

Nuclear Data at the Limits for Astrophysics

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Information on the nuclear many-body system plays an integral role in understanding the cosmos, including the origin of the chemical elements, the structure of our sun, and the evolution and explosion of stars. Of particular importance are the nuclear structure properties of, and interaction rates involving, nuclei at the limits of stability, because these play a crucial role in stellar explosions. New radioactive beam facilities are now providing more information on such nuclei at the limits than ever before. However, to ensure that the latest experimental, and theoretical, advances are effectively incorporated in astrophysics simulations, 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 are 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.

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