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Abstract for an Invited Paper
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Multi-Physics Object Oriented Simulation Environment (MOOSE)¹

CASEY ICENHOUR, North Carolina State University, SHANE KENILEY, University of Illinois, COREY DECHANT, North Carolina State University, CODY PERMANN, ALEX LINDSAY, RICHARD MARTINEAU, Idaho National Laboratory, DAVIDE CURRELLI, University of Illinois, STEVEN SHANNON, North Carolina State University

This two-day workshop is a hands-on introduction to the Multi-Physics Object Oriented Simulation Environment (MOOSE). MOOSE is a simulation framework built from PetSci that enables efficient simulation of complex physical systems with minimal programming background. Attendees are encouraged to visit the MOOSE website at www.mooseframework.org and walk through the step by step process of installing the framework on their computer. Support through this process is provided through the MOOSE Google Group message board. The workshop itself will consist of interactive modules where instructors from the MOOSE development team will work with attendees to build a simple plasma models. Each module will build on previous modules to introduce fundamental MOOSE features that will combine to demonstrate simulation capabilities for low temperature plasma modeling. The intention is not to provide an exhaustive overview of simulation capabilities but to instead provide attendees with the necessary tools to build unique simulation capabilities for their specific research challenges. Users should attend the workshop with laptop computers with MOOSE installed to allow for interactive instruction. At the completion of the workshop attendees will be able to install and run MOOSE and associated applications as well as carry out plasma simulations studies. If you are attending, please make sure to work through the MOOSE installation at www.mooseframework.org. Also, when you register for GEC or DPP, please make sure to select registration at this workshop so that we have some idea of how many attendees to expect (this helps us plan things like coffee breaks, snacks, etc.) When you arrive at the workshop, please make sure that you have a computer with MOOSE running, as the workshop is interactive and we will be working through problems with attendees in an interactive format. Please check the conference website at apsgec.org/gec2018/workshops.php for up to date information and details. If you have any questions, please email the workshop organizer, Steven Shannon, at scshannon@ncsu.edu Attendance at this workshop is free of charge.

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