Accessing Basic Nuclear Data in \LaTeX\ Documents

BILL NETTLES, GEOFFREY POORE, Union University, Jackson, TN — A \LaTeX\ package, nucleardata.sty, has been developed which allows users to access basic nuclear data such as mass (atomic and nuclear), half life, decay modes and Q-values, ground state spin, and simple reaction Q-values. Users can typeset these data simply by referring to $Z$ and $A$ or the chemical symbol and $A$ without having to look them up from a separate source. This can greatly reduce the preparation time of homework and test documents. Users can also use the package along with additional embedded Python code to randomly select nuclides for student exercises and access the data for both questions and answers. The package is supported by the Python\TeX\ package which allows Python code to be embedded in a \LaTeX\ document and its output to be typeset. A variety of \LaTeX\ commands are implemented in the package, and these will be discussed along with a presentation of simple examples. The data are built into the package and are extracted from the ENSDF and the Ame2003 atomic mass evaluation (II).\footnote{G.Audi, A.H.Wapstra and C.Thibault, Nuclear Physics A729 p. 337-676, December 22, 2003}

Bill Nettles
Union University, Jackson, TN

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