

CONTENTS

Fundamental Properties of the Neutron, UCN

Measurement of the Neutron Lifetime by Storing Ultracold Neutrons and Monitoring Their Losses by Counting Inelastically Scattered Neutrons (Phase 2)

Arzumanov S., Bondarenko L., Geltenbort P., Morozov V., Nesvizhevsky V.V., Panin Yu., Chernyavsky S., Strepetov A. 11

Flexible Neutron Guide Made of Polyvinylchloride Plastic to Transport Ultracold and Very Cold Neutrons

Arzumanov S., Morozov V., Panin Yu., Geltenbort P., Bondarenko L., Nesvizhevsky V.V., Strepetov A., Chuvilin L. 17

Model of the Gamma Ray-Induced Out-Gassing in the nn-Scattering Experiment at YAGUAR

Crawford B.E., Showalter-Bucher R.A., Stephenson S.L., Furman W.I., Lychagin E.V., Muzichka A.Yu., Nekhaev G.V., Sharapov E.I., Shvetsov V.N., Strelkov A.V. 23

Status of Experiment for n,e-Scattering Length Extraction from the Anisotropy of Slow Neutrons Scattered by Noble Gases

Enik T.L., Mitsyna L.V., Nikolenko V.G., Parzhitski S.S., Popov A.B., Salamatin I.M., Samosvat G.S. 32

“Neutron Belt” for COMETA Setup

Kamanin D.V., Pyatkov Yu.V., Alexandrov A.A., Alexandrova I.A., Borzakov S.B., Chelnokov M.L., Fam Min D., Kondratyev N.A., Kopach Yu.N., Kuznetsova E.A., Panteleev Ts., Penionzhkevich Yu.E., Ryabov Yu.V., Svirikhin A.I., Sokol E.A., Testov D.A., Zhuchko V.E., Yerebin A.V. 39

Low-Energy Elastic Scattering of a Polarized Neutron on a Polarized Deuteron

Lyuboshitz V.L., Lyuboshitz V.V. 46

Neutron Experiments to Search for New Spin-Dependent Interactions

Pokotilovski Yu.N. 55

Potential for the Neutron Lifetime Measurements in Traps

Pokotilovski Yu.N.61

A Method of “External Cold Neutron Source” for UCN Production in Superfluid ^4He

Verkhogliadov A.E., Lychagin E.V., Muzychka A.Yu., Nekhaev G.V., Nesvizhevsky V.V., Pignol G., Protasov K.V., Strelkov A.V.69

Optimal Conditions for Conducting the Neutron Radiative Decay Experiment

Khafizov R.U., Kolesnikov I.A., Nikolenko M.V., Tarnovitskiy S.A., Tolokonnikov S.V., Torokhov V.D., Solovei V.A., Kolhidashvili M.R., Konorov I.A.73

Fission

The Estimation of ROT-Effect for Neutrons Evaporated from Fully Accelerated Fragments in Binary Fission

Guseva I.S.84

Resonance Neutron Induced Fission of ^{239}Pu

Hambsch F.-J., Ruskov I., Dematté L.92

Collinear Cluster Tri- Partition of $^{252}\text{Cf}(\text{sf})$ – Evidences in Neutron Gated Data

Kamanin D.V., Pyatkov Yu.V., Alexandrov A.A., Alexandrova I.A., Borzakov S.B., Jacobs N., Kondratiev N.A., Kuznetsova E.A., Malaza V., Mullins S., Panteleev Ts., Pham Minh D., Zhuchko V.E.102

Investigations of the Angular Dependences of Neutron-Neutron Coincidences from ^{252}Cf , ^{235}U , ^{233}U and ^{239}Pu Fission in Search of Scission Neutrons

Sokolov V.E., Petrov G.A., Guseva I.S., Val'sky G.V., Gagarski A.M., Nikolaev D.V., Krinitsin D.O., Petrova V.I., Zavarukhina T.A.108

Prompt Fission Neutron Multiplicity Investigation

Zeynalov Sh., Zeynalova O., Hambsch F.-J., Oberstedt S.119

Reactions with Fast Neutrons, Charged Particles

Fast Neutron Cross-Section Measurements with the NELBE Neutron Time-of-Flight Facility

Wagner A., Bemmerer D., Beyer R., Birgersson E., Ferrari A., Grosse E., Hannaske R., Junghans A. R., Kempe M., Kögler T., Marta M., Matic A., Nolte R., Schilling K.D., Schramm G., Schwengner R., Weiss F.-P., Yakorev D. 127

Production of Gamma-Rays by Fast Neutrons on Fe and Bi

Bondar V.M., Gorbachenko O.M., Kadenko I.M., Leshchenko B.Yu., Onishchuk Yu.M., Plujko V.A. 135

Measurements of the ^{64}Zn and $^{67}\text{Zn}(n,\alpha)$ Reactions Cross Sections in the MeV Neutron Energy Region

Gledenov Yu.M., Sedysheva M.V., Guohui Zhang, Jiaguo Zhang, Hao Wu, Jiaming Liu, Jinxiang Chen, Khuukhenkhoo G., Szalanski P.J. 143

(n, α)-Reaction Cross Section and Alpha Decay Probability of Nucleus

Khuukhenkhoo G., Gledenov Yu.M., Sedysheva M.V., Odsuren M. 150

Study of (n, α)-Reaction Cross Section on a Set of Light Nuclei

Khryachkov V.A., Bondarenko I.P., Kuzminov B.D., Semenova N.N., Sergachev A.I. 153

Contribution to the Study of Nuclear Reaction with Neutrons and Charged Particles Emission

Oprea A.I., Oprea C.D., Mihul A., Gledenov Yu.M., Sedyshev P.V., Sedysheva M.V. 161

Nuclear Structure, Model Calculations

Equilibration of Composite System Formed by Intermediate Energy Nucleons

Grudzevich O.T., Yavshits S.G. 167

Calculation of GeV-Nucleon Data with MCFx Code

Grudzevich O.T., Yavshits S.G. 174

On Problems of Experimental Determination of Reliable Values of Nucleus Parameters at Low Excitation Energy – ^{60}Ni as an Example

Sukhovej A.M., Khitrov V.A. 180

Practical Limits on Achievable Precision of Some Nuclear-Physics Parameters Determination

Sukhovoj A.M., Khitrov V.A.192

Parameters of the Best Approximation for Distribution of the Reduced Neutron Widths. Specificity of Full-Scale Method of Analysis

Sukhovoj A.M., Khitrov V.A.199

Parameters of the Best Approximation for Distribution of the Reduced Neutron Widths. Actinides

Sukhovoj A.M., Khitrov V.A.208

Parameters of the Best Approximation for Distribution of the Reduced Neutron Widths. The Most Probable Density of Neutron Resonances in Actinides

Sukhovoj A.M., Khitrov V.A.216

Nuclear Level Densities of ^{47}V , ^{48}V , ^{49}V , ^{53}Mn , ^{54}Mn from Neutron Evaporation Spectra

Zhuravlev B.V., Lychagin A.A., Titarenko N.N., Demenkov V.G., Trykova V.I.225

Result on the Measurements of the P-Odd Asymmetry of Emitted γ -Quanta in the $^{10}\text{B}(n,\alpha)^7\text{Li}^* \rightarrow ^7\text{Li}(\text{g.st.})$ Reaction with Slow Polarized Neutrons

Vesna V.A., Gledenov Yu.M., Nesvizhevsky V.V., Sedyshev P.V., Shulgina E.V.235

Nuclear Data, Methodical Aspects, Applied Physics

Simulation of Low-Background High Efficiency Capture-Gated Fast Neutron Spectrometer

Abdurashitov J.N., Gavrin V.N., Malyshkin Yu.M., Matushko V.L., Shikhin A.A., Yants V.E.245

Predictive Capabilities of the TRANSURANUS Fuel Performance Code for Russian-Type WWER Reactor

Boneva S.T., Georgieva M.K., Georgiev S.A.251

Recent Activities at Laboratory of Experimental Nuclear and Particle Physics

Kim G.N., Lee M.W., Kim K.S., Kim K., Yang S.C., Ro T.I., Kang Y.R., Kang H.S., Cho M.H., Ko I.S., Namkung W.257

Evaluating the Mass of Actinides in the Waste Packages by Photofission Using Monte Carlo N-Particle Extended Code

◉Nasrabadi ◉M.N., Abdi ◉M.R., Mousavi M.264

A Systemic Approach on Characteristics and Treatment Processes for Hazardous Wastes: the Case of Fly-Ash from Waste-to-Energy Facilities for Municipal Solid Wastes

Samaras P., Karagiannidis A., Kalogirou E., Themelis N., Kontrogianni St., Perkoulidis G.270

Silver Neutron Activation Detector for Measuring Bursts of 14 MeV Neutrons

Song Zhaohui, Guan Xinyin, Zhang Zichuan279

Nuclear Analytical Methods in the Life Sciences

The Effect of Pumice Rate on the γ -Ray Attenuation for Concrete under NaOH Media

Akkurt İ., Akyildirim H., Mavi B., Karipçin F., Kiliñçarslan Ş., Başığit C.286

The Radiation Shielding Properties of Boronized Vanadium Steels

Akkurt İ., Çalik A., Akyildirim H., Mavi B., Günođlu K., Uçar N., Aytar Ö.B.291

Epithermal Neutron Activation Analysis of the Asian Herbal Plants

Baljinnyam N., Jugder B., Norov N., Frontasyeva M.V., Ostrovnaya T.M., Pavlov S.S.294

The Investigation of the Rare Metal Content in the Geological Samples from Mongolia on the IREN Facility

Borzakov S. B., Nyamsuren B., Pavlov S.S., Ostrovnaya T.M.,

<i>Shvetsov V.N.</i>	298
European Policy on Waste Management	
<i>Kallia-Antoniou A.</i>	301
Long Term Mapping as Method for Critical Evaluation of Ecosystem Pollution	
<i>Maňkovská B., Oszlányi J., Tučeková A., Florek M., Frontasyeva M.V., Pavlov S.S.</i>	308
Researches by Multivariate Statistical Methods of Inorganic Elemental Content in Human Teeth	
<i>Oprea C., Gustova M.V., Oprea I.A., Buzguta V.</i>	315
Food Security and Environmental Changes	
<i>Oprea C., Gustova M.V., Oprea I.A., Maslov O.D., Belov A.G., Ciofu R.</i>	322
Neural Network Method Used for Interpretation of Analytical Concentration Data	
<i>Oprea C., Oprea I.A.</i>	328
Quantitative Evaluation of Essential Elements and Trace Heavy Metals in Medicinal Plants by Photon Neutron Activation Method	
<i>Oprea C., Gustova M.V., Maslov O.D., Belov A.G., Oprea I.A., Niculescu M.</i>	332
The Effect of Age on the Lithium Content in Prostate of Healthy Men	
<i>Zaichick S., Zaichick V., Karandashev V., Nosenko S., Ermidou-Pollet S., Pollet S.</i>	337
Neutron Activation Analysis of Ca, Cl, Mg, Mn, Na, P, and Sr Contents in the Enamel of Primary Teeth	
<i>Zaichick S., Zaichick V.</i>	342
Application of Neutron Activation Analysis and Inductively Coupled Plasma-Mass Spectrometry to Investigate Lanthanum and Lanthanides Content in Intact Human Rib Bone	

in XVIII International Seminar on Interaction of Neutrons with Nuclei (Neutron Spectroscopy, Nuclear Structure, Related Topics), Dubna, May 26-29, 2010, JINR, E3-2011-26 (Dubna, 2011)

*Zaichick S., Zaichick V., Karandashev V., Nosenko S.*350

XRF-AAS Analysis of Heavy Metals in Soils around of a Ferrous Metallurgical Plant in Eastern Part of Romania

Ene A., Stihi C., Popescu I.V., Bosneaga A., Radulescu C.,

*Gheboianu A.*360