

CONTENTS

TRANSPORT THEORY METHODS (Sessions I and II)

Methods used in the design of fuel assemblies - 2D Sn calculations (IAEA-SM-154/64)	3
R. J. J. Stamm'ler	
New formulation and coarse-mesh acceleration for two-dimensional DS _N and P _N methods (IAEA-SM-154/66)	51
Sh. Nakamura	
Finite-difference solution of the space-angle-lethargy-dependent slowing-down transport equation (IAEA-SM-154/63)	83
M. V. Mataušek	
Use of fast Fourier transforms for solving partial differential equations in physics (IAEA-SM-154/42)	95
R. C. Le Bail	
Rigorous analysis of the diamond approximation for the neutron transport equation (IAEA-SM-154/5)	113
J. J. Arkuszewski	
Box explicit method in one-dimensional spherical geometry (IAEA-SM-154/6)	125
T. Kulikowska	
Approximation theory for the neutron transport equation in rectangular geometry (IAEA-SM-154/7)	139
J. Mika	
Iterative methods of solving the transport equation (IAEA-SM-154/71)	153
V. I. Lebedev	
Integration of differential equations by means of Lie series and various numerical methods: comparison of speed and reliability (IAEA-SM-154/2)	157
J. Mennig, T. Auerbach, J. Brunner, W. Hälg and J. Halin	

INTEGRAL TRANSPORT CALCULATIONAL METHODS (Session III)

Review of the status of collision probability methods (IAEA-SM-154/69A)	185
J. R. Askew	
The integral transform method for two- and three-dimensional neutron-transport problems (IAEA-SM-154/65)	197
D. C. Sahni	
La méthode C _N de résolution de l'équation du transport - application à la géométrie plane (IAEA-SM-154/38)	211
P. Benoist and A. Kavenoky	
Forme intégrale de l'équation du transport - approximations polynomiales et diffusion anisotrope (IAEA-SM-154/25)	231
J. Ligou, J. Stepanek and P. A. Thomi	

Integral transport calculations of the effective multiplication factor and reactor period (IAEA-SM-154/8).....	267
M. Borysiewicz and R. Stankiewicz	
Integral transport theory of collision probabilities as a tool for solving reactor-cell problems of strong heterogeneity (IAEA-SM-154/22)	283
K. Penndorf and G. Schulz	
Calcul de l'auto-protection résonnante dans les cellules complexes par la méthode des sous-groupes (IAEA-SM-154/37)	305
A. Khairallah et J. Recolin	
Integral-transport-theory calculation method of thermal neutron-flux distribution in two-dimensional hexagonal geometry (IAEA-SM-154/44)	319
E. Patrakka and J. Saastamoinen	
Solution of integral transport equation in space and energy points with polynomial interpolation (IAEA-SM-154/62)	329
T. Boševski and J. Pop-Jordanov	

INTEGRAL TRANSPORT: APPLICATION TO REACTOR PROBLEMS (Session IV)

Some boundary condition problems arising in the application of collision probability methods (IAEA-SM-154/69-B).....	343
J. R. Askew	
Use of collision probability methods in lattice calculations for light-water reactors (IAEA-SM-154/59)	357
F. J. Fayers and M. J. Halsall	
Calculation of neutron flux within wide absorbing resonance regions (IAEA-SM-154/19)	377
L. Finkelstein	
EPITHERM: a code for calculating lattice properties of thermal reactors (IAEA-SM-154/31)	401
K. R. Srinivasan, H. C. Huria and V. K. Jain	
An improved approach for coupling a numerical integral transport method with the diffusion method in a slab reactor (IAEA-SM-154/46)	407
Y. Elmeshad and M. Elmaghrabi	
Integral transport theory and numerical analysis methods in the design of a heavy-water reactor (IAEA-SM-154/34)	423
R. Bonalumi	

DIFFUSION THEORY METHODS (Sessions V and VI)

Refinements in accuracy of coarse-mesh finite-difference solution of the group-diffusion equations (IAEA-SM-154/21)	447
A. F. Henry	
Numerical solution of the neutron diffusion equation in the presence of corners and interfaces (IAEA-SM-154/59)	473
I. Babuška and R. B. Kellogg	

Anisotropic diffusion calculations in generalized x,y-geometry (IAEA-SM-154/12)	487
A. Daneri, M. Michelini and G. Toselli	
A method for the numerical solution of eigenvalue problems in diffusion theory (IAEA-SM-154/20)	497
G. E. Fladmark	
Use of a small digital computer for A.G.R. operational channel power calculations (IAEA-SM-154/41).....	509
R. C. Bending	
Three-dimensional space synthesis in hexagonal geometry (IAEA-SM-154/43)	521
G. Buckel, M. Delabaye, C. Hoenraet and S. Pilate	
Some improvements to the stability and the convergence of the reactor codes DTF-IV, EXTERMINATOR and TREPAN-TRIBU (IAEA-SM-154/58)	531
G. Minsart and J. Quenon	
PANEL DISCUSSION ON OUTSTANDING PROBLEMS	543

SYNTHESIS METHODS AND TIME-DEPENDENT PROBLEMS (Sessions VII and VIII)

Variational flux synthesis approximations (IAEA-SM-54/17)	561
W. M. Stacey, Jr.	
Flux synthesis methods versus difference approximation methods for the efficient determination of neutron flux distributions in fast and thermal reactors (IAEA-SM-154/14)	591
R. Fröhlich	
Experience with flux synthesis for burn-up calculations on light-water reactors (IAEA-SM-154/24).....	613
H. Larsen	
Finite-element solution technique for neutron transport equation (F_N approximation) (IAEA-SM-154/56)	629
T. Ohnishi	
The iterative solutions for the finite-element method (IAEA-SM-154/57)	639
S. Nakamura and T. Ohnishi	
New methods for space-dependent kinetics (IAEA-SM-154/15)	657
J. Devooght, A. Jaucot and C. Machgeels	
Piecewise polynomial approximations for one- and two-dimensional space-time kinetics equations (IAEA-SM-154/16)	675
J. P. Hennart, A. Jaucot and V. Renda	
Fully implicit alternating direction method applied to the energy- and time-dependent neutron diffusion equation (IAEA-SM-154/1)....	689
A. Birkhofer and W. Werner	

TRENDS IN MONTE CARLO (Section IX)

Status of the Monte-Carlo development (IAEA-SM-154/70).....	699
F. A. R. Schmidt	

Thermal physics parameters of heterogeneous water-moderated reactor lattices using ENDF/B data and their comparison with Monte-Carlo estimates (IAEA-SM-154/50).....	721
W. Rothenstein and J. Eisenberg	
Capabilities of the Morse multigroup Monte-Carlo code in solving reactor eigenvalue problems (IAEA-SM-154/18)	735
C. E. Burgart	

SELECTED APPLICATIONS IN MONTE CARLO (Section X)

Programme ELF-neutron (IAEA-SM-154/39)	749
F. Gervaise	
A Monte-Carlo method of calculations for a fast critical facility of a pulsed fast reactor (IAEA-SM-154/13)	763
M. P. Navalkar, O. P. Joneja, K. Subbukutty and S. B. D. Iyengar	
Neutron fluxes in finite homogeneous media by the semi-analytic Monte-Carlo method (IAEA-SM-154/28).....	769
V. K. Jain and S. V. Lawande	
Spectrum of neutrons emerging from a hydrogenous material using the Monte-Carlo method and its comparison with the finite- difference method (IAEA-SM-154/30)	783
S. K. Kapil and K. Balakrishnan	
Reactor calculations by an efficient Monte-Carlo method (IAEA-SM-154/53)	795
P. K. Lu and R. Bull	

SUMMARY OF SEMINAR	807
W. Werner	

Chairmen of Sessions and Secretariat.....	811
List of Participants	813
Author Index	821