Memoria Grupo AHEP 2005

Componentes del Grupo durante 2005: José W.F. Valle, Nuria Rius, Victor Semikoz, Martin Hirsch, Werner Porod, Sergio Pastor, Ricard Tomàs, Cyril Hugonie, Diego Restrepo, Diego Aristizábal, Frank Deppisch, Andreu Esteban, Célio A. de Moura, Teguayco Pinto, Michael Ramage, María Amparo Tórtola, Albert Villanova.

Más información en: **http://ahep.ific.uv.es**

(0) Participación en comités de Conferencias

- *First Annual Meeting of the European Network on Theoretical Astroparticle Physics*
  Valencia, 11-15 Abril 2005
  Comité Organizador: Vicent Martínez, Julio Morales, **Sergio Pastor**, Armando Pérez, **Diego Restrepo** y **José W.F. Valle**

- *International School on AstroParticle Physics (ISAPP 2005)*
  Belgirate (Italia), 30 Junio a 9 de Julio 2005
  José W.F. Valle en el Comité Científico

(1) Artículos publicados en 2005

1. *Enhanced lepton flavour violation in the supersymmetric inverse seesaw model*
   F. Deppisch y **J.W.F. Valle**
   Physical Review D **72** (2005) 036001 [arXiv:hep-ph/0406040]

2. *NMHDECAY: A Fortran code for the Higgs masses, couplings and decay widths in the NMSSM*
   U. Ellwanger, J.F. Gunion y **C. Hugonie**
   Journal of High Energy Physics **0502** (2005) 066 [arXiv:hep-ph/0406215].

3. *R-parity violating sneutrino decays*
   D. Aristizábal, M. Hirsch y **W. Porod**
   Journal of High Energy Physics **0509** (2005) 033 [arXiv:hep-ph/0409241]

4. *Charge breaking minima in the broken R-parity minimal supersymmetric standard model*
   M. Hirsch, C. Hugonie, J.C. Romão y **J.W.F. Valle**
   Journal of High Energy Physics **0503** (2005) 020 [arXiv:hep-ph/0411129]

5. *Magnetic helicity and cosmological magnetic field*
   V.B. Semikoz y D.D. Sokoloff
   Astronomy & Astrophysics **443** (2005) L53-L56 [arXiv:astro-ph/0411496]

6. *Effects of SO(10)-inspired scalar non-universality on the MSSM parameter space at large tan beta*
   M.R. Ramage
   Nuclear Physics B **720** (2005) 137-181 [arXiv:hep-ph/0412153].

7. *Probing neutrino mass with displaced vertices at the Tevatron*
   F. de Campos, O.J.P. Eboli, M.B. Magro, **W. Porod, D. Restrepo** y **J.W.F. Valle**
   Physical Review D **71** (2005) 075001 [arXiv:hep-ph/0501153]

8. *Do observations prove that cosmological neutrinos are thermally distributed?*
   A. Cuoco, J. Lesgourgues, G. Mangano y **S. Pastor**
   Physical Review D **71** (2005) 123501 [arXiv:astro-ph/0502465]

9. *Geotomography with solar and supernova neutrinos*
   E.Kh. Akhmedov, **M.A. Tórtola** y **J.W.F. Valle**
   Journal of High Energy Physics **0506** (2005) 053 [arXiv: hep-ph/0502154]

10. *Collider signals of gravitino dark matter in bilinearly broken R-parity*
    M. Hirsch, W. Porod y **D. Restrepo**
    Journal of High Energy Physics **0503** (2005) 062 [arXiv:hep-ph/0503059]

11. *Relic neutrino decoupling including flavor oscillations*
    G. Mangano, G. Miele, **S. Pastor, T. Pinto**, O. Pisanti y P.D. Serpico
    Nuclear Physics **729** (2005) 221-234 [arXiv:hep-ph/0506164]

12. *Novel supersymmetric SO(10) seesaw mechanism*
    M. Malinsky, J.C. Romão y **J.W.F. Valle**
    Physical Review Letters **95** (2005) 161801 [arXiv:hep-ph/0506296]

13. *Sfermion decays into singlets and singlinos in the NMSSM*
    S. Kraml y **W. Porod**
    Physics Letters B **626** (2005) 175-183 [arXiv:hep-ph/0507055]

14. *Predicting neutrinoless double beta decay*
    M. Hirsch, A. Villanova del Moral, J.W.F. Valle y E. Ma
    Physical Review D **72** (2005) 091301 (Erratum-ibid D **72** (2005) 119904) [arXiv:hep-ph/0507148]

15. *Determining sneutrino masses and physical implications*
    A. Freitas, **W. Porod** y P.M. Zerwas
    Physical Review D **72** (2005) 115002 [arXiv:hep-ph/0509056]

(2) Ponencias y comunicaciones a congresos

1. *Neutrino mass bounds from cosmological observables*
   S. Pastor
   XI International Workshop on Neutrino Telescopes
   Venecia (Italia), Febrero 2005

2. *Massive neutrinos and cosmology*
   S. Pastor
   40th Rencontres de Moriond: ElectroWeak Interactions and Unified Theories
   La Thuile (Italia), Marzo 2005

3. *Ultra-High Energy Double-Bang Events in Fluorescence Detectors*
   C.A. Moura
   First Annual Meeting of the European Network on Theoretical Astroparticle Physics
   Valencia, Abril 2005

4. *Particle Physics of Neutrinoless Double Beta decay*
   M. Hirsch
   First Annual Meeting of the European Network on Theoretical Astroparticle Physics
   Valencia, Abril 2005

5. *Collider signals of gravitino dark matter in bilinearly broken R-parity*
   W. Porod
   First Annual Meeting of the European Network on Theoretical Astroparticle Physics
   Valencia, Abril 2005

6. *Identifying the neutrino mass hierarchy with supernova neutrinos*
   R. Tomàs
   First Annual Meeting of the European Network on Theoretical Astroparticle Physics
   Valencia, Abril 2005

7. *Robustness of solar neutrino oscillations*
   M.A. Tórtola
   First Annual Meeting of the European Network on Theoretical Astroparticle Physics
   Valencia, Abril 2005

8. *Massive neutrinos and cosmology*
   S. Pastor
   Current Topics in Astroparticle Physics (CuTAPP 2005)
   Ringberg Castle (Alemania), Abril 2005

9. *Probing supernova physics with neutrinos*
   R. Tomàs
   Current Topics in Astroparticle Physics (CuTAPP 2005)
   Ringberg Castle (Alemania), Abril 2005

10. *Neutrino oscillations and new physics*
    J.W.F. Valle
    IFT MiniWorkshop on Neutrino Physics
    Madrid, Mayo 2005

11. *Neutrino masses and oscillations, status and prospects*
    J.W.F. Valle
    11th International Symposium on Particles, Strings and Cosmology (PASCOS 2005)
    Gyeongju (Corea), Junio 2005

12. *Robustness of solar neutrino oscillations in presence of non-standard interactions*
    M.A. Tórtola
    Vth International Conference on Non-Accelerator New Physics (NANP'05)
    Dubna (Rusia), Junio 2005

13. *Ultra-High Energy Double-Bang Events in Fluorescence Detectors*
    C.A. Moura
    International School on AstroParticle Physics (ISAPP 2005)
    Belgirate (Italia), Julio 2005

14. *Collider signals of gravitino dark matter in bilinearly broken R-parity*
W. Porod
13th International Conference on Supersymmetry and Unification of Fundamental Interactions
Durham (Reino Unido), Julio 2005

15. *Collider signals of gravitino dark matter in bilinearly broken R-parity*
M. Hirsch
International Europhysics Conference on High Energy Physics (HEP2005)
Lisboa (Portugal), Julio 2005

16. *Neutrino masses and cosmology*
S. Pastor
International Europhysics Conference on High Energy Physics (HEP2005)
Lisboa (Portugal), Julio 2005

17. *Detection of ultra-high energy tau-neutrino by double-bang event*
C.A. Moura
Advanced summer school in physics 2005: Frontiers in Contemporary Physics (EAV 2005)
México DF (México), Julio 2005

18. *High-energy neutrinos from hidden sources*
R. Tomàs
29th International Cosmic Ray Conference (ICRC 2005)
Pune (India), Agosto 2005

19. *Correlations between neutrino physics and collider physis in the bilinear model*
W. Porod
Int. Linear Collider Physics and Detector Workshop and 2nd ILC Accelerator Workshop
Snowmass, Colorado (Estados Unidos), Agosto 2005

20. *Progress Report on SPheno*
W. Porod
Int. Linear Collider Physics and Detector Workshop and 2nd ILC Accelerator Workshop
Snowmass, Colorado (Estados Unidos), Agosto 2005

21. *Flavor, CP, RPV, neutrino physics at ILC*
W. Porod
Int. Linear Collider Physics and Detector Workshop and 2nd ILC Accelerator Workshop
Snowmass, Colorado (Estados Unidos), Agosto 2005

22. *Neutrino physics: status and prospects*
J.W.F. Valle
12th Lomonosov Conference on Elementary Particle Physics
Moscú (Rusia), Agosto 2005

23. *Neutrino masses from cosmological observables*
S. Pastor
Physics of the Early Universe: Recent Advances
U. Complutense de Madrid, Septiembre 2005

24. *Identifying the neutrino mass hierarchy with supernova neutrinos*
R. Tomàs
9th Int. Conference on Topics in Astroparticle and Underground Physics (TAUP 2005)
Zaragoza, Septiembre 2005

25. *High-energy neutrinos from optically thick sources*
R. Tomàs
9th Int. Conference on Topics in Astroparticle and Underground Physics (TAUP 2005)
Zaragoza, Septiembre 2005

26. *5D Model for Resonances in large N_c QCD*
N. Rius
Phenomenology of Elementary Particles at High Energies
Peñíscola, Septiembre 2005

27. *Fenomenologia de Interacões Não-Padrão em Espalhamento Elétron-Neutrino*
C.A. Moura
II Workshop de Física e Astrofísica de Neutrinos
Campinas (Brasil), Octubre 2005

28. *Higgs bosons in spontaneously broken R-parity: production modes and invisible decays*
A. Villanova
EuroGDR Supersymmetry 2005
Barcelona, Noviembre 2005

29. *Lepton flavour and number violation at the LHC*
W. Porod
Flavour in the era of the LHC
CERN (Suiza), Noviembre 2005

30. *Report from WG 1*
W. Porod
Flavour in the era of the LHC
CERN (Suiza), Noviembre 2005

31. *Investigating SUSY Dark Matter at the ILC*
W. Porod
International Linear Collider Workshop 2005
Viena (Austria), Noviembre 2005

32. *Higgs bosons in spontaneously broken R-parity: production modes and invisible decays*
A. Villanova
International Linear Collider Workshop 2005
Viena (Austria), Noviembre 2005

33. *SUSY Dark Matter at Future Collider Experiments*
W. Porod
2nd Vienna Central European Seminar on Particle Physics
Viena (Austria), Noviembre 2005

34. *Predicting neutrinoless double beta decay in the A_4 family symmetry model*
    A. Villanova
    2nd Vienna Central European Seminar on Particle Physics
    Viena (Austria), Noviembre 2005

35. *Current status of neutrino oscillation parameters*
    M.A. Tórtola
    Meeting of the network "The quest for unification: theory confronts experiment"
    Madrid, Diciembre 2005

36. *Lepton Number Violation at ILC*
    M. Hirsch
    Workshop on the future linear collider
    Gandía, Diciembre 2005

37. *Identifying the neutrino mass hierarchy with supernova neutrinos*
    R. Tomàs
    IFT-UAM/CSIC Christmas Workshop
    Madrid, Diciembre 2005

(3) Proceedings publicados

1. E.Kh. Akhmedov, M.A. Tórtola y J.W.F. Valle
   Solar neutrino day-night effect and theta(13)
   Neutrino Oscillation Workshop (NOW 2004)
   Conca Specchiulla, Otranto (Italia), Septiembre 2004
   Nuclear Physics B (Proceedings Supplements) **145** (2005) 57-60

2. O.G. Miranda, M.A. Tórtola y J.W.F. Valle
   Subleading effects in the 1-2 sector: Non-standard neutrino interactions
   Neutrino Oscillation Workshop (NOW 2004)
   Conca Specchiulla, Otranto (Italia), Septiembre 2004
   Nuclear Physics B (Proceedings Supplements) **145** (2005) 61-64

3. J.W.F. Valle
   Neutrino oscillations and new physics
   Neutrino Oscillation Workshop (NOW 2004)
   Conca Specchiulla, Otranto (Italia), Septiembre 2004
   Nuclear Physics B (Proceedings Supplements) **145** (2005) 141-147

4. J.W.F. Valle
   Physics of massive neutrinos
   6th International Workshop on Neutrino Factories and Superbeams
   Osaka (Japón), Julio 2004
   Nuclear Physics B (Proceedings Supplements) **149** (2005) 3-12

5. S. Pastor
   Neutrino mass and Cosmology: current bounds and future sensitivities
   6th International Workshop on Neutrino Factories and Superbeams

Osaka (Japón), Julio 2004
Nuclear Physics B (Proceedings Supplements) **149** (2005) 137-139

6. S. Pastor
   Neutrino mass bounds from cosmological observables
   XI International Workshop on Neutrino Telescopes
   Venecia (Italia), Febrero 2005
   Actas del congreso (Ed. Papergraf, 2005) págs. 371-377

7. S. Pastor
   Neutrino masses and cosmology
   International Europhysics Conference on High Energy Physics (HEP2005)
   Lisboa (Portugal), Julio 2005
   Proceedings of Science (HEP2005) 165

8. G.A. Blair, A. Freitas, H.U. Martyn, G. Polesello, W. Porod y P.M. Zerwas
   Reconstructing supersymmetry at ILC / LHC
   29th International Conference of Theoretical Physics: Matter to the Deepest
   Ustron (Polonia), Septiembre 2005
   Acta Physica Polonica B **36** (2005) 3445-3462

(4) Libros o Monografías

- Ninguno

(5) Cursos impartidos

1. *Lectures on Neutrino Physics*
   J.W.F. Valle
   Corfu Summer Institute on Elementary Particle Physics
   Corfú (Grecia), Septiembre 2005

2. *Neutrino physics: status and prospects*
   Standard Electroweak Model, massive neutrinos, Supersymmetry and the MSSM
   J.W.F. Valle
   Advanced Summer School at CINVESTAV
   México DF (México), Julio 2005

(6) Seminarios impartidos

1. *Invisible Higgs boson dacays in spontaneously broken R-parity*
   A. Villanova
   Institut für Theoretische Physik, Viena (Austria), 1 Marzo 2005

2. *Flavourphysik supersymmetrischer Modelle*
   W. Porod
   Institut für Theoretische Physik, Würzburg (Alemania), 16 Junio 2005

3. *Weighing neutrinos with cosmological observables*
   S. Pastor
   IFIC, Valencia, 17 Junio 2005

4. *Neutrino masses, LSP decay and dark matter*
   M. Hirsch
   IFIC, Valencia, 29 Septiembre 2005

5. *Desintegraciones doble beta*
   M. Hirsch
   IFIC, Valencia, 17 Octubre 2005

6. *Neutrinos: yesterday, today and tomorrow*
   J.W.F. Valle
   Coloquio en el LPTHE París (Francia), 16 Noviembre 2005