

# **3rd International Conference on New Frontiers in Physics 2014**

**EPJ Web of Conferences Volume 95 (2015)**

**Kolymbari, Crete, Greece  
28 July - 6 August 2014**

**Volume 1 of 2**

**Editors:**

**L. Bravina  
S. Kabana**

**Y. Foka**

**ISBN: 978-1-5108-0469-2**

**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 license:  
<http://creativecommons.org/licenses/by/2.0/>

**You are free to:**

**Share** – copy and redistribute the material in any medium or format.

**Adapt** – remix, transform, and build upon the material for any purpose, even commercial.

The licensor cannot revoke these freedoms as long as you follow the license terms.

**Under the following terms:**

You must give appropriate credit, provide a link to the license, and indicate if changes were made.

You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. The copyright is retained by the corresponding authors.

Printed by Curran Associates, Inc. (2015)

For additional information, please contact EDP Sciences – Web of Conferences  
at the address below.

EDP Sciences – Web of Conferences  
17, Avenue du Hoggar  
Parc d'Activité de Courtabœuf  
BP 112  
F-91944 Les Ulis Cedex A  
France

Phone: +33 (0) 1 69 18 75 75

Fax: +33 (0) 1 69 28 84 91

[contact@webofconferences.org](mailto:contact@webofconferences.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: 845-758-2634  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

# TABLE OF CONTENTS

## VOLUME 1

<b>THE EXPERIMENT PANDA: PHYSICS WITH ANTIPROTONS AT FAIR</b> .....	1
<i>Boca Gianluigi</i>	
<b>ELECTROMAGNETIC PROBES OF THE QGP</b> .....	8
<i>Bratkovskaya E. L., Linnyk O., Cassing W.</i>	
<b>EFFECTIVE EQUATION OF STATE OF HOT AND DENSE MATTER IN NUCLEAR COLLISIONS AROUND FAIR ENERGY</b> .....	20
<i>Bravina L., Zabrodin E.</i>	
<b>PARTON/HADRON DYNAMICS IN HEAVY-ION COLLISIONS AT FAIR ENERGIES</b> .....	29
<i>Cassing W., Konchakovski V. P., Palmese A., Toneev V. D., Bratkovskaya E. L.</i>	
<b>RECENT RESULTS FROM NA61/SHINE</b> .....	41
<i>Gazdzicki Marek</i>	
<b>STATUS OF THE CBM EXPERIMENT</b> .....	56
<i>Heuser Johann M.</i>	
<b>SCIENTIFIC AND HIGH-PERFORMANCE COMPUTING AT FAIR</b> .....	64
<i>Kisel Ivan</i>	
<b>RECENT HIGHLIGHTS FROM BESIII: XYZ STATES</b> .....	80
<i>Kühn W.</i>	
<b>OVERVIEW OF RESULTS FROM PHASE I OF THE BEAM ENERGY SCAN PROGRAM AT RHIC</b> .....	89
<i>McDonald Daniel</i>	
<b>LARGE-SCALE SHELL-MODEL STUDY OF THE SN ISOTOPES</b> .....	100
<i>Osnes Eivind, Engeland Torgeir, Hjorth-jensen Morten</i>	
<b>DELTA ISOBARS IN NEUTRON STARS</b> .....	104
<i>Pagliara Giuseppe, Drago Alessandro, Lavagno Andrea, Pigato Daniele</i>	
<b>SEARCH FOR EXOTICS AT BABAR</b> .....	112
<i>Prencipe Elisabetta</i>	
<b>HYPERNUCLEAR PHYSICS STUDIES OF THE PANDA EXPERIMENT AT FAIR</b> .....	124
<i>Lorente Alicia Sanchez</i>	
<b>STATUS OF THE NICA PROJECT AT JINR</b> .....	131
<i>Kekelidze V., Kovalenko A., Lednicky R., Matveev V., Meshkov I., Sorin A., Trubnikov G.</i>	
<b>PROTON ELECTROMAGNETIC FORM FACTORS: PRESENT STATUS AND FUTURE PERSPECTIVES AT PANDA</b> .....	139
<i>Tomasi-gustafsson E.</i>	
<b>ENGAGING YOUNG PEOPLE WITH OUR SCIENCE</b> .....	151
<i>Bardeen Marjorie G.</i>	
<b>TESTING GENERAL RELATIVITY AND ALTERNATIVE THEORIES OF GRAVITY WITH SPACE-BASED ATOMIC CLOCKS AND ATOM INTERFEROMETERS</b> .....	158
<i>Bondarescu Ruxandra, Schärer Andreas, Jetzer Philippe, Angéilil Raymond, Saha Prasenjit, Lundgren Andrew</i>	
<b>EXTRAORDINARY CLAIMS: THE 0.000029% SOLUTION</b> .....	170
<i>Dorigo Tommaso</i>	
<b>DIRECT DARK MATTER SEARCHES REVIEW</b> .....	188
<i>Gascon Jules</i>	
<b>THE WITTEN-SAKAI-SUGIMOTO MODEL: A BRIEF REVIEW AND SOME RECENT RESULTS</b> .....	196
<i>Rebhan Anton</i>	
<b>HIGH-DENSITY MATTER: CURRENT STATUS AND FUTURE CHALLENGES</b> .....	216
<i>Stone J. R.</i>	
<b>ON THE EXISTENCE OF A SUPERLIGHT SCALAR BOSON</b> .....	239
<i>Van Beveren Eef, Coito Susana, Rupp George</i>	
<b>DAMA/LIBRA-PHASE1 RESULTS AND PERSPECTIVES OF THE PHASE2</b> .....	258
<i>Bernabei R., Belli P., Cappella F., Caracciolo V., Cerulli R., Dai C.j., D'angelo A., D'angelo S., Di Marco A., He H.L., Incicchitti A., Kuang H.h., Ma X.h., Montecchia F., Sheng X.d., Wang R.g., Ye Z.p.</i>	
<b>AXIAL MAGNETIC EFFECT IN TWO-COLOR QUENCHED LATTICE QCD</b> .....	268
<i>Braguta V., Chernodub M. N., Goy V. A., Landsteiner K., Molochkov A. V., Polikarpov M. I.</i>	
<b>CONSERVATION OF INFORMATION AND THE FOUNDATIONS OF QUANTUM MECHANICS</b> .....	274
<i>Chiribella Giulio, Maria Scandolo Carlo</i>	
<b>STATUS OF THE THERMAL MODEL AND CHEMICAL FREEZE-OUT</b> .....	285
<i>Cleymans Jean</i>	
<b>OBSERVATION OF <math>\nu_{\mu} \rightarrow \nu_{\tau}</math> OSCILLATIONS IN THE CNGS BEAM WITH THE OPERA EXPERIMENT</b> .....	290
<i>De Serio M.</i>	
<b>IMPLICATIONS OF THE HIGGS DISCOVERY FOR SUPERSYMMETRY</b> .....	298
<i>Djouadi Abdelhak</i>	
<b>ANTIMATTER IN THE UNIVERSE AND LABORATORY</b> .....	310
<i>Dolgov A.d.</i>	
<b>STRANGE AND IDENTIFIED PARTICLE PRODUCTION WITH ALICE AT THE LHC</b> .....	320
<i>Elia Domenico</i>	

<b>APPLICATIONS OF DISSIPATIVE AND ANISOTROPIC HYDRODYNAMICS IN DESCRIPTION OF EARLY STAGES OF RELATIVISTIC HEAVY-ION COLLISIONS</b> .....	332
<i>Florkowski Wojciech</i>	
<b>HEAVY-ION PHYSICS AT HIGH BARYON DENSITIES</b> .....	338
<i>Friese Volker</i>	
<b>OVERCOMING CLASSICAL MEASUREMENT LIMITS THROUGH ENTANGLEMENT IN PHOTON NUMBER: AN INTRODUCTION</b> .....	347
<i>Genovese M., Adenier G., Calonico D., Degiovanni I. P., Micalizio S., Ruo Berchera I., Traina P.</i>	
<b>EXPERIMENTAL TECHNIQUES IN HADRON SPECTROSCOPY</b> .....	358
<i>Gianotti P.</i>	
<b>SPIN PHYSICS HIGHLIGHTS FROM STAR</b> .....	366
<i>Gibson A.</i>	
<b>BICEP2, PLANCK, SPINORIAL SPACE-TIME, PRE-BIG BANG</b> .....	376
<i>Gonzalez-mestres Luis</i>	
<b>RECENT HIGHLIGHTS FROM THE PHENIX HEAVY ION PROGRAM</b> .....	398
<i>Hill J.c.</i>	
<b>CMS UPGRADE AND FUTURE PLANS</b> .....	407
<i>Hoepfner Kerstin</i>	
<b>RESULTS FROM THE AMS02 EXPERIMENT ON THE INTERNATIONAL SPACE STATION</b> .....	417
<i>Incagli Marco</i>	
<b>HOT AND COLD NUCLEAR MATTER EFFECTS IN P-PB COLLISIONS AT THE LHC</b> .....	427
<i>Kamin Jason</i>	
<b>MUON COLLIDERS AND NEUTRINO FACTORIES</b> .....	440
<i>Kaplan Daniel M.</i>	
<b>CHARMONIUM PROPAGATION THROUGH A DENSE MEDIUM</b> .....	456
<i>Kopeliovich B.z., Potashnikova I.k., Schmidt Iván, Siddikov M.</i>	
<b>INTRODUCING HEP TO SCHOOLS THROUGH EDUCATIONAL SCENARIA</b> .....	468
<i>Kourkoumelis C., Vourakis S.</i>	
<b>CLICDP OVERVIEW. OVERVIEW OF PHYSICS POTENTIAL AT CLIC</b> .....	480
<i>Levy Aharon</i>	
<b>GRAVITINO CONDENSATES IN THE EARLY UNIVERSE AND INFLATION</b> .....	499
<i>Mavromatos Nick E.</i>	
<b>PHOTON EMISSION AND QUANTUM SIGNALLING IN BIOLOGICAL SYSTEMS</b> .....	516
<i>Mayburov S.n.</i>	
<b>AVENUES OF COGNITION OF NONGRAVITATIONAL LOCAL GAUGE FIELD THEORIES</b> .....	524
<i>Minkowski Peter</i>	
<b>SEARCH FOR THE STANDARD MODEL HIGGS BOSON AT CMS</b> .....	538
<i>Mohammadi Abdollah</i>	
<b>FUTURE OF THE BEAM ENERGY SCAN PROGRAM AT RHIC</b> .....	549
<i>Odyniec Grazyna</i>	
<b>SHORT REVIEW ON SOLAR NEUTRINOS EXPERIMENTS AND SEARCH FOR STERILE NEUTRINOS WITH SOLAR NEUTRINO DETECTORS</b> .....	559
<i>Pallavicini Marco</i>	
<b>RARE AND FORBIDDEN KAON DECAYS AT NA62</b> .....	568
<i>Pepe Monica</i>	
<b>THE MOEDAL EXPERIMENT - A NEW LIGHT ON LHC PHYSICS</b> .....	576
<i>Pinfold James L.</i>	
<b>STRING THEORY CLUES FOR THE LOW-<math>l</math> CMB ?</b> .....	588
<i>Kitazawa N., Sagnotti A.</i>	
<b>RECENT RESULTS FROM CMS</b> .....	602
<i>Schöfbeck Robert</i>	
<b>FORM FACTORS OF PIONS, KAONS &amp; PROTONS AT THE HIGHEST TIMELIKE MOMENTUM TRANSFERS &amp; FIRST MEASUREMENTS OF HYPERONS</b> .....	614
<i>Seth Kamal K.</i>	
<b>QUANTUM MEASUREMENTS AND LANDAUER'S PRINCIPLE</b> .....	627
<i>Shevchenko V.</i>	
<b>STAR HIGHLIGHTS ON HEAVY ION PHYSICS</b> .....	639
<i>Shi Shusu</i>	
<b>RECENT RESULTS FROM THE TEVATRON</b> .....	647
<i>Vellidis Costas</i>	
<b>ATLAS PHYSICS RESULTS (NOT HIGGS)</b> .....	659
<i>Weidberg A.r.</i>	
<b>HADRON PRODUCTION AND <math>\gamma</math> SUPPRESSION AT THE LHC</b> .....	672
<i>Wolschin Georg</i>	
<b>ULTRA-RELATIVISTIC HEAVY-ION COLLISIONS - A HOT COCKTAIL OF HYDRODYNAMICS, RESONANCES AND JETS</b> .....	681
<i>Zabrodin E., Bravina L., Brusheim Johansson B.h., Crkovska J., Eyyubova G.kh., Korotikh V.l., Lokhtin I.p., Malinina L.v., Petrushanko S.v., Snigirev A.m.</i>	
<b>CHIRAL LIQUIDS</b> .....	693
<i>Zakharov V.i.</i>	

<b>THE TOPOLOGICAL LONG RANGE ORDER IN QCD. APPLICATIONS TO HEAVY ION COLLISIONS AND COSMOLOGY</b> .....	700
<i>Zhitnitsky Ariel R.</i>	
<b>ROLE OF MAGNETIC INTERACTIONS IN NEUTRON STARS</b> .....	714
<i>Adhya Souvik Priyam, Roy Pradip K.</i>	
<b>HADRONIC RESONANCE PRODUCTION MEASURED BY THE ALICE DETECTOR AT LHC ENERGIES</b> .....	722
<i>Badalá A.</i>	
<b>LIGHT (HYPER-)NUCLEI PRODUCTION AT THE LHC MEASURED WITH ALICE</b> .....	729
<i>Barile Francesco</i>	
<b>IMPACT OF ATLAS ELECTROMAGNETIC CALIBRATION ON PRECISION MEASUREMENTS</b> .....	737
<i>Becot Cyril</i>	
<b>HIGGS IN FERMIONIC CHANNEL (CMS)</b> .....	745
<i>Beluffi Camille</i>	
<b>RECENT RESULTS ON ELECTROWEAK MEASUREMENTS FROM ATLAS</b> .....	753
<i>Benekos Nektarios Chr.</i>	

## VOLUME 2

<b>PHASE SPACE DYNAMICS AND CONTROL OF THE QUANTUM PARTICLES ASSOCIATED TO HYPERGRAPH STATES</b> .....	764
<i>Berec Vesna</i>	
<b>ANALYTIC CONTINUATION AS A BRIDGE BETWEEN CONTINUUM AND BOUND STATES</b> .....	772
<i>Blokhitsev Leonid, Savin Dmitry</i>	
<b>THE POTENTIAL OF CONTINUOUS, LOCAL ATOMIC CLOCK MEASUREMENTS FOR EARTHQUAKE PREDICTION AND VOLCANOLOGY</b> .....	779
<i>Bondarescu Mihai, Bondarescu Ruxandra, Jetzer Philippe, Lundgren Andrew</i>	
<b>LATEST LHC RESULTS AND PREPARATION TO THE LHC RUN FOR 13 TEV PROTON-PROTON INTERACTIONS</b> .....	786
<i>Bonechi L., Adriani O., Berti E., Bongi M., Castellini G., D'alessandro R., Del Prete M., Haguenaer M., Itow Y., Kasahara K., Makino Y., Masuda K., Matsubara Y., Matsubayashi E., Menjo H., Mitsuka G., Muraki Y., Okuno Y., Papini P., Perrot A-I., Ricciarini S., Sako T., Sakurai N., Shimizu Y., Sugiura Y., Suzuki T., Tamura T., Tiberio A., Torii S., Tricomi A., Turner W.c., Yoshida K., Zhou Q.d.</i>	
<b>JET PRODUCTION AND MEASUREMENTS OF <math>\alpha_s</math> AT HERA</b> .....	793
<i>Britzger Daniel</i>	
<b>CERN ELENA PROJECT PROGRESS REPORT</b> .....	799
<i>Bartmann Wolfgang, Belochitskii Pavel, Breuker Horst, Butin François, Carli C., Eriksson Tommy, Oelert Walter, Maury Stephan, Pasinelli Sergio, Tranquille Gerard</i>	
<b>TECHNIQUES FOR CALCULATIONS WITH NPI EFFECTIVE ACTIONS</b> .....	807
<i>Carrington M.e.</i>	
<b>INFLUENCE OF RESONANCE DECAYS ON TRIANGULAR FLOW IN HEAVY-ION COLLISIONS</b> .....	818
<i>Crkovská J., Bravina L. V., Eyyubova G. Kh., Zabrodin E. E.</i>	
<b>MEASUREMENTS OF THE JET AND VECTOR BOSON IN ASSOCIATION WITH JETS PRODUCTION, EXTRACTION OF AS AND PDF CONSTRAINTS AT CMS</b> .....	824
<i>D'imperio Giulia</i>	
<b>EXPLORING COSMIC RAYS AT THE HIGHEST-ENERGY FRONTIER WITH THE PIERRE AUGER OBSERVATORY</b> .....	833
<i>Dobrigkeit Carola</i>	
<b>HADRONIZATION MEASUREMENTS IN COLD NUCLEAR MATTER</b> .....	843
<i>Dupré Raphaël</i>	
<b>A PSEUDOSCALAR GLUEBALL AND CHARMED MESONS IN THE EXTENDED LINEAR SIGMA MODEL</b> .....	849
<i>Eshraim Walaa I.</i>	
<b>DIRECT WIMP SEARCHES WITH XENON100 AND XENONIT</b> .....	857
<i>Davide Ferella Alfredo</i>	
<b>PICASSO, COUPP AND PICO - SEARCH FOR DARK MATTER WITH BUBBLE CHAMBERS</b> .....	866
<i>Amole C., Ardid M., Asner D. M., Baxter D., Behnke E., Bhattacharjee P., Borsodi H., Bou-cabo M., Brice S. J., Broemmelsiek D., Clark K., Collar J. I., Cooper P. S., Crisler M., Dahl C. E., Das M., Debris F., Dhungana N., Farine J., Felis I., Filgas R., Fines-neuschild M., Girard F., Giroux G., Hai M., Hall J., Harris O., Jackson C. M., Jin M., Krauss C., Lafrenière M., Laurin M., Lawson I., Levine I., Lippincott W. H., Mann E., Martin J. P., Murya D., Mitra P., Neilson R., Noble A. J., Plante A., Podvilyanuk R., Priya S., Robinson A. E., Ruschman M., Scallon O., Seth S., Sonnenschein A., Starinski N., Štekl I., Vázquez-jáuregui E., Wells J., Wichoski U., Zacek V., Zhang J.</i>	
<b>NUCLEAR PAIRING FROM TWO-BODY MICROSCOPIC FORCES: ANALYSIS OF THE COOPER PAIR WAVEFUNCTIONS</b> .....	874
<i>Finelli P., Maurizio S., Holt J. W.</i>	
<b>REALIZATION OF THE LEPTON FLAVOR STRUCTURE FROM POINT INTERACTIONS</b> .....	882
<i>Fujimoto Yukihiko, Nishiwaki Kenji, Sakamoto Makoto, Takahashi Ryo</i>	
<b>MEASUREMENT OF THE HIGGS BOSON MASS WITH THE ATLAS DETECTOR</b> .....	891
<i>Garay Walls F. M.</i>	

<b>THE CUORE AND CUORE-0 EXPERIMENTS AT GRAN SASSO</b> .....	899
<i>Giachero A., Artusa D. R., Avignone F. T. III, Azzolini O., Balata M., Banks T. I., Bari G., Beeman J., Bellini F., Bersani A., Biassoni M., Brofferio C., Bucci C., Cai X. Z., Camacho A., Caminata A., Canonica L., Cao X. G., Capelli S., Cappelli L., Carbone L., Cardani L., Casali N., Cassina L., Chiesa D., Chott N., Clemenza M., Copello S., Cosmelli C., Cremonesi O., Creswick R.J., Cushman J.S., Dafinei L., Dally A., Datskov V., Dell'Oro S., Deninno M. M., Di Domizio S., di Vacri M. L., Drobizhev A., Ejzak L., Fang D. Q., Farach H. A., Faverzani M., Fernandes G., Ferri E., Ferroni F., Fiorini E., Franceschi M. A., Freedman S. J., Fujikawa B. K., Gironi L., Giuliani A., Gorla P., Gotti C., Gutierrez T. D., Haller E. E., Han K., Heeger K. M., Hennings-Yeomans R., Hickerson K. P., Huang H. Z., Kadel R., Kazkaz K., Keppel G., Kolomensky Yu.G., Li Y.L., Ligi C., Lim K. E., Liu X., Ma Y. G., Maiano C., Maino M., Martinez M., Maruyama R. H., Mei Y., Moggi N., Morganti S., Napolitano T., Nastasi M., Nisi S., Nones C., Norman E. B., Nucciotti A., O'Donnell T., Orio F., Orlandi D., Ouellet J. L., Pagliarone C. E., Pallavicini M., Pattavina L., Pavan M., Pedretti M., Pessina G., Pettinacci V., Piperno G., Pira C., Pirro S., Pozzi S., Previtali E., Rampazzo V., Rosenfeld C., Rusconi C., Sala E., Sangiorgio S., Scielzo N. D., Sisti M., Smith A. R., Taffarello L., Tenconi M., Terranova F., Tian W. D., Tomei C., Trentalange S., Ventura G., Vignati M., Wang B. S., Wang H. W., Wielgus L., Wilson J., Winslow L. A., Wise T., Woodcraft A., Zanotti L., Zarra C., Zhang G. Q., Zhu B. X., Zucchelli S.</i>	
<b>INFLUENCE OF THE MEASUREMENT ON THE DECAY LAW: THE BANG-BANG CASE</b> .....	908
<i>Giacosa Francesco, Pagliara Giuseppe</i>	
<b>HIGGS IN BOSONIC CHANNELS (CMS)</b> .....	916
<i>Gori Valentina</i>	
<b>SEARCH FOR THE HIGGS BOSON IN FERMIONIC CHANNELS USING THE ATLAS DETECTOR</b> .....	926
<i>Hageböck Stephan</i>	
<b>STANDARD MODEL MEASUREMENTS WITH THE ATLAS DETECTOR</b> .....	936
<i>Hassani Samira</i>	
<b>HARD EXCLUSIVE REACTIONS AND GENERALIZED PARTON DISTRIBUTIONS</b> .....	945
<i>Hayrapetyan Avetik, Brodski I., Dueren M., Etzelmueller E., Stahl M., Stenzel H.</i>	
<b>SEARCHES FOR EXOTIC NEW PHYSICS IN CMS</b> .....	951
<i>Hinzmann A.</i>	
<b>ATLAS PHYSICS PROSPECTS FOR THE UPGRADED LHC</b> .....	960
<i>Ilic N.</i>	
<b>MEASUREMENTS OF INCLUSIVE VECTOR BOSON PRODUCTION FROM ATLAS</b> .....	970
<i>Karnevskiy Mikhail</i>	
<b>HADRON PHYSICS AT THE COMPASS EXPERIMENT</b> .....	978
<i>Krinner Fabian</i>	
<b>SEARCHES FOR DARK MATTER AND EXTRA DIMENSIONS WITH THE ATLAS DETECTOR</b> .....	985
<i>Kruskal Michael</i>	
<b>SMALL-ANGLE FRAGMENTATION OF CARBON IONS AT 0.6 GEV/N: A COMPARISON WITH MODELS OF ION-ION INTERACTIONS</b> .....	998
<i>Kruitenkova A.P., Abramov B.M., Alekseev P.N., Borodin Yu.A., Bulychjov S.A., Dukhovskoy I.A., Khanov A.I., Kulikov V.V., Martemianov M.A., Mashnik S.G., Matsyuk M.A., Turdakina E.N.</i>	
<b>RARE B DECAYS AND PROCESSES WITH THE ATLAS DETECTOR</b> .....	1005
<i>Leontsinis Stefanos</i>	
<b>MUSUN: MUON CAPTURE ON THE DEUTERON</b> .....	1012
<i>Luo Xiao</i>	
<b>VECTOR AND AXIAL MESONS IN STRONG ABELIAN MAGNETIC FIELD IN SU(3) LATTICE GAUGE THEORY</b> .....	1020
<i>Lushevskaya E.V., Kochetkov O.A., Teryaev O.V.</i>	
<b>SEARCH FOR HIGGS BOSONS BEYOND THE STANDARD MODEL</b> .....	1028
<i>Mankel Rainer</i>	
<b>THE FUTURE OF PHENIX: UPGRADING TO SPHENIX AND BEYOND</b> .....	1037
<i>Mannel E.J.</i>	
<b>EGADS APPROACHING GADZOOKS!</b> .....	1043
<i>Magro Lluís Martí</i>	
<b>THE PHYSICS CASE FOR THE MOEDAL EXPERIMENT AT LHC</b> .....	1049
<i>Mitsou Vasiliki A.</i>	
<b>RECENT RESULTS FROM DAYA BAY EXPERIMENT</b> .....	1061
<i>Naumov Dmitry V.</i>	
<b>ZERO TIME TUNNELING: MACROSCOPIC EXPERIMENTS WITH VIRTUAL PARTICLES</b> .....	1071
<i>Nimtze Günter, Aichmann Horst</i>	
<b>MEASUREMENTS OF VECTOR BOSON PLUS JETS FROM ATLAS</b> .....	1080
<i>Ninomiya Yoichi</i>	
<b>PROBING PROPERTIES OF HOT AND DENSE QCD MATTER WITH HEAVY FLAVOR IN THE PHENIX EXPERIMENT AT RHIC</b> .....	1088
<i>Nouicer Rachid</i>	
<b>SCALING OF CHARGED PARTICLE PRODUCTION AND CENTRALITY DETERMINATION IN P-PB COLLISIONS AT <math>\sqrt{s_{NN}} = 5.02</math> TEV AT ALICE</b> .....	1095
<i>Oppedisano C.</i>	
<b>SEARCHES FOR DIRECT PAIR PRODUCTION OF THIRD GENERATION SQUARKS WITH THE ATLAS DETECTOR</b> .....	1104
<i>Pagacova Martina</i>	
<b>RESULTS ON NEUTRINOLESS DOUBLE BETA DECAY OF <math>^{76}\text{Ge}</math> FROM THE GERDA EXPERIMENT</b> .....	1111
<i>Paliourelitis Dimitrios</i>	
<b>SEARCH FOR CHARMED HADRONS IN THE OPERA EXPERIMENT</b> .....	1119
<i>Pastore A.</i>	

<b>PION-KAON FEMTOSCOPY IN AU+AU COLLISIONS AT STAR</b> .....	1126
<i>Poniatowska Katarzyna</i>	
<b>PERSPECTIVES OF OPEN CHARM PHYSICS AT PANDA</b> .....	1132
<i>Principe Elisabetta</i>	
<b>T2K ON-AXIS DETECTOR RESULTS: CROSS SECTION MEASUREMENTS</b> .....	1140
<i>Quilain Benjamin</i>	
<b>SPECTRA AND DECAY RATES OF BB MESON USING GAUSSIAN WAVE FUNCTION</b> .....	1152
<i>Rai Ajay Kumar, Devlani Nayneshkumar, Kher Virendrasinh H.</i>	
<b>INCLUSIVE SEARCHES FOR SQUARKS AND GLUINOS WITH THE ATLAS DETECTOR</b> .....	1160
<i>Rammensee Michael</i>	
<b>THE CALORIMETRIC ELECTRON TELESCOPE (CALET) FOR HIGH-ENERGY ASTROPARTICLE PHYSICS ON THE INTERNATIONAL SPACE STATION</b> .....	1164
<i>Adriani O., Akaïke Y., Asano K., Asaoka Y., Bagliesi M.G., Bigongiari G., Binns W.R., Bonechi S., Bongi M., Buckley J.H., Castellini G., Cherry M.L., Collazuol G., Ebisawa K., Di Felice V., Fuke H., Guzik T.G., Hams T., Hareyama M., Hasebe N., Hibino K., Ichimura M., Ioka K., Israel M.H., Javaid A., Kamioka E., Kasahara K., Kataoka J., Kataoka R., Katayose Y., Kawanaka N., Kitamura H., Kotani T., Krawczynski H.S., Krizmanic J.F., Kubota A., Kuramata S., Lomtadze T., Maestro P., Marcelli L., Marrocchesi P.S., Mitchell J.W., Miyake S., Mizutani K., Moiseev A.A., Mori K., Mori M., Mori N., Motz H.M., Munakata K., Murakami H., Nakagawa Y.E., Nakahira S., Nishimura J., Okuno S., Ormes J.F., Ozawa S., Palma F., Papini P., Rauch B.F., Ricciarini S.B., Sakamoto T., Sasaki M., Shibata M., Shimizu Y., Shiomi A., Sparvoli R., Spillantini P., Takahashi I., Takayanagi M., Takita M., Tamura T., Tateyama N., Terasawa T., Tomida H., Torii S., Tunesada Y., Uchihori Y., Ueno S., Vannuccini E., Wefel J.P., Yamaoka K., Yanagita S., Yoshida A., Yoshida K., Yuda T.</i>	
<b>NUCLEAR ENTHALPIES</b> .....	1173
<i>Rozynek Jacek</i>	
<b>MEASUREMENTS OF HEAVY-FLAVOUR DECAY LEPTONS WITH ALICE</b> .....	1178
<i>Sakai Shingo</i>	
<b>SEARCHES FOR ELECTROWEAK PRODUCTION OF SUPERSYMMETRIC GAUGINOS AND SLEPTONS WITH THE ATLAS DETECTOR</b> .....	1186
<i>Santoyo Castillo Itzebelt</i>	
<b>PROSPECTS FOR HIGGS AND SM MEASUREMENTS AT THE HL-LHC</b> .....	1192
<i>Savin Alexander A.</i>	
<b>SEARCH FOR HEAVY RESONANCES WITH THE ATLAS DETECTOR</b> .....	1196
<i>Schuh Natascha</i>	
<b>LHC SIGNALS OF THE SO(5)xU(1) GAUGE-HIGGS UNIFICATION</b> .....	1206
<i>Shimotani Takuya</i>	
<b>THE NEW SPIN PHYSICS PROGRAM OF THE COMPASS EXPERIMENT</b> .....	1212
<i>Silva Luis</i>	
<b>BARYON FEMTOSCOPY CONSIDERING RESIDUAL CORRELATIONS AS A TOOL TO EXTRACT STRONG INTERACTION POTENTIALS</b> .....	1221
<i>Szymanski Maciej, Kisiel Adam, Zbrozczyk Hanna</i>	
<b>SUMMARY OF RESULTS ON EXOTIC SEARCHES FROM ATLAS</b> .....	1228
<i>Tam Jason</i>	
<b>SEARCH FOR A DILEPTONIC EDGE WITH CMS</b> .....	1240
<i>Theofilatos Konstantinos</i>	
<b>OPEN HEAVY FLAVOR MEASUREMENTS AT STAR</b> .....	1247
<i>Thusty David</i>	
<b>N=2 SUGRA BPS MULTI-CENTER BLACK HOLES AND FREUDENTHAL TRIPLE SYSTEMS</b> .....	1255
<i>Torrente-Lujan E., Fernandez-Melgarejo J.J.</i>	
<b>RESULTS ON TOP PHYSICS BY CMS</b> .....	1269
<i>Tosi Silvano</i>	
<b>QUARKONIA PRODUCTION IN THE STAR EXPERIMENT</b> .....	1275
<i>Trzeciak Barbara</i>	
<b>BEYOND THE STANDARD MODEL HIGGS BOSON SEARCHES USING THE ATLAS DETECTOR</b> .....	1282
<i>Tsukerman I.I.</i>	
<b>LOW-ENERGY KAON-NUCLEON/NUCLEI INTERACTION STUDIES AT DAFNE BY AMADEUS</b> .....	1290
<i>Tucakovic Ivana, Bazzi M., Berucci C., Bosnar D., Bragadireanu A.M., Cargnelli M., Clozza A., Curceanu C., D'Uffizi A., Fabbietti L., Fiorini C., Ghio F., Guaraldo C., Iliescu M., Ishiwatari T., Levi Sandri P., Marton J., Pietreanu D., Piscicchia K., Poli Lener M., Quaglia R., Sardella E., Scordo A., Shi H., Sirghi D.L., Sirghi F., Tatsuno H., Doce O. Vazquez, Widmann E., Zmeskal J.</i>	
<b>MEASUREMENTS OF TOP QUARK PROPERTIES WITH THE ATLAS DETECTOR</b> .....	1298
<i>Unverdorben Christopher</i>	
<b>IDENTIFICATION OF HADRONIC TAU DECAYS IN CMS</b> .....	1310
<i>Venditti Rosamaria</i>	
<b>IDENTIFIED CHARGED HADRON PRODUCTION IN PP, P-PB AND PB-PB COLLISIONS AT LHC ENERGIES WITH ALICE</b> .....	1317
<i>Volpe Giacomo</i>	
<b>SEARCHES FOR NEW PHYSICS IN EVENTS WITH MULTIPLE LEPTONS AT THE ATLAS DETECTOR</b> .....	1325
<i>Wiik-Fuchs Liv</i>	
<b>B PHYSICS AND QUARKONIA AT CMS</b> .....	1332
<i>Wulz Claudia-Elisabeth</i>	
<b>OVERVIEW OF FLAVOR PHYSICS RESULTS AT BELLE</b> .....	1340
<i>Yusa Yosuke</i>	

<b>RESULTS FROM ND280 NEAR DETECTOR</b> .....	1347
<i>Zalipska Joanna</i>	
<b>MAGNETIC CATALYSIS EFFECT IN THE (2+1)-DIMENSIONAL GROSS-NEVEU MODEL WITH ZEEMAN INTERACTION</b> .....	1355
<i>Klimenko K.G., Zhokhov R.N.</i>	
<b>MUON PHYSICS AT RUN-I AND ITS UPGRADE PLAN</b> .....	1366
<i>Benekos Nektarios Chr.</i>	
<b>NUCLEAR QUANTUM STATE ENGINEERING IN ION CHANNELING REGIME</b> .....	1372
<i>Berec Vesna</i>	
<b>SIGNALS OF Z' BOSONS IN W-PAIR PRODUCTION AT THE ILC WITH POLARIZED BEAMS</b> .....	1378
<i>Bobovnikov I.D.</i>	
<b>GENERATION OF HIGHER FLOW HARMONICS IN PB+PB COLLISIONS AT LHC IN HYDJET++ MODEL</b> .....	1383
<i>Brusheim Johansson B. H., Bravina L. V., Eyyubova G. Kh., Khoroktikh V. L., Lokhtin I. P., Malinina L. V., Petrushanko S. P., Snigirev A. M., Zabrodin E. E.</i>	
<b>STUDY OF VARIOUS SPECTROSCOPIC PROPERTIES OF THE DS MESON</b> .....	1391
<i>Kher Virendrasinh H., Devlani Nayneshkumar, Rai Ajay Kumar</i>	
<b>SPECTROSCOPIC PROPERTIES OF THE B MESON</b> .....	1399
<i>Devlani Nayneshkumar, Kher Virendrasinh H., Rai Ajay Kumar</i>	
<b>TESTS AND PROSPECTS OF NEW PHYSICS AT VERY HIGH ENERGY. BEYOND THE STANDARD BASIC PRINCIPLES, AND BEYOND CONVENTIONAL MATTER AND SPACE-TIME. ON THE POSSIBLE ORIGIN OF QUANTUM MECHANICS.</b> .....	1406
<i>Gonzalez-Mestres Luis</i>	
<b>MEASURING ANTIMATTER GRAVITY WITH MUONIUM</b> .....	1419
<i>Kaplan Daniel M., Kirch Klaus, Mancini Derrick, Phillips James D., Phillips Thomas J., Roberts Thomas J., Terry Jeff</i>	
<b>PERFORMANCE OF THE MUON IDENTIFICATION AND RECONSTRUCTION WITH THE ATLAS DETECTOR</b> .....	1425
<i>Leontsinis Stefanos</i>	
<b>FUZZY SPACE-TIME TOPOLOGY AND GEOMETRIC QUANTIZATION</b> .....	1432
<i>Mayburov S.N.</i>	
<b>COMPILING RESULTS FROM THE COUNT OF OSCIMODES, ANALYTICAL FOR LIGHT FLAVORED MESONS AND FROM FORTRAN PROGRAMS FOR LIKE (ANTI-)BARYONS. MATERIAL SHOWN IN PART AT THE POSTER SESSION</b> .....	1440
<i>Kabana Sonia, Minkowski Peter</i>	
<b>SEARCH FOR EXOTICS IN THE RARE DECAY <math>B \rightarrow J/\psi KKK</math> AT BABAR</b> .....	1451
<i>Prencipe Elisabetta</i>	
<b>MASSES OF DI-MESONIC MOLECULAR STATES</b> .....	1456
<i>Rathaud D. P., Rai Ajay Kumar</i>	
<b>NONEXTENSIVE CRITICAL EFFECTS IN THE NJL MODEL</b> .....	1463
<i>Rozynek Jacek</i>	
<b>THE HIGGS AND TOP MASS COINCIDENCE PROBLEM</b> .....	1468
<i>Torrente-Lujan E.</i>	
<b>CERN ACHIEVEMENTS IN RELATIVISTIC HEAVY ION COLLISIONS</b> .....	1479
<i>Bruno Giuseppe Eugenio</i>	
<b>FIFTY YEARS OF RESEARCH AT CERN AND ELSEWHERE</b> .....	1491
<i>Treille D.</i>	
<b>REPORT FROM ECFA, THE EUROPEAN COMMITTEE FOR FUTURE ACCELERATORS</b> .....	1516
<i>Wulz Claudia-Elisabeth</i>	
<b>Author Index</b>	