Abstract Submitted
for the APR06 Meeting of
The American Physical Society

New Features in the Computational Infrastructure for Nuclear Astrophysics[1] M.S. SMITH, E.J. LINGERFELT, J.P. SCOTT, W.R. HIX, C.D. NESARAJA, ORNL Physics Division, H. KOURA, Japanese Atomic Energy Agency, L.F. ROBERTS, Colorado College — The **Computational Infrastructure for Nuclear Astrophysics** is a suite of computer codes online at **nucastrodata.org** that streamlines the incorporation of recent nuclear physics results into astrophysical simulations. The freely-available, cross- platform suite enables users to upload cross sections and s-factors, convert them into reaction rates, parameterize the rates, store the rates in customizable libraries, setup and run custom post-processing element synthesis calculations, and visualize the results. New features include the ability for users to comment on rates or libraries using an email-type interface, a nuclear mass model evaluator, enhanced techniques for rate parameterization, better treatment of rate inverses, and creation and exporting of custom animations of simulation results. We also have online animations of r- process, rp-process, and neutrino-p process element synthesis occurring in stellar explosions.

[1]Managed by UT-Battelle, LLC, for the U.S. DOE under contract DE-AC05-00OR22725

Michael Smith
ORNL Physics Division

Date submitted: 12 Jan 2006 Electronic form version 1.4