Abstract Submitted
for the DPP17 Meeting of
The American Physical Society

A PICKSC Science Gateway for enabling the common plasma physicist to run kinetic software[1] Q. HU, B. J. WINJUM, UCLA, A. ZONCA, C. YOUN, SDSC, F. S. TSUNG, W. B. MORI, UCLA — Computer simulations offer tremendous opportunities for studying plasmas, ranging from simulations for students that illuminate fundamental educational concepts to research-level simulations that advance scientific knowledge. Nevertheless, there is a significant hurdle to using simulation tools. Users must navigate codes and software libraries, determine how to wrangle output into meaningful plots, and oftentimes confront a significant cyberinfrastructure with powerful computational resources. Science gateways offer a Web-based environment to run simulations without needing to learn or manage the underlying software and computing cyberinfrastructure. We discuss our progress on creating a Science Gateway for the Particle-in-Cell and Kinetic Simulation Software Center that enables users to easily run and analyze kinetic simulations with our software. We envision that this technology could benefit a wide range of plasma physicists, both in the use of our simulation tools as well as in its adaptation for running other plasma simulation software.

Benjamin Winjum
UCLA

Date submitted: 14 Jul 2017   Electronic form version 1.4