CONTENTS

TECHNICAL PAPERS

1 Measurements of the $^{59}$Ni $(n, \alpha)$ Cross Section for Thermal Neutrons
   H. M. Eiland, G. J. Kirouac

9 Measurement and Calculation of Integral Heavy-Element Cross-Section Ratios in the Fast Breeder Reactor EBR-II
   N. D. Dudey, D. Meneghetti, R. R. Heinrich, R. H. Rempert

27 Measurement of Steady-State, Space-Dependent, Thermal-Neutron Spectra in Beryllium Assemblies with Strong Transverse Leakage
   J. A. Lake, J. M. Kalifelz

47 Measurements of Equilibrium and Time-Dependent Energy Spectra of Beta Rays from Californium-252 Fission Fragments
   R. A. Knief, B. W. Wehring, M. E. Wyman

61 Model for Calculating Prompt-Response Self-Powered Neutron Detectors
   W. Jashik, W. Seifritz

79 A Criticality Study of Fissile-Metal and Fissile-Solution Combinations
   D. C. Hunt, Robert E. Rothe

93 Numerical Solution of the Linear Integral Boltzmann Equation
   Dermott E. Cullen

TECHNICAL NOTES

107 The Permeability Minimum and the Viscosity of Gases at Low Pressure
   E. Creutz

109 Calculated and Measured Dose Buildup Factors for Gamma Rays Penetrating Multilayered Slabs
   Gail de P. Burke, Harold L. Beck

112 Modified One-Mode Method for Fast-Reactor Diffusion Calculations
   Takashi Kiguchi

121 CORRIGENDUM