

CURRICULUM VITAE

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GRADOS ACADÉMICOS

1984-1989 LICENCIATURA EN FÍSICA

Egresado de: Facultad de Ciencias Físico Matemáticas, de la Benemérita Universidad Autónoma de Puebla (BUAP).

Título de la Tesis: **Asimetría Angular en el Decaimiento del Neutrón.**

Area: Física de Partículas.

Fecha: 4 de Junio de 1990 (E.C.F.M-BUAP).

1991-1993 MAESTRÍA EN FÍSICA

Egresado de: Instituto de Física, de la Benemérita Universidad Autónoma de Puebla (IF-BUAP).

Título de la Tesis: **Decaimiento de Bosones de Higgs a Tres Cuerpos en el Contexto del MSSM.**

Area: Física de Partículas.

Fecha: 14 de Febrero de 1994 (IF-BUAP).

1994-1998 DOCTORADO EN FÍSICA

Egresado de: Instituto de Física, de la Benemérita Universidad Autónoma de Puebla (IF-BUAP).

Título de la Tesis: **Producción de Bosones Pesados Vía Colisiones e^-p a Energías**

de LEP/LHC.

Area: Física de Partículas.

Fecha: 16 de Octubre de 1998 (IF-BUAP).

RECONOCIMIENTOS Y DISTINCIONES

1. MIEMBRO DEL SISTEMA NACIONAL DE INVESTIGADORAS e INVESTIGADORES (SNII): NIVEL III, VIGENCIA 2028.
2. MIEMBRO CORRESPONDIENTE DE LA ACADÉMIA MEXICANA DE CIENCIAS: VIGENCIA POR TIEMPO INDETERMINADO.
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ESTUDIANTES GRADUADOS

1. LICENCIATURA EN FÍSICA: 22
2. MAESTRÍA EN FÍSICA: 10
3. DOCTORADO EN FÍSICA: 3

ARTÍCULOS PUBLICADOS

1. E. Barradas, J. L. Díaz-Cruz, A. Gutiérrez and A. Rosado, “Three-body decays of Higgs bosons in the MSSM”.
Phys. Rev. D53, (1996) 1678.
2. A. Gutiérrez-Rodríguez and A. Rosado, “Energy and Angular Distribution of Z^0 -Production at LEP/LHC Energies”.
Rev. Mex. Fís. 44, (1998) 133.
3. A. Gutiérrez and A. Rosado, “Heavy Boson Production *via* ep-Collisions at CERN LEP and LHC Energies”.
Phys. Rev. D57, (1998) 4318.

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5. U. Cotti, A. Gutiérrez-Rodríguez, A. Rosado and O. A. Sampayo, ”**Detection of Neutral MSSM Higgs Bosons at LEP-2 and NLC**”. Phys. Rev. D59, (1999) 095011.
6. A. Gutiérrez-Rodríguez, M. A. Hernández, M. Maya and A. Rosado, “**Measurements of the ν_τ magnetic moment at LEP in a Left-Right Symmetric Model**”. Rev. Mex. de Fís. 45, (1999) 249-253.
7. A. Gutiérrez-Rodríguez and O. A. Sampayo “**Detection of Charged MSSM Higgs Bosons at LEP-2 and NLC**”. Preprint: hep-ph/9911361.
8. A. Gutiérrez-Rodríguez and A. Rosado, “ **W^\pm -Production in e^-p -Collisions at LEP/LHC Energies with a Non-standard W^\pm Magnetic Moment**”. Rev. Mex. de Fís. 46, (2000) 440-445.
9. A. Gutiérrez-Rodríguez and O. A. Sampayo “**Detection of Charged Minimal Supersymmetric Standard Model Higgs Bosons at the NLC**”. Phys. Rev. D62, (2000) 055004.
10. A. Gutiérrez-Rodríguez, M. A. Hernández-Ruíz and O. A. Sampayo “**Detecting the Higgs Bosons h^0 , H^0 , A^0 , H^\pm at Future e^+e^- Colliders**”. Journal of the Physical Society of Japan, Vol. 70, No. 8, (2001) 2300.
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12. A. Gutiérrez-Rodríguez, M. A. Hernández-Ruíz, C. López-González “**Neutron Beta Decay in a Left-Right Symmetric Model**”. Preprint: hep-ph/0112111.
13. A. Gutiérrez-Rodríguez, M. A. Hernández-Ruíz and O. A. Sampayo “**Production of the MSSM Higgs Bosons at Next Generation e^+e^- Colliders**”. Revista Mexicana de Física Vol. 48, No. 5, (2002), 413-422.
14. A. Gutiérrez-Rodríguez, M. A. Hernández-Ruíz and O. A. Sampayo, “**Higgs Pair-Production in the Standard Model at Next Generation Linear e^+e^- Colliders**”. Phys. Rev. D67, (2003) 074018.

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16. A. Gutiérrez-Rodríguez, M. A. Hernández-Ruíz, M. Maya and M. L. Ortega, “**Pair Production and Angular Distribution of Helicity Flipped Neutrinos in a Left-Right Symmetric Model**”. Preprint: hep-ph/0301230.
17. A. Gutiérrez-Rodríguez, M. A. Hernández-Ruíz and A. Del Rio-De Santiago, “**Bounds on the Magnetic Moment and the Electric Dipole Moment of the τ -neutrino Via the Process $e^+e^- \rightarrow \nu\bar{\nu}\gamma$** ”. Phys. Rev. D69, 073008 (2004).
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19. A. Gutiérrez-Rodríguez, M. A. Hernández-Ruíz and O. A. Sampayo, “**Pair-Production of Higgs in Association with Bottom Quarks Pairs at e^+e^- Colliders**”. Modern Physics Letter A20, (2005), 2629.
20. A. Chubykalo, A. Espinoza, R. Flores and A. Gutiérrez-Rodríguez, “**Helmholtz Theorem and the V-gauge in the Problem of Superluminal and Instantaneous Signals in Classical Electrodynamics**”. Found. Phys. Lett. Vol. 19, No. 1, (2006) 37-49.
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Preprint: hep-ph/0611235;
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26. A. Gutiérrez-Rodríguez, M. A. Hernández-Ruíz, M. A. Pérez and F. Pérez-Vargas, “**Bounding the Number of Light Neutrinos Species in a Left-Right Symmetric Model**”;
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31. A. Gutiérrez-Rodríguez, M. A. Hernández-Ruíz, M. A. Pérez and F. Pérez-vargas, “**Constraints on Left-Right Symmetric and $E(6)$ Superstring Models from the Number of Light Neutrino Species**”.
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36. A. Gutiérrez-Rodríguez, *et al.*, “Bounds on the anomalous $HZ\gamma$ vertex arising from the process $e^+e^- \rightarrow \tau^+\tau^-\gamma$ ”
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38. Stellar energy loss rates beyond the standard model A. Llamas-Bugarn, A. Gutierrez-Rodrguez (Zacatecas U.), A. Gonzalez-Sanchez (Unlisted, MX), M.A. Hernandez-Ruiz (Zacatecas U.), A. Espinoza-Garrido, A. Chubikalo. Published in Eur.Phys.J.Plus 135 (2020) no.6, 481 DOI: 10.1140/epjp/s13360-020-00454-0 e-Print: arXiv:2005.03808 [hep-ph].
39. Sensitivity physics expected to the measurement of the quartic WW couplings at the LHeC and the FCC-he E. Gurkanli (Sinop U.), V. Ari (Ankara U.), A. Gutierrez-Rodrguez, M.A. Hernndez-Ruz (Zacatecas U.), M. Kksal (Cumhuriyet U.). Published in J.Phys. G47 (2020) no.9, 095006 DOI: 10.1088/1361-6471/ab9908 e-Print: arXiv:2003.06669 [hep-ph].
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42. Probing model-independent limits on $W+W$ triple gauge boson vertex at the LHeC and the FCC-he A. Gutierrez-Rodriguez (Zacatecas U.), M. Kksal, A.A. Billur (Cumhuriyet U.), M.A. Hernandez-Ruz (Zacatecas U.). Oct 5, 2019. 23 pp. Published in J.Phys. G47 (2020) no.5, 055005 DOI: 10.1088/1361-6471/ab7ff9 e-Print: arXiv:1910.02307 [hep-ph].
43. Model-independent limits for anomalous triple gauge bosons $W+W$ coupling at the CLIC A.A. Billur, M. Kksal (Cumhuriyet U.), A. Gutierrez-Rodriguez, M.A. Hernandez-Ruz (Zacatecas U.). Sep 23, 2019. 30 pp. e-Print: arXiv:1909.10299 [hep-ph].
44. Sensitivity measuring expected on the electromagnetic anomalous couplings in the $t\bar{t}$ vertex at the FCC-he M. Kksal, A.A. Billur (Cumhuriyet U.), A. Gutierrez-Rodriguez, M.A. Hernandez-Ruz (Zacatecas U.). May 5, 2019. 28 pp. e-Print: arXiv:1905.02564 [hep-ph].
45. Feasibility at the LHC, FCC-he and CLIC for sensitivity estimates on anomalous -lepton couplings A. Gutierrez-Rodriguez (Zacatecas U.), M. Kksal, A.A. Billur (Cumhuriyet U.), M.A. Hernandez-Ruz (Zacatecas U.). Mar 11, 2019. 36 pp. e-Print: arXiv:1903.04135 [hep-ph].
46. FCC-he sensitivity estimates on the anomalous electromagnetic dipole moments of the top-quark M.A. Hernandez-Ruz, A. Gutierrez-Rodriguez (Zacatecas U.), M. Kksal, A.A. Billur (Cumhuriyet U.). Dec 21, 2018. 19 pp. Published in Nucl.Phys. B941 (2019) 646-664 DOI: 10.1016/j.nuclphysb.2019.03.004 e-Print: arXiv:1812.08971 [hep-ph] .
47. Projections for model-independent limit estimates on top-quark anomalous electromagnetic couplings at the FCC-he A.A. Billur, M. Kksal (Cumhuriyet U.), A. Gutierrez-Rodriguez, M.A. Hernandez-Ruz (Zacatecas U.). Nov 26, 2018. 27 pp. Published in Eur.Phys.J.Plus 134 (2019) no.11, 547 DOI: 10.1140/epjp/i2019-12911-8 e-Print: arXiv:1811.10462 [hep-ph].
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 51. Model-independent sensibility studies for the anomalous dipole moments of the τ at the CLIC based e colliders A.A. Billur, M. Kksal (Cumhuriyet U.), A. Gutierrez-Rodriguez, M.A. Hernandez-Ruz (Zacatecas U.). Jun 30, 2018. 22 pp. Published in *Phys.Rev. D98* (2018) no.9, 095013 DOI: 10.1103/PhysRevD.98.095013 e-Print: arXiv:1807.00238 [hep-ph] .
 52. Model-independent sensitivity estimates for the electromagnetic dipole moments of the τ -lepton at the CLIC M. Kksal, A.A. Billur (Cumhuriyet U.), A. Gutierrez-Rodriguez, M.A. Hernandez-Ruz (Zacatecas U.). Apr 6, 2018. 16 pp. Published in *Phys.Rev. D98* (2018) no.1, 015017 DOI: 10.1103/PhysRevD.98.015017 e-Print: arXiv:1804.02373 [hep-ph] .
 53. Studies on the anomalous magnetic and electric dipole moments of the tau-neutrino in pp collisions at the LHC A. Gutierrez-Rodriguez (Zacatecas U.), M. Kksal, A.A. Billur (Cumhuriyet U.), M.A. Hernandez-Ruiz (Zacatecas U.). Dec 6, 2017. 20 pp. Published in *Eur.Phys.J. A55* (2019) no.8, 139 DOI: 10.1140/epja/i2019-12828-9 e-Print: arXiv:1712.02439 [hep-ph].
 54. Probing the electromagnetic dipole moments of the tau-neutrino in the U(1)BL model at the ILC and CLIC energies A. Llamas-Bugarin, A. Gutierrez-Rodriguez, M.A. Hernandez-Ruz (Zacatecas U.). Published in *Phys.Rev. D95* (2017) no.11, 116008 DOI: 10.1103/PhysRevD.95.116008 e-Print: arXiv:1706.03635 [hep-ph] .
 55. Improved sensitivity on the electromagnetic dipole moments of the top quark in e^+e^- and pp collisions at the CLIC A.A. Billur, M. Kksal (Cumhuriyet U.), A. Gutierrez-Rodriguez (Zacatecas U.). Published in *Phys.Rev. D96* (2017) no.5, 056007 DOI: 10.1103/PhysRevD.96.056007 e-Print: arXiv:1702.03708 [hep-ph].
 56. Stellar energy loss rates in the pair-annihilation process beyond the standard model M.A. Hernandez-Ruz, A. Gutierrez-Rodriguez (Zacatecas U.), A. Gonzalez-Sanchez (Zacatecas U. and LERMA, Ivry). Dec 18, 2016. 28 pp. Published in *Eur.Phys.J. A53* (2017) no.1, 16 DOI: 10.1140/epja/i2017-12207-8 e-Print: arXiv:1612.06046 [hep-ph].

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58. Bounds on the electromagnetic dipole moments through the single top production at the CLIC M Koksal, A.A. Billur (Cumhuriyet U.), A. Gutierrez-Rodriguez (Zacatecas U.). Published in Adv.High Energy Phys. 2017 (2017) 6738409 DOI: 10.1155/2017/6738409 e-Print: arXiv:1602.05991 [hep-ph].
59. Z resonance and associated Zh production at future Higgs boson factory: ILC and CLIC A. Gutierrez-Rodriguez, M.A. Hernandez-Ruiz (Zacatecas U.). Jun 24, 2015. 9 pp. Published in Adv.High Energy Phys. 2015 (2015) 593898 DOI: 10.1155/2015/593898 e-Print: arXiv:1506.07575 [hep-ph].
60. Improved bounds on the dipole moments of the tau-neutrino at high-energy e^+e^- collisions: ILC and CLIC A. Gutierrez-Rodriguez (Zacatecas U.), M. Koksal, A.A. Billur (Cumhuriyet U.). Published in Phys.Rev. D91 (2015) no.9, 093008 DOI: 10.1103/PhysRevD.91.093008 e-Print: arXiv:1412.2094 [hep-ph].
61. Little Higgs Models: Dipole Moments of the W and Energy Scale f A. Gutierrez-Rodriguez (Zacatecas U.). Published in Int.J.Theor.Phys. 54 (2015) no.1, 236-250 DOI: 10.1007/s107.

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2. A. Gutiérrez and A. Rosado, “ **W^\pm and Z^0 Production at LEP/LHC Energies**”. Proceedings of the 1997 Workshop on Particles and Fields, World Scientific SINGAPUR, pág. 336-343.
3. M. A. Hernández-Ruíz and A. Gutiérrez-Rodríguez “**Contribution of a Neutrino Charge Radius to the Effective Couplings $(g_V^{\nu e})_{LRSM}$ and $(g_A^{\nu e})_{LRSM}$ in a Left-Right Symmetric Model**”; Proceedings of the Summer School on Theoretical Physics Zacatecas, Zac. México 31 Julio-5 Agosto, 2000. Hadronic Journal Supplement, Vol. 17, No. 1,2, (2002) 349-354.
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10. A. Gutiérrez-Rodríguez, M. A. Hernández-Ruíz and O. A. Sampayo, “**Pair-Production of Higgs Boson in Association with Top Quarks Pairs at e^+e^- Colliders**”; IX Mexican Workshop on Particles and Fields, Colima, México; Journal of Physics: Conference Series **37** (2006), 34-36.
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