## CONTENTS

W. W. CLENDENIN. Resonance Escape Probability in Hydrogenous Lattices	1
BERTRAM WOLFE AND DAVID L. FISCHER. Perturbation Theory of Control Elements. II	5
P. R. HUEBOTTER AND W. R. SEITZ. The Utilization of a Cold Trap to Stabilize Suspensions of UO <sub>2</sub> in NaK	11
G. W. KEILHOLTZ, J. G. MORGAN, AND W. E. BROWNING. Effect of Radiation on Corrosion of Struc- tural Materials by Molten Fluorides	15
T. J. KRIEGER AND P. F. ZWEIFEL. Theory of Pulsed Neutron Experiments in Multiplying Media.	21
BARNEY L. BYRUM AND JOHN A. BIGGERSTAFF. Nuclear Radiation Heating: Preliminary Design Considerations	28
B. R. LEONARD, JR., E. J. SEPPI, AND W. J. FRIESEN. The Width of the 1 ev Resonance in Plutonium- 240	32
E. GELBARD, J. DAVIS, AND J. PEARSON. Iterative Solutions to the $P_1$ and Double- $P_1$ Equations	36
D. E. WOOD. Intermediate Energy Neutron Leakage Through Iron	45
G. DESAUSSURE AND E. G. SILVER. Comparison of the Average Number of Prompt Neutrons Emitted in the Fission of U <sup>233</sup> , U <sup>235</sup> , Pu <sup>239</sup> , and Pu <sup>241</sup>	49
J. O. ELLIOT AND F. C. YOUNG. Half Lives of N <sup>16</sup> , Mg <sup>27</sup> , Al <sup>28</sup> , S <sup>37</sup> , and Rh <sup>104m2</sup>	55
T. ASAOKA. Calculation of Thermal Utilization in Heterogeneous Nuclear Reactors by the P <sub>3</sub> Spherical Harmonics Approximation	57
A. H. FUTCH, JR. Fast Fission Effect in Lattices of Natural Uranium and Heavy Water	61
LETTERS TO THE EDITORS H. M. MOTT-SMITH. Heating of Positive Ions in a Thermonuclear Plasma	68
RAYMOND L. MURRAY, GERALD H. KATZIN, AND ALFRED L. MOWERY, JR. Average Flux in Reac- tor Test Volumes	69
A. SAUER. Optimum Control and Flat Flux	71
American Nuclear Society News	73

## Indexed in "Engineering Index"

Published monthly at Mt. Royal and Guilford Aves., Baltimore, Md., for Academic Press Inc., 111 Fifth Avenue, New York 3, N. Y.

During 1959, Volumes 5 and 6 will be published. Price of each volume: \$19.50.

Subscription orders should be sent to the publishers.

Notice of change of address must be received two months prior to the date of issue. Include both old and new addresses.

For Member Subscriptions: Notice should be sent to the Secretary of the American Nuclear Society, John Crear Library, 86 East Randolph Street, Chicago 1, Illinois.

For Non-member Subscriptions: Notice should be sent to the publishers.

Second-class mail postage paid at Baltimore, Md.