

4th International Conference on Particle Physics and Astrophysics (ICPPA-2018)

Journal of Physics: Conference Series Volume 1390

Moscow, Russia
22 - 26 October 2018

ISBN: 978-1-7138-1160-2
ISSN: 1742-6588

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

This work is licensed under a Creative Commons Attribution 3.0 International Licence.
Licence details: <http://creativecommons.org/licenses/by/3.0/>.

No changes have been made to the content of these proceedings. There may be changes to pagination and minor adjustments for aesthetics.

Printed with permission by Curran Associates, Inc. (2020)

For permission requests, please contact the Institute of Physics
at the address below.

Institute of Physics
Dirac House, Temple Back
Bristol BS1 6BE UK

Phone: 44 1 17 929 7481
Fax: 44 1 17 920 0979

techtracking@iop.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

NUCLEAR PHYSICS

STRONG INDICATION OF TRUE QUATERNARY FISSION OF ^{252}Cf (SF).....	1
<i>Yu V Pyatkov, D V Kamanin, A V Tomas, A A Alexandrov, I A Alexandrova, Z I Goryainova, V Malaza, E A Kuznetsova, A O Strelalovsky, O V Strelalovsky, V E Zhuchko</i>	
INVESTIGATION OF THE INTERACTION OF ION BEAMS AND X-RAY QUANTA WITH DEUTERATED CRYSTAL STRUCTURES AT THE HELIS FACILITY	5
<i>O D Dalkarov, M A Negodaev, A S Rusetskii, A S Chepurnov, M A Kirsanov, I A Kishin, A S Kubankin, I A Kudryashov, D A Selivanova</i>	
SELECTION OF ROTATING ENTRANCE WINDOW AND TARGET PARAMETERS FOR A GAS-FILLED SEPARATOR OPERATING AT HIGH INTENSIVE HEAVY ION BEAMS.....	11
<i>D Ibadullayev</i>	
ION PRODUCTION IN THE $^{12}\text{C} + ^9\text{Be}$ INTERACTIONS AT GEV ENERGIES	17
<i>B M Abramov, Yu A Borodin, S A Bulychjov, I A Dukhovskoy, A I Khanov, A P Krutenkova, V Kulikov, M A Martemianov, M A Matsyuk, E N Turdakina</i>	
TOTAL REACTION CROSS SECTIONS OF NEUTRON-RICH LIGHT NUCLEI MEASURED BY THE COMBAS FRAGMENT-SEPARATOR.....	22
<i>B Erdemchimeg, A G Artukh, S Davaa, B M Hue, T Isataev, S A Klygin, G A Kononenko, G Khuukhenkhuu, S M Lukyanov, T I Mikhailova, V A Maslov, K Mendibaev, Yu M Sereda, Yu E Penionzhkevich, A N Vorontzov</i>	
CORRELATIONS BETWEEN MULTIPLICITIES AND TRANSVERSE MOMENTA IN NUCLEUS-NUCLEUS COLLISIONS FROM MODEL WITH CLUSTER OF FUSED COLOR STRINGS	26
<i>E Andronov, V Kovalenko</i>	
NEUTRON LIFETIME: EXPERIMENTAL PROBLEM OR ANOMALY?	30
<i>A. P. Serebrov</i>	
DISSOCIATION OF ^6Li , ^7Li NUCLEI IN NUCLEAR PHOTOGRAPHIC EMULSION.....	37
<i>M Mekhimar, Y Ahamed, S El-Sharkawy, M K Hegab, O M Osman</i>	
THE STUDY OF THE ^{12}C STATES FROM THE REACTION $^{11}\text{B}(^3\text{He}, \text{D})^{12}\text{C}$	41
<i>V I Starastin, A S Demyanova, A N Danilov, A A Ogloblin, S V Dmitriev, V M Sergeev, V A Maslov, Yu G Sobolev, S A Goncharov, W Trzaska, P Heikkinen, Y Gurov, T L Belyaeva, N Burtebaev</i>	
OBSERVATION OF CLUSTER STRUCTURE OF FISSION FRAGMENTS.....	44
<i>A O Strelalovsky, Yu V Pyatkov, D V Kamanin, A A Alexandrov, I A Alexandrova, Z I Goryainova, V Malaza, E A Kuznetsova, O V Strelalovsky, V E Zhuchko</i>	
CLUSTERIZATION IN HEAVY COLD NUCLEI.....	48
<i>Yu V Pyatkov, D V Kamanin</i>	
^8He SPECTROSCOPY IN STOPPED PION ABSORPTION BY ^{11}B NUCLEI	56
<i>B A Chernyshev, Yu B Gurov, S V Lapushkin, T I Leonova, V G Sandukovsky</i>	

SPECTROSCOPY OF ${}^7\text{He}$ IN THE REACTIONS OF STOPPED PION ABSORPTION BY ${}^{12,14}\text{C}$ NUCLEI.....	60
<i>B Chernyshev, Yu Gurov, S Lapushkin, V Karpukhin, V Sandukovsky, T Schurenkova</i>	

NUCLEAR PHYSICS: HEAVY ION

ANISOTROPIC FLOW MEASURED IN PB-PB COLLISIONS WITH THE NA49 AND NA61/SHINE EXPERIMENTS AT CERN SPS.....	66
<i>Oleg Golosov, Viktor Klochkov, Evgeny Kashirin, Ilya Selyuzhenkov</i>	

QCD PHASE DIAGRAM WITH CHIRAL IMBALANCE IN NJL MODEL: DUALITY AND LATTICE QCD RESULTS.....	72
<i>T G Khunjua, K G Klimenko, Roman N Zhokhov</i>	

SEARCH FOR CRITICAL BEHAVIOR OF STRONGLY INTERACTING MATTER IN THE NA61/SHINE EXPERIMENT	76
<i>Daria Prokhorova</i>	

PROSPECTS FOR THE STUDY OF THE STRANGENESS AND HYPERNUCLEI PRODUCTION AT NICA/MPD.....	83
<i>A Zinchenko, V Kolesnikov, A Mudrokh, V Vasendina, V Voronyuk</i>	

EXPLORING HOT QCD MATTER VIA DIRECT PHOTONS AT ALICE	90
<i>D. Peresunko</i>	

WHY THE HYDRODYNAMICS IS VALID AT EARLY STAGE OF HEAVY-ION COLLISIONS?	96
<i>E E Zabrodin, L V Bravina</i>	

STAR HIGHLIGHTS AND FUTURE.....	101
<i>Grigory Nigmatkulov</i>	

MEASUREMENTS OF QUARKONIA AND OPEN HEAVY-FLAVOUR PRODUCTION IN HEAVY-ION COLLISIONS WITH THE ATLAS DETECTOR.....	111
<i>Jakub Kremer</i>	

NA61/SHINE EXPERIMENT AT CERN SPS: RECENT RESULTS, CURRENT STATUS AND PERSPECTIVES.....	117
<i>Janusz Brzychczyk</i>	

MEASUREMENT OF ELECTROWEAK BOSON PRODUCTION IN PP, P+PB AND PB+PB COLLISIONS WITH THE ATLAS DETECTOR	124
<i>Piotr Janus</i>	

COHERENT J/ψ PHOTOPRODUCTION IN ULTRA-PERIPHERAL PB–PB COLLISIONS WITH ALICE AT THE LHC.....	130
<i>Roman Lavička</i>	

STUDIES OF SHORT RANGE CORRELATIONS IN INVERSE KINEMATICS AT BM@N AT THE NICA FACILITY	134
<i>A Galavanov, S Khabarov, Y Kirushin, E Kulish, V Lenivenko, A Makankin, A Maksymchuk, V Palichik, M Patsyuk, S Vasiliev, N Zamiatin</i>	

OVERVIEW OF ALICE RESULTS ON LIGHT FLAVOUR HADRON PRODUCTION.....	140
<i>V G Riabov</i>	

PERFORMANCE STUDIES FOR COLLECTIVE FLOW MEASUREMENTS WITH CBM AT FAIR.....	146
<i>D Blau, O Golosov, E Kashirin, V Klochkov, I Selyuzhenkov</i>	

FEMTOSCOPIC SCALES OF PARTICLE-EMITTING SOURCE IN SMALL AND LARGE SYSTEMS.....	150
<i>V K Semenova, E V Khyzhniak, G A Nigmatkulov</i>	

MONTE-CARLO STUDY OF LONG-RANGE CORRELATIONS OF AVERAGE TRANSVERSE MOMENTUM AND MULTIPLICITY FOR STRANGE PARTICLES IN PP-COLLISIONS AT THE LHC ENERGIES.....	155
<i>V Sandul, G Feofilov</i>	

PARTICLE PHYSICS

MEASUREMENTS OF THE HIGGS BOSON BY ATLAS AND CMS.....	159
<i>Ilya Tsukerman</i>	

DOUBLY HEAVY BARYONS FROM THE THEORETICAL POINT OF VIEW.....	169
<i>A V Berezhnuy, A K Likhoded, A V Luchinsky</i>	

PROPOSAL OF THE COMPLETE EXPERIMENT FOR ELASTIC PP AND P(BAR)P SCATTERING AT SPASCHARM PROGRAM AT U70 ACCELERATOR.....	177
<i>A A Bogdanov, V A Chetvertkova, N K Kalugin, V P Ladygin, V V Mochalov, M B Nurusheva, V A Okorokov, P A Semenov, A N Vasiliev, L S Zherebtsova</i>	

HEAVY FLAVOR PHYSICS AT ATLAS AND CMS.....	182
<i>Ruslan Chistov</i>	

HADRONIC PRODUCTION OF DOUBLE CHARMED BARYONS WITH EXCITED DIQUARK.....	189
<i>A V Berezhnuy, I N Belov, A K Likhoded</i>	

THE NEW RESULTS FROM MULTI-QUARK EXOTIC STATES SEARCHES AT D0 EXPERIMENT.....	195
<i>A Popov</i>	

EXOTIC HADRONS IN THE DECAYS OF VECTOR BOTTOMONIA.....	201
<i>V Baru, A Filin, C Hanhart, A Nefediev, Q Wang</i>	

RECONSTRUCTION TECHNIQUES IN SUPERSYMMETRY SEARCHES WITH THE ATLAS DETECTOR.....	207
<i>Ambrosius Vermeulen</i>	

ON SEPARATE CHEMICAL FREEZE-OUTS OF HADRONS AND LIGHT (ANTI)NUCLEI IN HIGH ENERGY NUCLEAR COLLISIONS.....	214
<i>K. A. Bugaev, B. E. Grinyuk, A. I. Ivanytskyi, V. V. Sagun, D. O. Savchenko, G. M. Zinovjev, E. G. Nikonov, L. V. Bravina, E. E. Zabrodin, D. B. Blaschke, S. Kabana, A. V. Taranenko</i>	

RESONANCE D*(2380) AND HIGHER ISOSPIN STATES.....	220
<i>E A Doroshkevich</i>	

THE AUTOMATION OF CHOOSING OF THE OPTIMAL KINEMATIC VARIABLES FOR DISCRIMINATION OF THE ELECTROWEAK $Z\gamma$ PRODUCTION.....	224
<i>N L Belyaev, A M Petukhov, E Yu Soldatov</i>	

BEYOND STANDARD MODEL SEARCHES BY ATLAS AND CMS	229
<i>Johannes Erdmann</i>	
OBSERVATION OF THE PRODUCTION	236
<i>Johannes Mellenthin</i>	
SEARCHES FOR ELECTROWEAK PRODUCTION OF HIGGSINO WITH ATLAS	243
<i>Kazuki Todome</i>	
PROSPECT FOR TOP QUARK FCNC SEARCHES AT THE FCC-HH.....	251
<i>Petr Mandrik, on behalf of theFCC study group</i>	
STUDY OF P-WAVE STATES AT THE CMS EXPERIMENT	255
<i>Sergey Polikarpov</i>	
OBSERVATION OF THE HIGGS DECAY TO BEAUTY QUARKS.....	261
<i>Yohei Noguchi</i>	
STUDY OF TAU NEUTRINO PRODUCTION IN PROTON-NUCLEUS INTERACTIONS	267
<i>Yury Gornushkin</i>	

PARTICLE PHYSICS: NEUTRINO PHYSICS

DOUBLE BETA DECAY EXPERIMENTS: PRESENT AND FUTURE	272
<i>A S Barabash</i>	
SEARCHES FOR STERILE NEUTRINOS AT VERY SHORT BASELINE REACTOR EXPERIMENTS	278
<i>M Danilov</i>	
REACTOR ANTINEUTRINO MEASUREMENTS WITH DANSS EXPERIMENT.....	288
<i>I Alekseev</i>	
THE FIRST OBSERVATION OF OSCILLATION EFFECT IN NEUTRINO-4 EXPERIMENT AND ANALYSIS OF MEASUREMENT RESULTS	294
<i>A Serebrov, V Ivochkin, R Samoilov, A Fomin, A Polyushkin, V Zinoviev, P Neustroev, V Golovtsov, A Chernyj, O Zherebtsov, M Chaikovskii, V Martemyanov, V Tarasenkov, V Aleshin, A Petelin, A Izhutov, A Tuzov, S Sazontov, M Gromov, V Afanasiev, M Zaytsev, A Gerasimov, D Ryazanov</i>	
PROJECT KATRIN: FIRST RESULTS AND FUTURE PLANS.	302
<i>Nikita A. Titov</i>	
EXPERIMENT BEST-2 WITH A SOURCE OF ^{65}Zn ON GALLIUM TARGET FOR THE SEARCH OF NEUTRINO OSCILLATIONS ON A SHORT BASELINE.....	308
<i>V V Gorbachev, V N Gavrin, T V Ibragimova, V N Kornoukhov, A A Shikhin</i>	
NEW RESULTS FROM THE OPERA EXPERIMENT IN THE CNGS NEUTRINO BEAM	313
<i>S Vasina</i>	
THE BACKGROUND SIMULATION OF EXPERIMENT FOR SEARCHING OF $2\nu 2\text{K}$ CAPTURE IN ^{124}Xe	319
<i>V V Kazalov, A M Gangapshev, Yu M Gavrilyuk, V V Kuzminov, S I Panasenko, O D Petrenko, S S Ratkevich, D A Tekueva</i>	

STATISTICAL DATA ANALYSIS IN THE DANSS EXPERIMENT	325
<i>Nataliya Skrobova</i>	
METHOD TO TEST LORENTZ INVARIANCE IN ELECTRON-CAPTURE DECAY BY MEASURING A NEUTRINO RECOIL FORCE	331
<i>A L Barabanov, O A Titov</i>	
ATOMIC EFFECTS IN ANTINEUTRINO SPECTRUM OF 144PR	337
<i>A Lomonosov, L Lukyanchenko, M Skorokhvatov, O Titov</i>	
RECONSTRUCTION OF THE SPECTRUM OF CASCADES GENERATED BY VHE MUONS IN THE ICECUBE	340
<i>Semyon Khokhlov</i>	
 <u>PARTICLE PHYSICS: ASTROPARTICLE PHYSICS</u>	
ANALYSIS OF THUNDERSTORMS BASED ON THE DATA OBTAINED BY MH URAGAN AND DMRL-C	346
<i>A P Kachur, Yu B Pavlyukov, A A Petrukhin, N I Serebryannik, V V Shutenko</i>	
COSMIC RAY ELECTRONS AND POSITRONS OVER DECADE WITH THE PAMELA EXPERIMENT	352
<i>V V Mikhailov, O Adriani, G Barbarino, G A Bazilevskaya, R Bellotti, M Boezio, E A Bogomolov, M Bongi, V Bonvicini, A Bruno, F S Cafagna, D Campana, P Carlson, M Casolino, G Castellini, C De Santis, V Di Felice, A M Galper, A V Karelin, S O Kleymenova, S V Koldashov, S Koldobskiy, S Yu Krutkov, A N Kvashnin, A A Leonov, V V Malakhov, L Marcelli, M Martucci, A G Mayorova, W Menn, M Merge, E Mocchiutti, A Monaco, N. Mori, R Munini, G Osteria, P Papini, B Panico, M Pearce, P Picozza, M Ricci, S B Ricciarini, M Simon, R Sparvoli, P Spillantini, Yu I Stozhkov, A Vacchi, E Vannuccini, G I Vasiliev, S A Voronov, Yu T Yurkin, G Zampa, N Zampa</i>	
SEARCH FOR FEATURES IN THE COSMIC-RAY ELECTRON AND POSITRON SPECTRUM MEASURED BY THE FERMI LARGE AREA TELESCOPE	357
<i>M. N. Mazziotta</i>	
THE DAMPE EXPERIMENT AND ITS LATEST RESULTS	363
<i>Piergiorgio Fusco</i>	
THE SINGLE MECHANISM OF SOLAR AND GALACTIC COSMIC RAYS ACCELERATION ARISING DURING THE FLARE PROCESS	368
<i>I M Podgorny, A I Podgorny</i>	
ULTRA-HIGH ENERGY COSMIC RAYS FROM SUPERMASSIVE BLACK HOLES: PARTICLE FLUX ON THE EARTH AND EXTRAGALACTIC DIFFUSE EMISSION	376
<i>A V Uryson</i>	
SEARCH FOR HIDDEN PHOTON DARK MATTER USING A MULTI-CATHODE COUNTER	382
<i>A Kopylov, I Orekhov, V Petukhov</i>	
INVESTIGATION OF LOCAL DEFORMATIONS OF MUON FLUX ANGULAR DISTRIBUTION DURING CME WITH GSE-MAPPING TECHNIQUE	387
<i>I I Astapov, N S Barbashina, A N Dmitrieva, I A Melnikova, N V Osetrova, V V Shutenko, I I Yashin</i>	
COMPARING EAS REGISTERED WITH PRISMA-32 ARRAY AND CWC NEVOD	392
<i>D M Gromushkin, F A Bogdanov, A V Bulan, K O Yurin</i>	

INFLUENCE OF MAGNETIC FIELD AND DENSITY OF ENVIRONMENT ON COLLIMATION OF LABORATORY JET	396
<i>N A Shatalov, V M Chechetkin, I Yu Kalashnikov, V I Krauz</i>	
RADIATIVE TRANSITIONS OF ELECTRONS BETWEEN LANDAU LEVELS IN A MODERATELY STRONG MAGNETIC FIELD	400
<i>A V Kuznetsov, O I Zabrodina</i>	
RECONSTRUCTION OF PARTICLE'S ENERGY SPECTRUM IN EXPERIMENT WITH UNFOLDING TECHNIQUE	404
<i>V V Alekseev, Yu V Bogomolov, O A Dunaeva, A G Mayorov, V V Malakhov, S A Rodenko</i>	
COSMIC MUONS MEASUREMENTS IN THE DANSS EXPERIMENT	410
<i>Eduard Samigullin</i>	
A CLUSTER APPROACH TO THE ANALYSIS OF EXPERIMENTAL DATA OF THE NEVOD-EAS SHOWER ARRAY	416
<i>I A Shulzhenko, V A Ardashev, A Chiavassa, L V Dobrynchuk, D M Gromushkin, O I Likiy</i>	
<u>PARTICLE PHYSICS: HEP THEORY</u>	
SOME MANIFESTATIONS OF TWO-COMPONENT DARK MATTER STRUCTURE IN VECTORLIKE HYPERCOLOR MODEL	420
<i>M Bezuglov, V Beylin, V Kuksa</i>	
ONE-LOOP AMPLITUDES OF CHARGED FERMIONS IN CONSTANT HOMOGENEOUS ELECTROMAGNETIC FIELDS	428
<i>A.A. Dobrynina, I.V. Karabanov, A. Ya. Parkhomenko, L. A. Vassilevskaya</i>	
SMASH MODEL AND ATMOSPHERIC NEUTRINO MASS SPLITTING	434
<i>C.R. Das, Katri Huitu, Timo Kärkkäinen</i>	
DESCRIPTION OF PROCESSES PASSING AT FINITE SPACE-TIME INTERVALS IN THE FRAMEWORK OF QUANTUM FIELD THEORY	441
<i>V O Egorov, I P Volobuev</i>	
EXPONENTIAL OPERATOR METHOD FOR FINDING EXACT SOLUTIONS OF THE PROPAGATOR EQUATION IN THE PRESENCE OF A MAGNETIC FIELD	447
<i>S N Iablokov, A V Kuznetsov</i>	
RECONNECTION OF MAGNETIC FIELDS IN NEUTRON STARS DRIVEN BY THE ELECTRON MASS TERM IN THE TRIANGLE ANOMALY	451
<i>Maxim Dvornikov, Victor B. Semikoz</i>	
STUDY OF CP VIOLATION IN THE PROCESS OF ASSOCIATED HIGGS BOSON PRODUCTION WITH A DECAY INTO MUON PAIR	457
<i>N Belyaev, R Konoplich, K Prokofiev, T Reese</i>	
HYPERFINE STRUCTURE OF S-STATES IN MUONIC IONS OF LITHIUM, BERYLLIUM AND BORON	461
<i>A E Dorokhov, A P Martynenko, F A Martynenko, O S Sukhorukova</i>	
KINKS IN THE RELATIVISTIC MODEL WITH LOGARITHMIC NONLINEARITY	467
<i>E Belendryasova, V A Gani, K G Zloshchastiev</i>	

WEAKLY BOUND STATES OF DT_{μ} MUONIC MOLECULAR ION IN QUANTUM ELECTRODYNAMICS.....	471
<i>A V Eskin, V I Korobov, A P Martynenko, V V Sorokin</i>	

GRAVITATION AND COSMOLOGY

FOOTPRINTS OF NON-INFLATIONARY COSMOLOGY IN PROGRAMS OLIMPIA AND SYNTHESIS OF HEAVY ELEMENTS.....	477
<i>Ara K Avetissian</i>	

PHYSICAL CONDITIONS IN THIN LAMINAR-CONVECTIVE ACCRETION FLOWS	481
<i>Konstantin L. Malanchev, Konstantin A. Postnov, Nikolay I. Shakura</i>	

GRAVITON-TO-PHOTON CONVERSION EFFECT IN MAGNETIZED RELATIVISTIC PLASMA.....	486
<i>K A Postnov, I V Simkin</i>	

STUDYING METHOD OF MICROLENSING EFFECT ESTIMATION FOR A CLUSTER OF PRIMORDIAL BLACK HOLES.....	491
<i>K A Toshchenko, K M Belotsky</i>	

SEARCH FOR EVENTS IN THE LVD DETECTOR COINCIDING WITH GRAVITATIONAL SIGNALS FROM THE COLLAPSE OF CLOSE BINARY SYSTEMS	495
<i>N Yu Agafonova, V V Ashikhmin, E A Dobrynina, R Enikeev, A S Malgin, O G Ryazhskaya, I R Shaliryanova, V F Yakushev</i>	

GRAVITY THEORY TESTS WITH OBSERVATIONS OF STARS NEAR THE BLACK HOLE AT THE GALACTIC CENTER	500
<i>Alexander Zakharov</i>	

THE GRAVITATIONAL DYNAMICS OF THE PRIMORDIAL BLACK HOLES CLUSTER.....	511
<i>Leonid A. Khromykh, Alexander A. Kirillov</i>	

ON FIREWALLS IN QUANTUM-CORRECTED GENERAL RELATIVITY	514
<i>A J Nurmagambetov, I Y Park</i>	

MAGNETIC FIELD CONTRIBUTION TO BLACK-HOLE-HEDGEHOG'S SOLUTION IN GRAVIWEAK UNIFICATION.....	522
<i>C.R. Das, L.V. Laperashvili, H.B. Nielsen, B.G. Sidharth</i>	

ON GENERALIZED MELVIN SOLUTIONS FOR LIE ALGEBRAS OF RANK 3	530
<i>S V Bolokhov, V D Ivashchuk</i>	

GRAVITATIONAL HERTZ EXPERIMENT IN DIELECTRICS, EXCITED BY INTENSE LASER PULSES.....	538
<i>V S Gorelik</i>	

SUPERHEAVY OBJECTS COMPOSED OF NUCLEAR AND DARK MATTER	542
<i>Vakhid A. Gani, Maxim Yu. Khlopov, Dmitry N. Voskresensky</i>	

STUDYING THE POSSIBILITY OF FSR SUPPRESSION IN DM DECAY IN DEPENDENCE OF THE MASS OF INTERMEDIATE PARTICLE AND VERTEX	546
<i>M L Solovyov, K M Belotsky, A H Kamaletdinov, E A Esipova</i>	

BOUND ORBITS NEAR BLACK HOLES WITH SCALAR HAIR.....	550
<i>I M Potashov, Ju V Tchamarina, A N Tsirulev</i>	

NONSTATIONARY SELF-GRAVITATING CONFIGURATIONS OF SCALAR AND ELECTROMAGNETIC FIELDS.....	556
<i>Ju V Tchamarina, E G Alekseeva, A N Tsirulev, N K Nuraliev</i>	

INCOHERENT X-RAY DIFFRACTION RADIATION FOR NONINVASIVE DIAGNOSTICS OF TRANSVERSE SIZE OF ULTRARELATIVISTIC BEAMS.....	562
<i>A A Tishchenko, D Yu Sergeeva, M N Strikhanov</i>	

FACILITIES AND ADVANCED DETECTOR TECHNOLOGIES

FABRICATION OF REACTOR TARGET FROM ENRICHED 50CR FOR ARTIFICIAL NEUTRINO SOURCE.....	567
<i>J P Kozlova, E P Veretenkin, V N Gavrin, S N Danshin, T V Ibragimova, B A Komarov</i>	

STATUS OF UCN SUPERSOURCE AT WWR-M REACTOR.....	571
<i>A P Serebrov, V A Lyamkin, A K Fomin, A O Koptyuhov, D V Prudnikov, O Yu Samodurov, V A Ilatovskiy, K O Keshishev, S T Boldarev</i>	

HADRONIC SHOWER PROPERTIES IN HIGHLY GRANULAR CALORIMETERS WITH DIFFERENT ABSORBERS.....	576
<i>Marina Chadeeva</i>	

COMPACT NEUTRON GENERATORS FOR THE CALIBRATION OF LOW BACKGROUND EXPERIMENTS.....	582
<i>AS Chepurnov, MB Gromov, V Yu Ionidi, A A Kaplii, MA Kirsanov, A A Klenin, D A Kolesnikov, A S Kubankin, A Yu Maslenkina, A N Oleinik, D A Selivanova, A V Shchagin</i>	

THE AEGIS EXPERIMENT: TOWARDS ANTIMATTER GRAVITY MEASUREMENTS.....	586
<i>O Khalidova, S Aghion, C Amsler, M Antonello, A Belov, G Bonomi, R S Brusa, M Caccia, A Camper, R Caravita, F Castelli, G Cerchiari, D Comparat, G Consolati, A Demetrio, L D Noto, M Doser, C Evans, M Fani, R Ferragut, J Fescl, A Fontana, S Gerber, M Giammarchi, A Gligorova, F Guatieri, P Hackstock, S Haider, A Hinterberger, H Holmestad, A Kellerbauer, D Krasnický, V Lagomarsino, P Lansonneur, P Lebrun, C Malbrunot, S Mariazzi, J Marton, V Matveev, S Müller, G Nebbia, P Nedelec, M Oberthaler, D Pagano, L Penasa, V Petracek, F Prelz, M Prevedelli, B Rienaecker, J Robert, O Röhne, Alberto Rotondi, H Sandaker, R Santoro, L Smestad, F Sorrentino, G Testera, I Tietje, M Vujanovic, E Widmann, P Yzombard, C Zimmer, J Zmeskal, N Zurlo</i>	

COMPACT X-RAY SPECTROMETER BASED ON THERMOLUMINESCENT DETECTORS.....	590
<i>I G Grigoryeva, M V Khil'ko, G Kh Salakhutdinov</i>	

MODERNIZATION OF THE PULSE SHAPE DISCRIMINATION METHOD FOR NEUTRON AND GAMMA QUANTA IN SCINTILLATION DETECTOR.....	594
<i>A S Chepurnov, M I Ivanenko, M A Kirsanov, S G Klimanov, A S Kubankin</i>	

CALIBRATION AND PERFORMANCE OF THE ATLAS TILE CALORIMETER.....	598
<i>Krystsina Petukhova</i>	

STUDY OF THE SIPM DOUBLE COMPONENT RECOVERY TIME.....	604
<i>Oksana V Bychkova, Andrey L Ilyin, Fred F Kayumov, Pavel P Parygin, Dmitry E Philippov, Elena V Popova, Alexey A Stifutkin, Sergey L Vinogradov</i>	

APPLICATION OF THE MULTICHANNEL FRONT-END CHIP FOR SIPM-BASED GAMMA DETECTOR.....	608
<i>Ahmed C Chergui, Oksana V Bychkova, Elena V Popova, Alexey A Stifutkin</i>	

MACHINE LEARNING APPROACH TO PULSE SHAPE DISCRIMINATION IN LIQUID NOBLE GAS DETECTORS.....	612
<i>A Grobov</i>	
THE MEASUREMENT OF LIQUID SCINTILLATOR NONLINEAR RESPONSE AND INTRINSIC ENERGY RESOLUTION	616
<i>A Formozov</i>	
STUDIES OF THE ELECTROMAGNETIC CALORIMETER WITH PROJECTIVE GEOMETRY FOR THE MPD/NICA	620
<i>B. Dabrowska, Yu. Krechetov, V. Kulikov, M. Martemianov, I. Tyapkin, A. Zinchenko</i>	
CALIBRATION OF THE ALICE PHOS CALORIMETER	626
<i>Dmitry Blau</i>	
THE SILICON TRACKING SYSTEM OF THE CBM EXPERIMENT AT FAIR	632
<i>E Lavrik</i>	
MEASUREMENT OF THE ENERGY SPECTRA AND OF THE ANGULAR DISTRIBUTION OF THE TRANSITION RADIATION WITH A SILICON STRIP DETECTOR.....	638
<i>F Loparco, J Alozy, N Belyaev, M Campbell, M Cherry, F Dachs, S Doronin, K Filippov, P Fusco, F Gargano, E Heijne, S Konovalov, D Krasnopevtsev, X Llopart, V Mascagna, M N Mazziotta, H Pernegger, D Ponomarenko, M Prest, D Pyatiiizbyantseva, R Radomskii, C Rembser, A Romaniouk, A A Savchenko, D Schaefer, E J Schioppa, D Shchukin, D Yu Sergeeva, E Shulga, S Smirnov, Y Smirnov, M Soldani, P Spinelli, M Strikhanov, P Teterin, V Tikhomirov, A A Tishchenko, E Vallazza, M van Beuzekom, B van der Heijden, K Vorobev, K Zhukov</i>	
GEM DETECTORS FOR THE UPGRADE OF THE CMS MUON FORWARD SYSTEM	644
<i>Giovanni Mocellin, on behalf of the CMS Muon Group</i>	
4P SEMICONDUCTOR BETA-SPECTROMETER FOR MEASUREMENT OF 144CE – 144PR SPECTRA	650
<i>S Bakhlanov, A Derbin, I Drachnev, I Kotina, I Lomskaia, V Muratova, N Pilipenko, D Semenov, E Unzhakov</i>	
THE DARK MATTER SEARCH AT KAMLAND	656
<i>A. Kozlov, D. Chernyak, Y. Takemoto, K. Fushimi, K. Imagawa, K. Yasuda, H. Ejiri, R. Hazama, H. Ikeda, K. Inoue, S. Yoshida, R. A. Etezov, Yu. M. Gavriluk, V. V. Kazalov, V. V. Kuzminov, S. I. Panasenko</i>	
CHARACTERIZATION OF A SCINTILLATOR TILE EQUIPPED WITH SIPMS FOR FUTURE COSMIC-RAY SPACE EXPERIMENTS	664
<i>L Di Venere, P De La Torre Luque, F Gargano, F Giordano, P Fusco, F Loparco, S Loporchio, M N Mazziotta, D Serini</i>	
A FOUR-LAYER GASEOUS DETECTOR ALLOWING TO MEASURE THE ENERGY OF CHARGED PARTICLES	670
<i>S Potashev, Yu Burmistrov, S Zuyev, S Karaevsky, E Konobeevski, V Razin, A Afonin</i>	
THE NUCLOTRON-BASED ION COLLIDER FACILITY PROJECT. THE PHYSICS PROGRAMME FOR THE MULTI-PURPOSE DETECTOR.....	674
<i>N.S. Geraksiev</i>	
TRACK BASED ALIGNMENT PROCEDURE FOR THE CBM SILICON TRACKING DETECTOR	680
<i>Susovan Das, Hans Rudolf Schmidt</i>	

A U.S.-BASED ELECTRON-ION COLLIDER.....	686
<i>V Guzey</i>	
THE PRINCIPLES OF NEUTRINO SOURCE CREATION ON THE BASE OF LITHIUM. THE VARIANTS OF REALIZATION (REVIEW)	691
<i>V I Lyashuk, Yu S Lutostansky</i>	
DISTRIBUTIONS OF THE CHARGED PARTICLES IN THE ELECTROMAGNETIC SHOWERS INITIATED BY 5-1000 GEV ELECTRONS IN FE, W AND PB	695
<i>S P Denisov, V N Goryachev</i>	
DEVELOPMENT OF TRANSITION RADIATION DETECTORS FOR HADRON IDENTIFICATION AT TEV ENERGY SCALE	703
<i>N Belyaev, M L Cherry, F Dachs, S A Doronin, K Filippov, P Fusco, F Gargano, S Konovalov, F Loparco, V Mascagna, M N Mazziotta, D Ponomarenko, M Prest, D Pyatiiizbyantseva, C Rembser, A Romaniouk, A A Savchenko, E J Schioppa, D Yu Sergeeva, E Shulga, S Smirnov, Yu Smirnov, M Soldani, P Spinelli, M Strikhanov, P Teterin, V Tikhomirov, A A Tishchenko, E Vallazza, K Vorobev, K Zhukov</i>	
A QUASI-MONOCROMATIC ELECTRON BEAM OF THE ACCELERATOR "PAKHRA" FOR CALIBRATION OF DETECTORS	709
<i>V I Alekseev, V A Baskov, V A Dronov, A I L'vov, A V Koltsov, Yu F Krechetov, E I Malinovsky, L N Pavlyuchenko, V V Polyanskiy, S S Sidorin</i>	
THE ADAPTIVE-MODULAR TECHNIQUE FOR PRE-PROJECT SIMULATION THE TRANSPORTATION CHANNELS OF THE RELATIVISTIC CHARGED-PARTICLE BEAMS	714
<i>G P Averyanov, V A Budkin, V V Dmitrieva</i>	
THE CARPET-3 MULTIPURPOSE SHOWER ARRAY FOR SEARCHING COSMIC DIFFUSE GAMMA RAYS WITH ENERGY $E_\gamma > 100$ TEV	718
<i>A U Kudzhaev, D D Dzhappuev, Yu Z Afashokov, E A Gorbacheva, I M Dzaparova, M M Khadzhiev, N F Klimenko, A N Kurennya, A S Lidvansky, O I Mikhailova, K V Ptitsyna, V B Petkov, V S Romanenko, A F Yanin</i>	
THE BEAM TEST OF ANTICOINCIDENCE SCINTILLATION DETECTOR PROTOTYPE WITH SIPM READOUT AND PERSPECTIVES OF GRBS STUDIES FOR SPACE-BASED GAMMA-RAY TELESCOPE GAMMA-400.....	723
<i>A I Arkhangelskiy, A M Galper, I V Arkhangelskaja, A V Bakaldin, E N Chasovikov, I V Chernysheva, O D Dalkarov, A E Egorov, Yu V Gusakov, M D Kheyimits, A A Leonov, N Yu Pappe, M F Runtso, Yu I Stozhkov, S I Suchkov, N P Topchiev, Y T Yurkin</i>	
ON APPLICATION OF WOBBLER IN EXPERIMENTS WITH CYLINDRICAL TARGETS	731
<i>E M Suleymenov, H Y Barminova</i>	
INVESTIGATION OF MUON BUNDLES GENERATED BY UHECR BY MEANS OF THE NEW COORDINATE-TRACKING DETECTOR	738
<i>E A Zadeba, A A Borisov, R M Fakhrutdinov, S S Ivanov, R P Kokoulin, K G Kompaniets, A S Kozhin, A A Petrukhin, V S Vorobyev, I I Yashin</i>	
PROJECT ON SEARCHING FOR NEUTRON-ANTINEUTRON OSCILLATION AT THE WWR-M REACTOR	743
<i>A Fomin, A Serebrov, M Chaikovskii, O Zherebtsov, A Murashkin, E. Golubeva</i>	
INVESTIGATIONS OF SIPM BASED LARGE SCINTILLATION DETECTORS.....	747
<i>M F Runtso, I V Arkhangelskaja, A I Arkhangelskiy, E N Chasovikov, A M Galper, A E Egorov, A A Leonov, P Yu Naumov, P P Naumov, S I Suchkov, Y T Yurkin, N P Topchiev</i>	

NEW METHOD OF HIGH-ENERGY GAMMA RAY DIRECTION RECONSTRUCTION IN MULTILAYERED CONVERTERS.....	750
<i>M D Kheymits, A M Galper, I V Arkhangelskaya, A I Arkhangelskiy, A V Bakaldin, Yu V Gusakov, O D Dalkarov, E A Djivelikyan, A E Egorov, A A Leonov, P Yu Naumov, N Yu Pappe, M F Runtso, Yu I Stogkov, S I Suchkov, N P Topchiev, Yu T Yurkin, V G Zverev</i>	
NEUTRON LIFETIME MEASUREMENT WITH THE BIG GRAVITATIONAL TRAP FOR ULTRACOLD NEUTRONS. CURRENT STATE AND FUTURE PROSPECTS.....	756
<i>A P Serebrov, E A Kolomensky, A K Fomin, I A Krasnoschekova, A V Vassiljev, D V Prudnikov, I V Shoka, A V Chechkin, M E Chaikovskiy, V E Varlamov, S N Ivanov, A N Pirozhkov, P Geltenbort, O Zimmer, T Jenke, M Van der Grinten, M Tucker</i>	
STATUS OF THE RUSSIAN-ITALIAN EXPERIMENT NEVOD-EAS.....	761
<i>A Chiavassa, I A Shulzhenko</i>	
SUPERGRAVITY WITH BROKEN LORENTZ INVARIANCE: THEORY AND PHENOMENOLOGICAL CONSEQUENCES	769
<i>Arthur Marakulin, Sergey Sibiryakov</i>	
OVERVIEW OF HYPERNUCLEI RECONSTRUCTION AT NICA/MPD.....	776
<i>M Ilieva, A Zinchenko, V Kolesnikov</i>	

Author Index