

16th International Symposium on Particles, Strings and Cosmology 2010

(PASCOS 2010)

Journal of Physics: Conference Series Volume 259

**Valencia, Spain
19 – 23 July 2010**

Editors:

**Susana Cabrera
Martin Hirsch
Vasiliki Mitsou
Carlos Munoz**

**Sergio Pastor
Maria Amparo Tortola
Jose W. F. Valle
O. Vives**

**ISBN: 978-1-61782-248-3
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.

Copyright© (2010) by the Institute of Physics
All rights reserved.

Printed by Curran Associates, Inc. (2011)

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: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

STATUS AND PROSPECTS FROM THE LHC	1
<i>Richard Hawkings</i>	
LHC PHENOMENOLOGY OF SUPERSYMMETRIC MODELS BEYOND THE MSSM	13
<i>Werner Porod</i>	
TECHNICOLOR AND BEYOND: UNIFICATION IN THEORY SPACE	26
<i>Francesco Sannino</i>	
CONSTRAINTS ON COSMOLOGICAL PARAMETERS FROM FUTURE COSMIC MICROWAVE BACKGROUND EXPERIMENTS	37
<i>Alessandro Melchiorri, Silvia Galli, Matteo Martinelli And Luca Pagano</i>	
SELF-TUNING OF THE COSMOLOGICAL CONSTANT	48
<i>Jihn E Kim</i>	
MIXED MEDIATION OF SUPERSYMMETRY BREAKING IN MODELS WITH ANOMALOUS U(1) GAUGE SYMMETRY	60
<i>Kiwoon Choi</i>	
PRIMORDIAL NUCLEOSYNTHESIS AND NEUTRINO PHYSICS BEYOND THE STANDARD MODEL	70
<i>Gennaro Miele, Ofelia Pisanti And Srdjan Sarikas</i>	
REALISTIC INFLATION MODELS AND PRIMORDIAL GRAVITY WAVES	80
<i>Qaisar Shafi</i>	
NEUTRINO THEORY	89
<i>S F King</i>	
LEPTON FLAVOUR VIOLATION EXPERIMENTS IN LHC ERA	98
<i>Fabrizio Cei</i>	
INDIRECT DETECTION OF DARK MATTER, CURRENT STATUS AND RECENT RESULTS	110
<i>Aldo Morselli</i>	
THE HIGGS SECTOR AND COGENT/DAMA-LIKE DARK MATTER IN SUPERSYMMETRIC MODELS	122
<i>John F Gunion</i>	
PHYSICS FROM EXTRA DIMENSIONS	133
<i>I Antoniadis</i>	
STRING THEORY PHENOMENOLOGY	145
<i>Angel Uranga</i>	
HOLOGRAPHIC PRINCIPLE AND THE SURFACE OF LAST SCATTER	156
<i>Paul H Frampton</i>	
PARTICLES IN ASTROPHYSICS AND COSMOLOGY: A DARK CONNECTION	164
<i>Nicolao Fornengo</i>	
PRESENT STATUS AND FUTURE PROSPECTS FOR A HIGGS BOSON DISCOVERY AT THE TEVATRON AND LHC	176
<i>Howard E Haber</i>	
B-PHYSICS AT THE TEVATRON	189
<i>John Ellison</i>	
TOP QUARK AND ELECTROWEAK MEASUREMENTS AT THE TEVATRON	195
<i>Lucio Cerrito</i>	
SUSY SEARCHES AT THE TEVATRON	201
<i>Jared Yamaoka</i>	
THE LATEST RESULTS FROM THE ATLAS EXPERIMENT	208
<i>B H Samsel</i>	
LHCb: FIRST RESULTS AND PROSPECTS FOR THE 2010-11 RUN	214
<i>J P Palacios</i>	
SEARCHES FOR NEW PHYSICS AT THE NA62 EXPERIMENT	220
<i>Spasimir Balev</i>	
MUON PERFORMANCE AND RELATED ATLAS FIRST PHYSICS	226
<i>María Moreno Llácer</i>	
HIGH PRECISION SPECTRA AT LARGE REDSHIFT FOR DYNAMICAL DE COSMOLOGIES	232
<i>S A Bonometto, L Casarini, A V Macciò And G Stinson</i>	

THE IMPACT OF RENORMALIZATION ON THE OBSERVABLE PREDICTIONS OF INFLATION	238
<i>Jose Navarro-Salas</i>	
NONGAUSSIAN FEATURES FROM INFLATIONARY PARTICLE PRODUCTION	244
<i>Neil Barnaby</i>	
INFLATION WITH RACETRACK SUPERPOTENTIAL AND MATTER FIELD.....	250
<i>Marek Olechowski</i>	
DYNAMICAL SOLUTIONS IN THE NISHINO–SALAM–SEZGIN MODEL	256
<i>Masato Minamitsuji</i>	
TORSION IN EXTRA-DIMENSIONS.....	262
<i>Kameshwar C Wali</i>	
MATRIX INFLATION AND ITS STRING THEORY ORIGINS.....	269
<i>A Ashoorioon, H Firouzjahi And M M Sheikh-Jabbari</i>	
COSMOLOGICAL INTERSECTING BRANE SOLUTIONS IN STRING THEORY.....	275
<i>Kunihito Uzawa</i>	
THE GOOD, THE BAD AND THE UGLY OF HORAVA GRAVITY	281
<i>Antonio Padilla</i>	
STABILITY OF GRAVITY-SCALAR SYSTEMS FOR DOMAIN-WALL MODELS WITH A SOFT WALL.....	288
<i>Damien P George</i>	
PLASMA GRAVITON PRODUCTION IN TEV-SCALE GRAVITY	294
<i>E Yu Melkumova</i>	
M(ATRIX) MODEL INTERACTION WITH 11D SUPERGRAVITY	300
<i>Igor A Bandos</i>	
LATEST RESULTS OF THE DIRECT DARK MATTER SEARCH WITH THE EDELWEISS-2 EXPERIMENT	306
<i>Valentin Kozlov</i>	
PROSPECTS OF MEASURING LEPTON CP-VIOLATION WITH LBNE AT DUSEL	311
<i>Jelena Maricic</i>	
SEARCH FOR NEUTRINO-LESS DOUBLE BETA DECAY WITH EXO.....	317
<i>Razvan Gornea</i>	
THE NEXT EXPERIMENT: NEUTRINOLESS DOUBLE BETA DECAY SEARCHES AT THE LSC	323
<i>Justo Martín-Albo</i>	
SEARCH FOR THE θ_{13} MIXING ANGLE WITH THE DOUBLE CHOOZ EXPERIMENT	328
<i>Inés Gil-Botella</i>	
NEW MINOS OSCILLATION RESULTS	334
<i>Jeffrey K De Jong</i>	
THE DEGENERATE GRAVITINO SCENARIO.....	340
<i>Lotfi Boubekeur</i>	
SFT BASED COSMOLOGICAL MODELS.....	346
<i>Alexey S Koshelev</i>	
GALILEON FIFTH FORCES.....	352
<i>Clare Burrage</i>	
GAUGE NON-SINGLET (GNS) INFLATION IN SUSY GUTS	358
<i>Jochen P Baumann</i>	
COSMOLOGICAL EFFECTS OF MULTIVACUA THEORIES: GRAVITATIONAL WAVES FROM FIRST ORDER TRANSITIONS DURING INFLATION	364
<i>Diego Chialva</i>	
HYDRODYNAMICS OF THE ELECTROWEAK PHASE TRANSITION IN AN EXTENSION OF THE STANDARD MODEL WITH DIMENSION-6 INTERACTIONS.....	370
<i>M Sopena And S J Huber</i>	
OSCILLATIONS IN THE PRIMORDIAL BISPECTRUM	376
<i>P Daniel Meerburg</i>	
BLACK HOLES IN 5D HORAVA LIFSHITZ THEORY OF GRAVITY.....	382
<i>George Koutsoumbas, Eleftherios Papantonopoulos, Pavlos Pasipoularides And Minas Tsoukalas</i>	
CONSTRAINTS ON D DIMENSIONAL WARPED SPACES	389
<i>Paul R Archer</i>	
TECHNICOLOR IN HOT AND COLD PHASES	395
<i>Kimmo Tuominen</i>	
ELECTROWEAK PHASE TRANSITION IN TECHNICOLOR	401
<i>Matti Järvinen</i>	

PERTURBATIVE MINIMAL SUPERCONFORMAL TECHNICOLOR	407
<i>M Antola, K Tuominen, F Sannino And S Di Chiara</i>	
TUNED TWO-HIGGS-DOUBLET MODEL.....	413
<i>B Grzadkowski And P Osland</i>	
LATEST RESULTS OF THE CMS EXPERIMENT	419
<i>Andrea Giammanco</i>	
IMPLICATIONS OF CP VIOLATING 2HDM IN B PHYSICS.....	425
<i>Anjan S Joshipura And Bhavik P Kodrani</i>	
HOW LIGHT CAN THE LIGHTEST NEUTRALINO BE?.....	431
<i>Olaf Kittel</i>	
MINIMAL MATTER AT THE LHC	437
<i>Roberto Franceschini</i>	
THE SEARCH FOR A LIGHT CP-ODD HIGGS AND LIGHT DARK MATTER AT COLLIDERS.....	442
<i>Miguel-Angel Sanchis-Lozano</i>	
NEW GUT PREDICTIONS FOR M_T/M_B AND M_μ/M_S.....	448
<i>Stefan Antusch</i>	
HIGGS PHENOMENOLOGY IN THE MINIMAL B – L EXTENSION OF THE STANDARD MODEL AT LHC	453
<i>Lorenzo Basso, Alexander Belyaev, Stefano Moretti And Giovanni Marco Pruna</i>	
NEUTRINO MASSES AND MIXING IN $\mu\nu$S_{SM}	458
<i>Pradipta Ghosh</i>	
GRAVITINO DARK MATTER WITH NEUTRALINO NLSP IN THE CONSTRAINED NMSSM.....	464
<i>Grigoris Panotopoulos</i>	
LEPTON FLAVOR VIOLATION IN SUSY LEFT-RIGHT SYMMETRIC THEORIES	469
<i>A Vicente</i>	
DARK MATTER IN MINIMAL SUPERGRAVITY WITH TYPE-II SEESAW.....	477
<i>J N Esteves</i>	
SEARCHING NEUTRINO PHYSICS THROUGH DISPLACED VERTICES AT COLLIDERS	483
<i>M B Magro</i>	
A COMMON SOURCE FOR NEUTRINO AND SPARTICLE MASSES.....	489
<i>Andrea Brignole, Filipe R Joaquim And Anna Rossi</i>	
TREE LEVEL MEDIATION OF SUPERSYMMETRY BREAKING.....	495
<i>Marco Nardecchia</i>	
LEPTON NUMBER, BLACK HOLE ENTROPY AND 10^{32} COPIES OF THE STANDARD MODEL.....	501
<i>Sergey Kovalenko, Heinrich Päs And Ivan Schmidt</i>	
CP-VIOLATING MSSM HIGGS AT TEVATRON AND LHC.....	507
<i>Siba Prasad Das And Manuel Drees</i>	
FLAVOUR CONSTRAINTS ON THE ALIGNED TWO-HIGGS-DOUBLET MODEL AND CP VIOLATION.....	513
<i>Paula Tuzón</i>	
FLAVOUR CHANGING NEUTRAL CURRENTS IN TWO HIGGS DOUBLET MODELS WITH YUKAWA ALIGNMENT.....	519
<i>C B Braeuninger</i>	
FINITE DENSITY ASPECTS OF LEPTOGENESIS.....	523
<i>Andreas Hohenegger</i>	
SUPERSYMMETRIC LEPTOGENESIS AND LIGHT HIDDEN SECTORS.....	530
<i>Christoph Weniger</i>	
DYNAMICAL FOUR-FORM FIELDS.....	536
<i>Ufuk Aydemir, Luca Grisa And Lorenzo Sorbo</i>	
MINIMAL RATES FOR LEPTON FLAVOUR VIOLATION FROM SUPERSYMMETRIC LEPTOGENESIS	542
<i>A Ibarra And C Simonetto</i>	
RIGHT-HANDED SNEUTRINOS AS THERMAL DARK MATTER	548
<i>Frank Deppisch And Apostolos Pilaftsis</i>	
FERMIONIC QUASIPARTICLES IN HIGGS BOSON AND HEAVY NEUTRINO DECAY IN LEPTOGENESIS	553
<i>Clemens P Kießig, Michael Plumacher And Markus H Thoma</i>	
THE DARK ENERGY SURVEY.....	559
<i>E Sánchez</i>	
DARK ENERGY AND STRUCTURE FORMATION	565
<i>Anupam Singh</i>	

RELATION BETWEEN INFLATION AND DARK ENERGY	570
<i>Christophe Ringeval, Teruaki Suyama, Tomo Takahashi, Masahide Yamaguchi And Shuichiro Yokoyama</i>	
THE COSMOLOGICAL CONSTANT AND THE RELAXED UNIVERSE	576
<i>Florian Bauer</i>	
LOW REDSHIFT PROBES AND COUPLED DARK MATTER-DARK ENERGY MODELS	582
<i>Olga Mena</i>	
A STRONG FIRST ORDER PHASE TRANSITION IN THE UMSSM	588
<i>Amine Ahriche</i>	
IMPRINT OF COSMIC NEUTRINO DECOUPLING IN THE SPECTRUM OF INFLATIONARY GRAVITATIONAL WAVES	594
<i>Massimiliano Lattanzi, Riccardo Benini And Giovanni Montani</i>	
ASPECTS OF NONCANONICAL INFLATION	600
<i>Paul Franche, Rhiannon Gwyn, Bret Underwood And Alisha Wissanji</i>	
SUPPRESSION OF LEPTON FLAVOR VIOLATION FROM CORRECTIONS ABOVE M_{GUT}	606
<i>Mario E Gómez, S Lola, P Naranjo And J Rodríguez Quintero</i>	
RIGHT-HANDED NEUTRINO MAGNETIC MOMENTS	612
<i>Alberto Aparici, Kyungwook Kim, Arcadi Santamaria And José Wudka</i>	
LARGE 1-3 LEPTONIC MIXING AND RENORMALIZATION GROUP EFFECTS	618
<i>Srubabati Goswami</i>	
CONSTRAINING NONSTANDARD NEUTRINO-QUARK INTERACTIONS WITH SOLAR, REACTOR AND ACCELERATOR DATA	624
<i>F J Escrivuela, O G Miranda, M A Tórtola And J W F Valle</i>	
ANTIMATTER SPECTRA FROM A TIME-DEPENDENT MODELING OF SUPERNOVA REMNANTS	630
<i>M Kachelrieß, S Ostapchenko And R Tomàs</i>	
AN A4 MODEL FOR NEUTRINOS	636
<i>Eduardo Peinado</i>	
RELATING NEUTRINO MASS AND DARK MATTER WITH DISCRETE FLAVOR SYMMETRY	642
<i>S Morisi</i>	
THE USES OF SINGLETs	648
<i>Bohdan Grzadkowski And José Wudka</i>	
CONSTRAINTS ON FOURTH GENERATION MAJORANA NEUTRINOS	653
<i>Alexander Lenz, Heinrich Päs And Dario Schalla</i>	
FINITE UNIFICATION: PHENOMENOLOGY	659
<i>S Heinemeyer, E Ma, M Mondragón And G Zoupanos</i>	
THE QUANTUM VACUUM OF THE MINIMAL SO(10) GUT	665
<i>Stefano Bertolini, Luca Di Luzio And Michal Malinský</i>	
THE INTERPLAY BETWEEN GRAND UNIFIED AND FLAVOUR SYMMETRIES IN A Pati-Salam \times S4 MODEL	671
<i>Reinier De Adelhart Toorop</i>	
NEUTRINO OSCILLOMETRY	677
<i>J D Vergados, Y Giomataris And Yu N Novikov</i>	
DARK MATTER DETECTION VIA LEPTON COSMIC RAYS	683
<i>Roberto A Lineros</i>	
CONSTRAINTS ON LIGHT ASYMMETRIC DARK MATTER FROM SOLAR NEUTRINOS	689
<i>Marco Taoso</i>	
PAMELA'S COSMIC POSITRON FROM DECAYING LSP IN SO(10) SUSY GUT	695
<i>Bumseok Kye</i>	
Author Index	