

PACKAGE ID - 000894IB48601 GNOMER

KWIC TITLE - Solves the Multigroup Neutron Diffusion
Equation

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

COMPLETION DATE - 07/02/1996 **PUBLICATION DATE** - 07/29/1994

DESCRIPTION - GNOMER is a program which solves the multigroup neutron diffusion equation in 1D, 2D and 3D cartesian geometry. The program is designed to calculate the global core power distributions (with thermohydraulic feedbacks), as well as power distribution and homogenized cross sections over a fuel assembly.

PACKAGE CONTENTS - Media Directory; Software Abstract; IJS-DP-6688 Rev.2; Media Includes Source Code, Installation Procedure, Executables, Sample Problem Input and Output;

SOURCE CODE INCLUDED? - Yes

MEDIA QUANTITY - 1 3.5 Diskette

METHOD OF SOLUTION - It uses the highly efficient Green's function nodal method.

COMPUTER - IBM PC 486

OPERATING SYSTEMS - PC-DOS version 5

PROGRAMMING LANGUAGES - Fortran 77

SOURCE CODE AVAILABLE (Y/N) - Y

UNIQUE FEATURES - A simple thermohydraulic module to calculate temperature distribution is included. The Reactivity Coefficient method is applied for small corrections to cross sections when core conditions differ from nominal (at which the cross sections have been tabulated) due to thermohydraulic feedbacks. Cyclic quadrant symmetry and octant symmetry options are available.

HARDWARE REQS - IBM/PC with 640K main memory.

TIME REQUIREMENTS - Typical running time - Few seconds on IBM/PC-AT-486 compatible computer for 2D geometry. Three minutes on IBM/PC-AT-486 compatible computer for 3D geometry.

REFERENCES - A. Trkov, GNOMER, Multigroup 3-Dimensional Neutron Diffusion Nodal Code with Thermohydraulic Feedbacks, IJS-DP-6688 Revision 2, July 29, 1994.

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REFERENCES - (CONT)

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SUBJECT CLASS CODE - EW

KEYWORDS -

COMPUTER PROGRAM DOCUMENTATION
G CODES
MULTIGROUP THEORY
THREE-DIMENSIONAL CALCULATIONS
NEUTRON DIFFUSION EQUATION
HYDRAULICS
HEAT TRANSFER
NODAL EXPANSION METHOD

EDB SUBJECT CATEGORIES -

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SPONSOR - NEA

PACKAGE TYPE - SCREENED