

PACKAGE ID - 000793AL00000 MACNUCLIDE

KWIC TITLE - Nuclear Data Environment

AUTHORS - Stone, C.A.
San Jose State University , CA (United States)

LIMITATION CODE -COPY **AUDIENCE CODE** - LIM

COMPLETION DATE - 07/22/1994 **PUBLICATION DATE** - 07/22/1994

DESCRIPTION - MacNuclide is a highly-interactive program for nuclear data that serves as both a visualization tool and a data base management system. Properties are displayed in visual form common to nuclear science: the chart of nuclides, systematics plots, and level schemes. Visualization of properties through the nuclide chart is a powerful feature of MacNuclide. Color charts can be produced showing how a single property varies across the known nuclides. Reaction Q-values, other calculable properties, and even custom properties loaded from disk files are visualized in this manner. Answers to complex questions are formed using Boolean operators to combine results from data base searches. Results of the searches are displayed in the nuclide chart. Interactive level schemes, daughter decay chains, and systematics plots provide detailed information on nuclear properties. MacNuclide is a multifaceted program that provides a unique tool for nuclear science.

PACKAGE CONTENTS - Media Directory; Software Abstract; Media Includes User's Guide, Executable Module, Binary Data Base of Nuclear Properties;

SOURCE CODE INCLUDED? - No

MEDIA QUANTITY - 1 3.5 Diskette

METHOD OF SOLUTION - Standard visualization and user-interface techniques are used in MacNuclide to display and manipulate nuclear properties.

COMPUTER - APPLE MACINTOSH

OPERATING SYSTEMS - MacNuclide runs on any Macintosh computer running System 7.0 or greater.

PROGRAMMING LANGUAGES - C language with extensions for Macintosh windowing system. Distributed as a run time version.

SOFTWARE LIMITATIONS - Macintosh System 7.0+ operating; ca 2.5 Mbytes of RAM required; 8 bit resolution for off screen graphics; 8 color bins for nuclide groups; 16 user-definable nuclide group; 16 user-definable data arrays; data limited to ground state and isometric state properties.

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SOFTWARE LIMITATIONS - (CONT)

SOURCE CODE AVAILABLE (Y/N) - N

UNIQUE FEATURES - Visualization of nuclear data through the chart of nuclides. Results of data base searches visualized in the chart of nuclides. Data base searching in any defined nuclear property. Data base searching on custom nuclear properties loaded from the input files. Complex transformation and manipulation of nuclear properties. Interactive chart of nuclides. Interactive level schemes. Editor for creating and editing nuclear systematics. Graphics tools for customizing all nuclear physics graphics displays.

RELATED SOFTWARE - MacNuclide can be used in conjunction with other scientific computing software normally used for pure and applied work. Such software includes desk-top publishing and graphics programs, spreadsheet and other mathematical tools, and programs running on other local remote computers.

HARDWARE REQS - Macintosh computer running System 7.0+ with at least two Mbytes of disk memory and 2.5 Mbytes or RAM memory. A math co-processor is not required. An 8-bit color monitor is recommended.

TIME REQUIREMENTS - MacNuclide runs satisfactorily on all Macintosh computer running System 7.0+

REFERENCES - User's Guide on media.

ABSTRACT STATUS - Submitted 3/17/95. ESTSC successfully screened package 4/17/95. Released screened 4/20/95.

SUBJECT CLASS CODE - WMN

KEYWORDS -

COMPUTER PROGRAM DOCUMENTATION
M CODES
DATA BASE MANAGEMENT
COMPUTER GRAPHICS
INTERACTIVE DISPLAY DEVICES
ISOTOPES
NUCLEAR PROPERTIES

EDB SUBJECT CATEGORIES -

990200 663000 990301

SPONSOR - DOE/ER

PACKAGE TYPE - SCREENED