

PACKAGE ID - 001329MLTPL00 NPA/CVS*

KWIC TITLE - Graphical User Interface Color Display
Animation Interaction Tool

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LIMITATION CODE - UNL **AUDIENCE CODE** - UNL

COMPLETION DATE - 08/01/1994 **PUBLICATION DATE** - 08/01/1994

DESCRIPTION - The Nuclear Plant Analyzer (NPA) is a highly flexible graphical user interface for displaying the results of a calculation, typically generated by RELAP5 or other code. This display consists of one or more picture, called masks, that mimic the host code input. This mask can be animated to display user-specified code output information mapped as colors, dials, moving arrows, etc., on the mask. The user can also interact with the control systems of the host input file as the execution progresses, thereby controlling aspects of the calculation. The Computer Visual System (CVS) creates, edits, and animates the the masks for use in the NPA.

SOURCE CODE INCLUDED? - Yes

MEDIA QUANTITY - Media Directory; Software Abstract; Media Includes
Source Code, User's Guide;/1 CD Rom

METHOD OF SOLUTION - The NPA system is divided into two parts. The first part is the building of the mask and definition of animation done using CVS. This part has a graphical, menu-driven interface to the X-windows system that facilitates mask construction. the second part is the actual animation, in which the data are transformed to colors, dials, and other features on the mask. This part is done using the NPA libraries. These libraries are not a separate stand-alone program, but instead must interface with the host program via calls to the NPA interface library. This interface has been written for several codes, including the RELAP5 code. Once the interface is written, execution of the code can produce the animated output of and user interaction with the host code.

COMPUTER - MLT-PLTFM

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OPERATING SYSTEMS - UNIX and LINUX

PROGRAMMING LANGUAGES - FORTRAN

SOFTWARE LIMITATIONS - The maximum number of animated colors that can be simultaneously be displayed on the screen is 256.

SOURCE CODE AVAILABLE (Y/N) - Y

UNIQUE FEATURES - NPA can be coupled to a variety of simulation codes. The NPA graphic displays are user-defined, and therefore independent of the type of plant being modeled. The NPA can be used to display data from a variety of sources, including data files from simulations run in batch mode, data files from test facilities, and on-line data acquisition systems. The NPA is compatible with a wide range of unix platforms.

RELATED SOFTWARE - The code package comes with installation scripts (files of O/S commands) which are used for installing the code. Utility programs are also available to generate or modify the makefiles the CVS programs and NPA libraries.

OTHER PROG/OPER SYS INFO - standard ANSI C file naming conventions are used. file.h Source header file; file.c Source code file written in ANSI C; file,f Source code written in FORTRAN 77; file.o Object files; libFILE.a Library archive; Makefile script to build the executable modules and library archive files.

TIME REQUIREMENTS - Variable, depends upon the operating characteristics of the host program.

ABSTRACT STATUS - Released AS-IS 3/14/2000

SUBJECT CLASS CODE - N

KEYWORDS -

COMPUTER PROGRAM DOCUMENTATION
N CODES
DATA
COMPUTER GRAPHICS

EDB SUBJECT CATEGORIES -
990200

SPONSOR - DOE

PACKAGE TYPE - AS - IS