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## REVIEW OF NON-NEUTRON AND NEUTRON NUCLEAR DATA, 2004

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Review articles are in preparation for the 2004 edition of the CRC Handbook of Chemistry and Physics dealing with the evaluation of both non-neutron and neutron nuclear data. Data on the discovery of element 110, darmstadtium, and element 111 have been officially accepted, while the data on element 118 have been withdrawn.

Data to be presented include revised values for very short-lived nuclides, long-lived nuclides and beta-beta decay measurements for quasi-stable nuclides. There has been a re-assessment of the spontaneous fission (sf) half-lives which distinguishes between sf decay half-lives and cluster decay half-lives and with cluster-fission decay.

New measurements of isotopic abundance values for many elements will be discussed with an emphasis on the minor isotopes of interest for use in neutron activation analysis measurements.

Neutron resonance integrals will be discussed emphasizing the differences between the calculated values obtained from the analytical integration over neutron resonances and the measured values in a nuclear reactor-spectrum, which does not quite conform to the assumed  $1/E$  neutron energy spectrum. The method used to determine the neutron resonance integral from measurement using neutron activation analysis will be discussed.