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N U C L E U S
A Program for Nuclear Data Visualization

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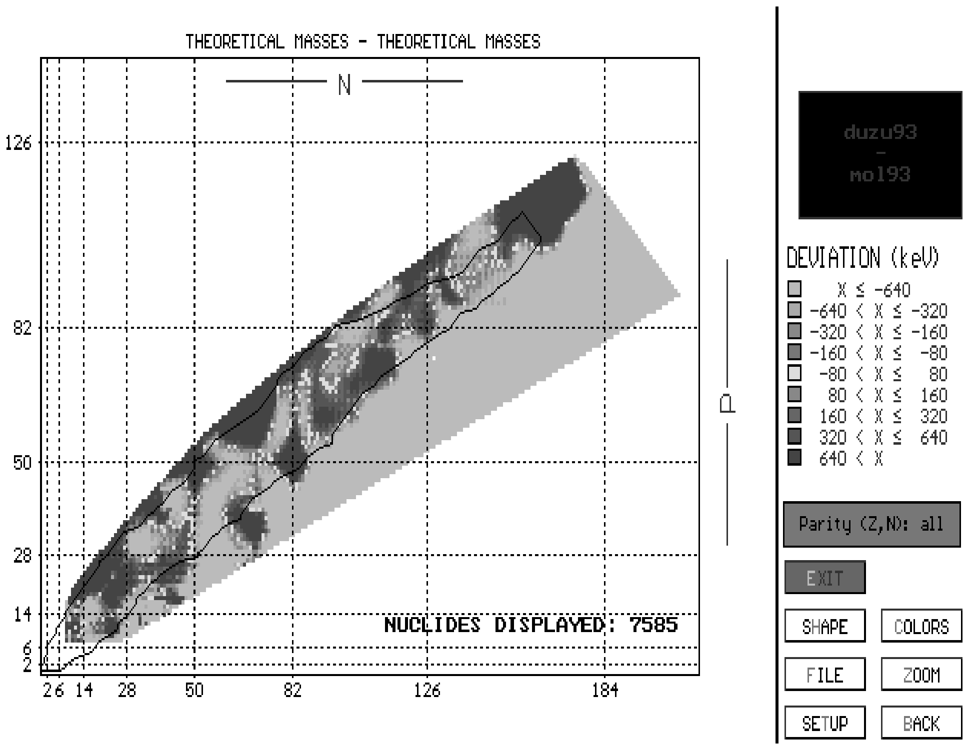
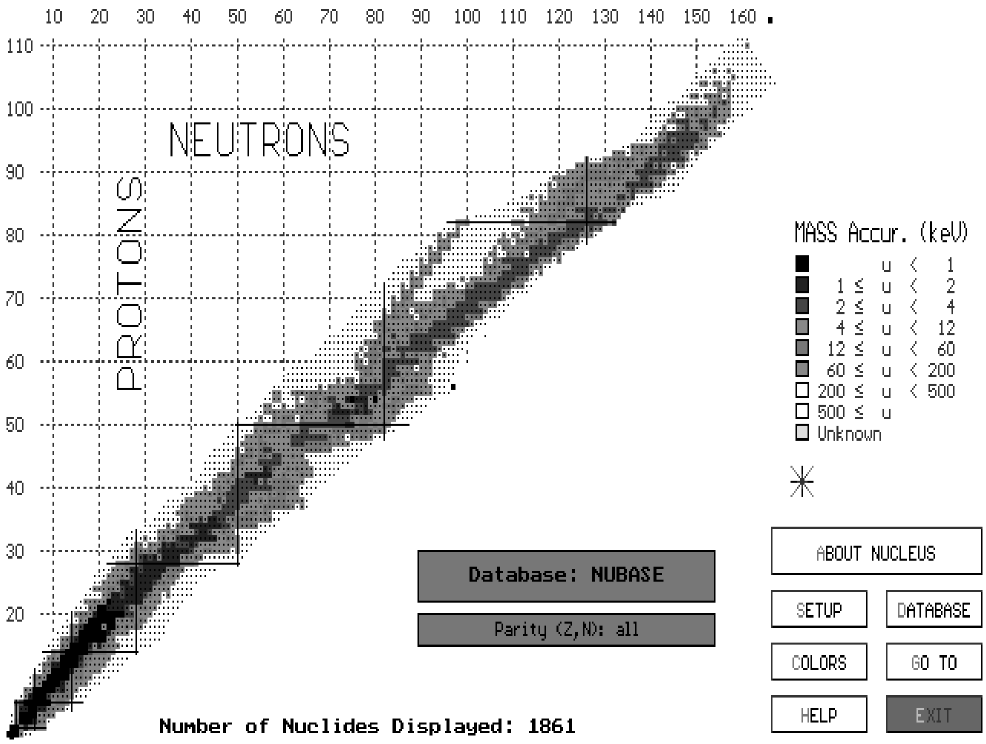
Abstract: A general purpose modular program for nuclear database visualization and examination, running on IBM-PC compatibles under DOS, has been developed.

NUCLEUS is the driver module for a variety of application modules each associated to a nuclear database. Its basic display is the chart of nuclides. The program draws the chart and colors it according to the value or the nature of a nuclear property selected amongst a large variety, including user-defined ones. Four application modules are presently available: NUBASE, JEF, THEOMAS and PERSONAL.

NUCLEUS offers a user-friendly menu-driven interface. The user may mask one or more colors to outline a particular property. He may select and display only nuclides of a chosen parity in Z and N, zoom and move around the chart of nuclides and select a database. It also provides the option to create a PostScript file from any screen image.





For illustration, two figures are shown. Figure 1, from THEOMAS (theoretical masses), displays the mass differences between the models of Möller et al. and of Duflo and Zuker. A contour line indicates nuclides in the 1993 mass table. Figure 2, from NUBASE, displays the accuracies with which the masses are known or estimated. The original figures are in color.

NUCLEUS will be available after NUBASE [1] is completed, since its main module exploits the NUBASE database. An electronic mailing list is being set-up (e-mail: audi@frcpn11.in2p3.fr) to distribute information about NUCLEUS's availability.

Reference

[1] G. Audi, O. Bersillon, J. Blachot and A.H. Wapstra, presented at this conference (ENAM'95, Arles, June 1995).