

Abstract Submitted
for the DPP17 Meeting of
The American Physical Society

Online plasma calculator H. WISNIEWSKI, Whitworth University, P.-A. GOURDAIN, University of Rochester — APOLLO is an online, Linux based plasma calculator. Users can input variables that correspond to their specific plasma, such as ion and electron densities, temperatures, and external magnetic fields. The system is based on a webserver where a FastCGI protocol computes key plasma parameters including frequencies, lengths, velocities, and dimensionless numbers. FastCGI was chosen to overcome security problems caused by JAVA-based plugins. The FastCGI also speeds up calculations over PHP based systems. APOLLO is built upon the WT library, which turns any web browser into a versatile, fast graphic user interface. All values with units are expressed in SI units except temperature, which is in electron-volts. SI units were chosen over cgs units because of the gradual shift to using SI units within the plasma community. APOLLO is intended to be a fast calculator that also provides the user with the proper equations used to calculate the plasma parameters. This system is intended to be used by undergraduates taking plasma courses as well as graduate students and researchers who need a quick reference calculation.

Pierre Gourdain
University of Rochester

Date submitted: 10 Jul 2017

Electronic form version 1.4