XGC and GENE have been cross-verified for electrostatic ion temperature gradient instabilities with adiabatic electrons [Merlo et al Phys. Plasmas 25, 062308 (2018)]. In the present work, XGC kinetic electron physics will be cross-verified against the gyrokinetic PIC code ORB5. Indeed, ORB5 and GENE have already been specifically benchmarked with kinetic electrons [J. Dominski, et al. Phys. Plasma 2017]. Moreover, ORB5 and XGC being PIC codes, a particular care will be given to the particle sampling noise problem.

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