

CONTENTS

Preface	8
 <u>Development of Neutron Facilities</u>	
Commissioning of the Cold Source at the FRM-II <i>Gutsmiedl E., Pathe D., Zeitelhack K., Grunauer F., Scheuer A., Scholdere A.</i>	9
A Solid Deuterium UCN Source at the TRIG A Mainz <i>Paul S., Heil W., Kratz J.V., Gutsmiedl E., Altarev I., Frei A., Hartmann J., Schmid W., Sobolev Y., Hampel G., Tortorella D., Wiehl N., Eberhardt K.</i>	11
 <u>Nuclear Structure</u>	
Parameters of the ^{125}Te Compound State Cascade γ-Decay <i>Bondarenko V.A., Honzatko J., Khitrov V.A., Sukhovoij A.M., Tomandl I.</i>	13
Model-Free Determination of Level Density, Radiative Strength Functions and General Tendency Nuclear Structure Changing Below B_n <i>Khitrov V.A., Sukhovoij A.M.</i>	36
Level Density and Radiative Strength Functions of Dipole γ-Transitions in ^{139}Ba and ^{165}Dy <i>Khitrov V.A., Sukhovoij A.M., Pham Dinh Khang, Vuong Huu Tan, Nguyen Xuan Hai</i>	41
Proton Capture on ^{48}Ti <i>Mitchell G.E., McDevitt D.B., Shriner J.F., Jr</i>	48
Some Problems in Determining Level Density and Radiative Strength Functions in Light and Near-Magic Nuclei <i>Sukhovoij A.M., Khitrov V.A., Li Choi, Pham Dinh Khang, Nguyen Xuan Hai, Vuong Huu Tan</i> ...	56
Level Density and Radiative Strength Functions in Light Nuclei: ^{60}Co as an Example of Method for Determination and Their Reliability Verification <i>Sukhovoij A.M., Khitrov V.A., Pham Dinh Khang, Vuong Huu Tan, Nguyen Xuan Hai</i>	64
The Probable Level Densities and Radiative Strength Functions of Dipole Gamma-Transitions in ^{57}Fe Compound Nucleus <i>Sukhovoij A.M., Khitrov V.A., Li Choi, Pham Dinh Khang, Vuong Huu Tan, Nguyen Xuan Hai</i>	72
Analysis of Nonstatistical Effects in Neutron Resonance <i>Sukhoruchkin S.I.</i>	83
Nuclear Level Densities near $Z=50$ from Neutron Evaporation Spectra in (p, n) Reaction <i>Zhuravlev B.V., Lychagin A.A., Titarenko N.N.</i>	95
Verification of Evaluated Neutron Data for Lead on the Leakage Neutron Spectrum from Sphere with Central ^{252}Cf Source <i>Zhuravlev B.V., Blokhin A.I., Kobozev M.G., Talalaev V.A., Kosarev S.A.</i>	106
 <u>Fundamental Properties of the Neutron and Symmetries</u>	
Neutron-Electron Scattering Length Deduced from Neutron Diffraction Experiment on Noble Gas ^{36}Ar <i>Magli R., Mitsyna L.V., Nikolenko V.G., Parzhitski S.S., Popov A.B., Samosvat G.S.</i>	114
Study of P-Even Time Reversal Noninvariant Amplitude in $(n, \gamma\alpha)$ Reactions <i>Okunev I.S., Parzhitski S.S., Popov Yu.P., Tchuvil'sky Yu.M.</i>	122

An Approach to the Spatial-Temporal Analysis of the $n - n$ Collision Rate in the YAGUAR Experiment

Sharapov E.I., Furman W.I., Lychagin E.V., Muzichka A. Yu., Nekhaev G.V., Strelkov A. V., Shvetsov V.N., Chemukhin Yu.I., Kandiev Ya.Z., Levakov B.G., Litvin V.I., Lvzhin A.E., Mitchell G.E., Crawford B.E., Stephenson S.L., Howell C.R., Tomow W.130

Theoretical Calculation for Data Analysis

Calculations of Neutron Multiplicities and Spectra for Different Actinides

Hamsch F.-J.137

What is the Correct Description of the Slow Neutron Scattering in a Gas?

Nikolenko V.G., Popov A.B.146

Calculation of Angular Correlations in the $^{14}\text{N}(n, p)^{14}\text{C}$ Reaction up to 1 MeV Neutron Energy Region

Oprea A.I., Oprea C., Gledenov Yu.M., Sedyshev P.V., Szalanski P.J.153

Use of the Monte Carlo Method for Modeling of the Preequilibrium Multiparticle Nucleon Spectra

Vinogradova V.G., Grudzevich O.T., Martirosyan J.M.160

Methodical Aspects

Experimental Improvement of Neutron Electric Charge Estimation

Alexandrov Yu.166

Possible Experiments to Search for the Singlet Deuteron

Borzakov S.B.170

Calibration of the HEND Neutron Counters Mounted on Board of Mars Odyssey 2001 Spacecraft

Bystritski V., Krvlov A., Pikelner I., Kobzev A., Litvak M., Mitrofanov I., Tretvakov V., Timoshenko G., Shvetsov V.172

γ (TAGS)- n (He-3)- β Coincidence Spectrometer for β -Delayed Neutron Decay Study

Izosimov I.N., Kalinnikov V.G., Solnishkin A.A.181

Thick Filter Neutron Transmission Data

Janeva N., Lukyanov A., Koyumdjieva N., Volev K.185

Characterization of the HEND Stilbene Spectrometer

Martinkovic J., Kozyrev A., Litvak M., Mitrofanov I., Timoshenko G., Shvetsov V.192

Initial Investigations for SAD Project in INRNE-BAS

Todorov M., Janeva N., Kostov L.199

Compilation of Neutron Resonance Parameters NRF-3

Soroko Z.N., Sukhoruchkin S.I., Sukhoruchkin D.S.205

Neutron-Induced Reactions with Emission of Charged Particles, Fast-Neutron-Induced Reactions

Measurement of Differential Cross-Sections of the $^6\text{Li}(n, t)^4\text{He}$ Reaction

Gledenov Yu.M., Sedysheva M.V., Guohui Zhang, Jinxiang Chen, Guoyou Tang, Khuukhenkhuu G. 217

Calculations of Neutron and Proton Induced Reaction for ^{238}U in the 0.01- 200 MeV Energy Region

Hongwei Yu, Chonghai Cai, Zhixiang Zhao222

14 MeV Neutron Induced (n, p) Reaction Cross Section Analysis

Khuukhenkhuu G., Gledenov Yu.M., Bayarbadrakh B., Odsuren M., Sedysheva M.V.229

UCN Physics

Polished Sapphire for Ultracold Neutron Guides

Nesvizhevsky V.V.233

Constraints for Quasi-Elastic Reflections of Neutrons in the Range $AE \sim 10^{-12} - 10^{-9}$ eV <i>Nesvizhevsky V.V.</i>	241
Study of the Neutron Quantum States in the Earth's Gravitational Field <i>Nesvizhevsky V.V., Petukhov A.K., Bomer H.G., Baranova T.A., Gagarski A.M., Petrov G.A., Protasov K.V., Voronin A. Yu., Baefiler S., Abele H., Westphal A., Lucovac L.</i>	249
<u>Nuclear Analytical Methods in the Life Sciences</u>	
NAA for Some Methodological Aspects of Biomonitoring Air Pollution: Belgrade Case Study <i>Anicic M., Frontasyeva M. V., Tomasevic M., Popovic A.</i>	256
Assessment of Elemental and Radionuclide Content through Analysis of Aerosol Filters from Bratislava, Slovakia <i>Meresova J., Florek M., Holy K., Sykora I., Frontasyeva M. V., Pavlov S.S.</i>	263
Retrospective Study of Environmental Pollution with Heavy Metals in the Consa Mica Medias Region <i>Oprea C., Cadar D., Candea D., Ozunu A.</i>	269
Geochemical Studies Applied to the Exploration of Water Quality in the Crisuri Basin <i>Oprea C., Filip S., Mitrut T., Gergely I., Baluta A., Oprea A.I., Cadar D.</i>	277
Determination of Trace Heavy Metals in Human Teeth Using PIXE <i>Oprea C., Kobzev A.P., Buzguta V., Oprea A.I., Szodorai F., Cadar D.</i>	285
<u>Fission</u>	
Angular Anisotropy of Neutrons Evaporated from Fission Fragments <i>Bunakov V.E., Guseva I.S., Kadmsky S.G., Petrov G.A.</i>	293
About the Resonance Self-Shielding for Fission and Capture Cross-Sections of Uranium-235 <i>Doulin V.A., Pavlova O.N., Grigoriev Yu.V., Mezentseva Zh.V.</i>	301
Measurements of Neutron-Induced Fission Cross-Sections of Separated Tungsten Isotopes and Natural Tungsten in the 50-200 MeV Energy Region <i>Eismont V.P., Filatov N.P., Smirnov A.N., Soloviev S.M., Blomgren J., Conde H., Prokofiev A.V., Mashnik S.G.</i>	309
Resonance Correlation Study in Transmissions and Self-Indications of ^{235}U, ^{238}U, ^{239}Pu <i>Grigoriev Yu.V., Sinitza V.V., Mezentseva Zh.V., Faikov-Stanczyk H.</i>	317
^{232}Th Neutron Capture Cross Section <i>Maslov V.M.</i>	321
Prompt Fission Neutron Spectra of ^{235}U above Emissive Fission Threshold <i>Maslov V.M., Kornilov N.V., Kagalenko A.B., Tetereva N.A.</i>	331
Recent Multi-Parameter Studies on Particle-Accompanied Fission of $^{252}\text{Cf}(sf)$ and $^{235}\text{U}(n_{th},f)$ <i>Tishchenko V. G., Kopatch Yu.N., Mutterer M., Gdnnenwein F., Gagarski A.M., Jesinger P., von Kalben J., Kojouharov I., Lubkiewics E., Mezentseva Zh., Nesvizhevsky V., Petrov G.A., Schafner H., Scharma H., Speransky M., Trzaska W.H., Wollersheim H.-J.</i>	342
Investigation of Mass-TKE Distributions of Fission Fragments from the $^{235}\text{U}(n,f)$-Reaction in Resonances <i>Zeinalov Sh., Furman W., Hamsch F.-J.</i>	351