

Memoria Grupo AHEP 2013

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Organización de conferencias

- *Workshop on DM tools and Hands-on Fermi analysis*
Valencia, 22-26 Abril 2013
Comité organizador: G. Gómez-vargas, S. Hernández, **R.A. Lineros**, C. Muñoz, F. Prada y M. Sánchez-Conde

Publicaciones en revistas indexadas ISI Web of Science en 2013

– Artículos teóricos

1. *Bilinear R-parity violation with flavor symmetry*
F. Bazzocchi, **S. Morisi**, **E. Peinado**, **J.W.F. Valle** y A. Vicente
Journal of High Energy Physics **01** (2013) 033 (arXiv:1202.1529)
2. *Accidental stability of dark matter*
L. Lavoura, **S. Morisi** y **J.W.F. Valle**
Journal of High Energy Physics **02** (2013) 118 (arXiv:1205.3442)
3. *Proposal for generalised Supersymmetry Les Houches Accord for see-saw models and PDG numbering scheme*
L. Basso, A. Belyaev, D. Chowdhury, **M. Hirsch**, S. Khalil, S. Moretti, B. O’Leary, W. Porod y F. Staub
Computer Physics Communications **184** (2013) 698-719 (arXiv:1206.4563)
4. *Neutrino masses and mixing: a flavour symmetry roadmap*
S. Morisi y **J.W.F. Valle**
Fortschritte der Physik - Progress of Physics **61** (2013) 466-492 (arXiv:1206.6678)
5. *Status of three-neutrino oscillation parameters*
M.A. Tórtola
Fortschritte der Physik - Progress of Physics **61** (2013) 427-440
6. *Supersymmetric type-III seesaw: lepton flavour violation and LHC phenomenology*
M. Hirsch, W. Porod, F. Staub y C. Weiß
Physical Review D **87** (2013) 013010 (arXiv:1211.0289)
7. *Bi-large neutrino mixing and Abelian flavor symmetry*
G.-J. Ding, **S. Morisi** y **J.W.F. Valle**
Physical Review D **87** (2013) 053013 (arXiv:1211.6506)
8. *Systematic decomposition of the neutrinoless double beta decay operator*
F. Bonnet, **M. Hirsch**, T. Ota y W. Winter
Journal of High Energy Physics **03** (2013) 055 (arXiv:1212.3045)

9. *Fun with the Abelian Higgs model*
M. Malinský
 European Physical Journal C **73** (2013) 2415 (arXiv:1212.4660)
10. *Supersymmetric $SO(10)$ GUTs with sliding scales*
C. Arbeláez, R.M. Fonseca, **M. Hirsch** y J.C. Romão
 Physical Review D **87** (2013) 075010 (arXiv:1301.6085)
11. *Quark-Lepton Mass Relation in a Realistic A_4 Extension of the Standard Model*
 S.F. King, S. Morisi, E. Peinado y **J.W.F. Valle**
 Physics Letters B **724** (2013) 68-72 (arXiv:1301.7065)
12. *Neutrinoless double beta decay and lepton number violation at the LHC*
 J.C. Helo, **M. Hirsch**, S.G. Kovalenko y H. Päs
 Physical Review D **88** (2013) 016003 (arXiv:1303.0899)
13. *Probing interactions within the dark matter sector via extra radiation contributions*
U. França, **R.A. Lineros**, **J. Palacio** y **S. Pastor**
 Physical Review D **87** (2013) 123521 (arXiv:1303.1776)
14. *Quark-lepton mass relation and CKM mixing in an A_4 extension of the minimal supersymmetric standard model*
 S. Morisi, M. Nebot, K.M. Patel, E. Peinado y **J.W.F. Valle**
 Physical Review D **88** (2013) 036001 (arXiv:1303.4394)
15. *Updated CMB, X- and gamma-ray constraints on majoron dark matter*
 M. Lattanzi, S. Riemer-Sørensen, **M.A. Tórtola** y **J.W.F. Valle**
 Physical Review D **88** (2013) 063528 (arXiv:1303.4685)
16. *Invisible decays of ultra-high energy neutrinos*
L. Doramé, O.G. Miranda y **J.W.F. Valle**
 Frontiers in Physics **1** (2013) 25 (arXiv:1303.4891)
17. *The minimal adjoint- $SU(5) \times Z_4$ GUT model*
 D. Emmanuel-Costa, C. Simões y **M.A. Tórtola**
 Journal of High Energy Physics **10** (2013) 054 (arXiv:1303.5699)
18. *Reliability of Monte Carlo event generators for gamma ray dark matter searches*
 J.A.R. Cembranos, A. de la Cruz-Dombriz, V. Gammaldi, **R.A. Lineros**, A.L. Maroto
 Journal of High Energy Physics **09** (2013) 077 (arXiv:1305.2124)
19. *Neutrino mixing with revamped A_4*
 S. Morisi, **D.V. Forero**, J.C. Romão y **J.W.F. Valle**
 Physical Review D **88** (2013) 016003 (arXiv:1305.6774)
20. *Short-range mechanisms of neutrinoless double beta decay at the LHC*
 J.C. Helo, **M. Hirsch**, H. Päs y S.G. Kovalenko
 Physical Review D **88** (2013) 073011 (arXiv:1307.4849)

21. *WIMP dark matter as radiative neutrino mass messenger*
M. Hirsch, R.A. Lineros, S. Morisi, J. Palacio, N. Rojas y J.W.F. Valle
 Journal of High Energy Physics **10** (2013) 149 (arXiv:1307.8134)

- **Artículos de la colaboración Observatorio Pierre Auger**

22. *Constraints on the origin of cosmic rays above 10^{18} eV from large scale anisotropy searches in data of the Pierre Auger Observatory*
 The Pierre Auger Collaboration [incluye a **S. Pastor**]
 Astrophysical Journal Letters **762** (2013) L13 (arXiv:1212.3083)

23. *Interpretation of the Depths of Maximum of Extensive Air Showers Measured by the Pierre Auger Observatory*
 The Pierre Auger Collaboration [incluye a **S. Pastor**]
 Journal of Cosmology and Astroparticle Physics **02** (2013) 026 (arXiv:1301.6637)

24. *Ultra-high Energy Neutrinos at the Pierre Auger Observatory*
 The Pierre Auger Collaboration [incluye a **S. Pastor**]
 Advances in High Energy Physics **2013** (2013) 708680 (arXiv:1304.1630)

25. *Techniques for Measuring Aerosol Attenuation using the Central Laser Facility at the Pierre Auger Observatory*
 The Pierre Auger Collaboration [incluye a **S. Pastor**]
 Journal of Instrumentation **8** (2013) P04009 (arXiv:1303.5576)

26. *Bounds on the density of sources of ultra-high energy cosmic rays from the Pierre Auger Observatory*
 The Pierre Auger Collaboration [incluye a **S. Pastor**]
 Journal of Cosmology and Astroparticle Physics **05** (2013) 009 (arXiv:1305.1576)

27. *Identifying Clouds over the Pierre Auger Observatory using Infrared Satellite Data*
 The Pierre Auger Collaboration [incluye a **S. Pastor**]
 Astroparticle Physics **50-52** (2013) 92-101 (arXiv:1310.1641)

Ponencias y comunicaciones a congresos

1. *Double beta decay at the LHC*
 M. Hirsch
 2013 International Workshop on Baryon and Lepton Number Violation (BLV2013)
 MPIK Heidelberg (Alemania), 8-11 Abril 2013

2. *Status of AMS results*
 R.A. Lineros
 8th MultiDark Consolider Workshop
 Granada, 17-19 Abril 2013

3. *Neutrino Mass: status and implications*
 J.W.F. Valle
 From the Planck scale to the electroweak scale (PLANCK 2013)
 Bonn (Alemania), 20-24 Mayo 2013

4. *Supersymmetric SO(10) GUTs with sliding scales*
C. Arbeláez
From the Planck scale to the electroweak scale (PLANCK 2013)
Bonn (Alemania), 20-24 Mayo 2013
5. *Neutrino mixing in an extended Babu-Ma-Valle model*
D.V. Forero
From the Planck scale to the electroweak scale (PLANCK 2013)
Bonn (Alemania), 20-24 Mayo 2013
6. *Anisotropies in the gamma-ray sky from galactic dark matter annihilation*
V. De Romeri
From the Planck scale to the electroweak scale (PLANCK 2013)
Bonn (Alemania), 20-24 Mayo 2013
7. *Radio constraints on Galactic WIMP dark matter*
R.A. Lineros
Roma International Conference on AstroParticle Physics (RICAP 2013)
Roma (Italia), 22-24 Mayo 2013
8. *Double beta decay at the LHC*
M. Hirsch
MEDEX'13: Matrix Elements for the Double-beta-decay EXperiments
Praga (República Checa), 11-14 Junio 2013
9. *Z₅ as Flavor Symmetry*
C. Bonilla
Third Workshop on Flavor Symmetries (FLASY13)
Niigata (Japón), 1-5 Julio 2013
10. *Gamma-ray tests of dark matter: EGB and anisotropies*
V. de Romeri
Invisibles workshop 2013
Durham (Reino Unido), 15-19 Julio 2013
11. *Radio constraints on Galactic WIMP dark matter*
R.A. Lineros
XXXIV Reunión Bienal de la Real Sociedad Española de Física
Valencia, 15-19 Julio 2013
12. *Neutrino oscillations in the light of the new reactor and accelerator data*
M.A. Tórtola
XXXIV Reunión Bienal de la Real Sociedad Española de Física
Valencia, 15-19 Julio 2013
13. *Bounds on neutrino-quark non-standard interactions*
F.J. Escrivuela
XXXIV Reunión Bienal de la Real Sociedad Española de Física
Valencia, 15-19 Julio 2013

14. *Status of neutrino mass physics and the dark matter connection*
J.W.F. Valle
Workshop on Dark Matter and New Physics
Pekín (China), 19 Agosto - 13 Septiembre 2013
15. *WIMP dark matter as radiative neutrino mass messenger*
J. Palacio
Workshop on Dark Matter and New Physics
Pekín (China), 19 Agosto - 13 Septiembre 2013
16. *Connection between dark matter and neutrino physics*
M.S. Boucenna
Workshop on Dark Matter and New Physics
Pekín (China), 19 Agosto - 13 Septiembre 2013
17. *Neutrino mixing in a model with a discrete A_4 flavor symmetry after Daya Bay result*
D.V. Forero, S. Morisi, J.C. Romão y J.W.F. Valle
XXIV Workshop on Weak Interactions and Neutrinos (WIN 13)
Natal (Brasil), 16-21 Septiembre 2013
18. *Probing interactions within the dark matter sector via extra radiation contributions*
R.A. Lineros
IX International Workshop Dark Side of the Universe
Trieste (Italia), 14-17 Octubre 2013

Proceedings publicados

1. *Neutrino searches at the Pierre Auger Observatory*
S. Pastor (representando a la Colaboración Pierre Auger)
XXV Int. Conference on Neutrino Physics and Astrophysics (Neutrino 2012)
Kioto (Japón), 3-9 Junio 2012
Nuclear Physics B (Proceedings Supplements) **235-236** (2013) 358-363
2. *Structure and prospects of the simplest $SO(10)$ GUTs*
S. Bertolini, L. Di Luzio y M. Malinsky
CETUP Workshop on Dark Matter, Grand Unification and Neutrinos
Lead (Estados Unidos), 19-21 Julio 2012
AIP conference Proceedings **1534** (2013) 293-301
3. *Absolute neutrino mass scale from flavor symmetries*
S. Morisi
7th Neutrino Oscillation Workshop (NOW 2012)
Conca Specchiulla, Otranto (Italia), 9-16 Septiembre 2012
Nuclear Physics B (Proceedings Supplements) **237-238** (2013) 40-42
4. *Constraining the cosmic radiation density due to lepton number*
G. Mangano, G. Miele, S. Pastor, O. Pisanti y S. Sarikas
7th Neutrino Oscillation Workshop (NOW 2012)
Conca Specchiulla, Otranto (Italia), 9-16 Septiembre 2012
Nuclear Physics B (Proceedings Supplements) **237-238** (2013) 253-255

Cursos impartidos

1. *Lepton Flavour Violation (1 hora)*
M. Hirsch
IDPASC School of Flavour Physics
Valencia, 2-7 Mayo 2013
2. *Phenomenology of neutrino oscillations (10 horas)*
M. A. Tórtola
Cátedra Augusto García González.
High Energy Physics Group, Department of Physics, CINVESTAV.
México DF, 21-25 Octubre 2013

Seminarios impartidos

- *Double beta decay at the LHC*
M. Hirsch
Lieja (Bélgica), 7 Marzo 2013
- *Double beta decay: particle physics aspects*
M. Hirsch
Munich (Alemania), 28 Mayo 2013
- *Neutrino properties from cosmological observables after Planck*
S. Pastor
Max-Planck-Institut für Kernphysik, Heidelberg (Alemania), 17 Junio 2013
- *Neutrino properties from cosmological observables after Planck*
S. Pastor
Univ. Hamburgo (Alemania), 20 Junio 2013
- *Double beta decay at the LHC*
M. Hirsch
París (Francia), 5 Julio 2013
- *A grande viagem da astronomia a física de partículas*
J.W.F. Valle
Pontificia Universidade Católica do Rio de Janeiro, 3 Octubre 2013

Tesis de Máster

1. *Relating Dark Matter with Neutrino Oscillations*
Joaquim Palacio Navarro
Máster en Física Avanzada, Universidad de Valencia
Fecha lectura: 9 Julio 2013

Tesis doctoral

1. *New models in particle and astroparticle physics: consequences for dark matter and LHC*
Valentina De Romeri
Universidades de Valencia y Turín
Dirigida por Martin Hirsch, Fiorenza Donato (Univ. Turín) y José W.F. Valle
Fecha lectura: 3 Diciembre 2013