

Abstract Submitted
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The r-process peak at $A = 130$ and $N = 82$ ¹ KARL-LUDWIG KRATZ, Institut für Kernchemie, Universität Mainz D-55099 Mainz, Germany, PETER MOLLER, Theoretical Division, Los Alamos National Laboratory, Los Alamos NM 87545 — It is well-known that r-process abundances can be modeled to some reasonable accuracy based on calculated beta-decay properties such as beta-decay half-lives, beta-delayed neutron-emission probabilities, neutron separation energies, and stellar environment conditions such as temperature, neutron densities and neutron-flux duration. However, characteristic deviations between observed and calculated abundances occur near the magic number peaks. Recently in measurements at Isolde full-spectroscopy data were obtained on ¹³⁰Cd. This permitted an optimization of Nilsson-model parameters to this region of nuclei far from stability. Beta-decay half-lives calculated with this new set of Nilsson parameters are longer than our previously published 1997 tables. We present these and other features of the new r-process calculations near the $A = 130$ peak.

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