

## CONTENTS

C. J. ORTH. Diffusion of Lanthanides and Actinides from Graphite at High Temperatures.....	417
G. G. SMITH, J. HARDY, D. KLEIN, AND J. A. MITCHELL. Experimental Studies of U <sup>238</sup> Resonance Neutron Capture in UO <sub>2</sub> Fuel Rods.....	421
DONALD E. PARKS. The Effects of Atomic Motions on the Moderation of Neutrons.....	430
GEORGE M. BOYD, JR., RALPH M. ROSSER, AND BENNETT B. CARDWELL, JR. Transient Flow Performance in a Multiloop Nuclear Reactor System.....	442
FRED SICILIO, T. H. GOODGAME, AND BERT WILKINS, JR. Purification of Irradiated Tributyl Phosphate by Distillation in Kerosene-Type Diluent.....	455
J. J. KEYES, JR. AND A. I. KRAKOVIAK. High-Frequency Surface Thermal Fatigue Cycling of Inconel at 1405° F.....	462
GLENN T. SEABORG. The Transuranium Elements.....	475
T. A. GENS. New Developments in Uranium-Zirconium Alloy Fuel Reprocessing.....	488
MELVIN M. LEVINE. Equal Charge Displacement Rule in Fission Product Poisoning.....	495
J. M. WILLIAMS AND C. L. HUFFINE. Solid State Electrolysis in Yttrium Metal.....	500
ERIC HELLSTRAND AND JAKOB WEITMAN. The Resonance Integral of Thorium Metal Rods.....	507
LETTER TO THE EDITOR	
HSIANG-LIN PAI, PU-YUAN MA, SHIN-CHEN WANG, AND WELLINGTON S. LEE. Measurement of Epithermal Neutron Spectral by Resonance Detectors.....	519
Book Reviews.....	521
Author Index.....	524
General Subject Index.....	526

Indexed in "Engineering Index" and Abstracted in "Nuclear Science Abstracts"

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

During 1961, Volumes 9, 10, and 11 will be published. Price of each volume remains at \$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 Crerar 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.

### Advertising Representatives

Jim Summers and Associates  
35 East Wacker Drive  
Chicago 1, Illinois

Chris Dunkle and Associates  
740 South Western Avenue, Los Angeles 5, California or  
420 Market Street, San Francisco 11, California