

Web-based Nuclear Data Information for Astrophysics

Michael S. Smith

Physics Division, Oak Ridge National Laboratory*

Oak Ridge, TN, USA

E-mail: msmith@mail.phy.ornl.gov

Richard A. Meyer

RAME', Inc., Teaticket, MA, &

Chemistry Department, Clark University, Worcester, MA,

USA

Capture reactions play an integral role in understanding the cosmos, including the origin of the chemical elements, the structure of our sun, and the evolution of stars.

Simulations of these astrophysical phenomena require many capture reactions, on both stable and unstable nuclei. To ensure that the latest experimental and theoretical advances in capture reactions are effectively incorporated in astrophysics studies, dedicated efforts in data compilation, evaluation, dissemination, and coordination are needed. A number of strategies to improve the utilization of nuclear data for astrophysics studies will be presented. These include a new web site to aid in locating available nuclear data sets, www.nucastrodata.org, and a new visualization tool providing an easy-to-use, graphical user interface to the rates of over 8000 reactions.

*ORNL is managed by UT-Battelle, LLC, for the U.S.

Department of Energy under contract DE-AC05-00OR22725.