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LIST OF PUBLICATIONS

Publications in International Journals

1. *Symmetries of relativistic world-lines;*
Benjamin Koch, Enrique Muñoz, and Ignacio Reyes;
Phys.Rev.D96.no.8:085011, 2017
[arXiv:1706.05386].
2. *Scale dependent three-dimensional charged black holes in linear and non-linear electrodynamics;*
Ángel Rincón, Ernesto Contreras, Pedro Bargueño, Benjamin Koch, Grigorios Panotopoulos, Alejandro Hernández-Arboleda;
Eur.Phys.J.C77.no.7, 494, 2017;
[arXiv:1704.04845].
3. *Geometric description of the Schrödinger equation in $3n+1$ dimensional configuration space ;*
M. Abdul Wasay, Asma Bashir, Benjamin Koch, Abdul Ghaffar;
Accepted in **Int.J.Geom.Meth.Mod.Phys.**, 2017;
DOI: 10.1142/S0219887817501493;
[arXiv:1703.09901].
4. *Prospects for CTA observations of the young SNR RX J1713.7-3946;*
CTA Collaboration;
Astrophys.J. 840 no.2, 74 2017;
[arXiv:1704.04136].
5. *Phenomenology of a Higgs triplet model at future e^+e^- colliders;*
Sylvain Blunier, Giovanna Cottin, Marco Aurelio Díaz, and Benjamin Koch;
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[arXiv:1611.07896].
6. *Cosmic Censorship in Quantum Einstein Gravity;*
Alfio Bonanno, Benjamin Koch, and Alessia Platania;
Class.Quant.Grav.34:095012.no.9, 2017;
[arXiv:1610.05299].

7. *Non-renormalizable Operators for Neutrino Solar Mass Difference Generation in Split SuSy with Bilinear R-parity Violation*;
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[arXiv:1611.03468].
8. *A scale dependent black hole in three-dimensional space-time*;
Benjamin Koch, Ignacio A. Reyes, and Ángel Rincón;
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9. *Improved Reissner-Nordström-(A)dS Black Hole in Asymptotic Safety*;
Cristopher González and Benjamin Koch;
Int.J.Mod.Phys.A31:1650141, 2016;
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10. *Hidden Photons in Aharonov-Bohm-Type Experiments*
Paola Arias, Christian Diaz, Marco Aurelio Diaz, Joerg Jaeckel, Benjamin Koch,
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11. *On the Possibility of Non-Geodesic Motion of the Massless Spinning Top*
Cristobal Armaza, Sergio A. Hojman, Benjamin Koch, and Nicolas Zalaquett;
Class.Quant.Grav.33:145011, 2016;
[arXiv:1601.05809].
12. *Collisions of spinning massive particles in a Schwarzschild background*;
Cristobal Armaza, Maximo Bañados, and Benjamin Koch;
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[arXiv:1510.01223].
13. *Constraints to Dark Matter from Inert Higgs Doublet Model*;
Marco Aurelio Díaz, Benjamin Koch, and Sebastin Urrutia-Quiroga;
AHEP.vol.2016 Article.ID.8278375, 2016;
[arXiv:1511.04429].
14. *Black hole solutions for scale dependent couplings:
The de Sitter and the Reissner-Nordström case*;
Benjamin Koch and Paola Rioseco;
Class.Quant.Grav.33:035002, 2016;
[arXiv:1501.00904].
15. *Differentiable Path Integrals in Quantum Mechanics*;
Benjamin Koch and Ignacio Reyes;
Int.J.Geom.Meth.Mod.Phys.vol.12.issue.09;
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16. *Scale setting for self-consistent backgrounds;*
Benjamin Koch, Paola Rioseco, and Carlos Contreras;
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[arXiv:1409.4443].
17. *On the integration of fields and quanta in time dependent backgrounds;*
Esteban Castillo, Benjamin Koch, and Gonzalo Palma;
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[arXiv:1312.3338].
18. *Black holes within asymptotic safety;*
Benjamin Koch and Frank Saueressig;
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[arXiv:1401.4452].
19. *An angular formalism for spin one half;*
Benjamin Koch and Nicolás Rojas;
Int.J.Geom.Meth.Mod.Phys.vol.11.issue.04, 2014;
DOI: 10.1142/S0219887814500297.
20. *Closing a window for massive photons;*
Sergio A. Hojman and Benjamin Koch;
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[arXiv:1209.4907].
21. *Structural aspects of asymptotically safe black holes;*
Benjamin Koch and Frank Saueressig;
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22. *Exact black hole solution for scale dependent gravitational couplings and the corresponding coupling flow;*
Carlos Contreras, Benjamin Koch, Paola Rioseco;
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23. *Higher dimensional geometric description of the Quantum Klein Gordon Equation;*
Benjamin Koch;
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24. *Nondiagonal charged lepton Yukawa matrix: Effects on neutrino mixing in supersymmetry*
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25. *Gravitino dark matter and neutrino masses in partial split supersymmetry*;
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26. *Exact renormalization group with optimal scale and its application to cosmology*;
 Benjamin Koch, Israel Ramirez;
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27. *Renormalization group improved black hole space-time in large extra dimensions*;
 Thomas Burschil, Benjamin Koch;
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28. *Explaining Solar Neutrinos
 with Heavy Higgs Masses in Partial Split Supersymmetry*;
 Marco Aurelio Díaz, Benjamin Koch, Francisca Garay;
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29. *Gravity Effects on Neutrino Masses in Split Supersymmetry*;
 Marco Aurelio Díaz, Benjamin Koch, Boris Panes;
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 [arXiv:0902.1720].
30. *Exclusion of black hole disaster scenarios at the LHC*;
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31. *Renormalization group and black hole production in large extra dimensions*;
 Benjamin Koch;
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 [arXiv:0707.4644].
32. *Gravitational radiation from elastic particle scattering
 in models with extra dimensions*;
 Benjamin Koch, Marcus Bleicher;
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33. *First Order Calculation of the Inclusive Cross Section pp to ZZ
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35. *Gravitational Radiation from Ultrahigh Energy Cosmic Rays in Models with Large Extra Dimensions;*
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36. *Black Hole Remnants at the LHC;*
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37. *BTZ black hole assuming running couplings*
Ángel Rincón, Benjamin Koch, and Ignacio A. Reyes;
70 / 70 Gravitation fest, Cartagena, Colombia;
J.Phys.Conf.Ser. 831, no.1, 012007, 2017.
38. *Contributions of the Cherenkov Telescope Array (CTA) to the 6th International Symposium on High-Energy Gamma-Ray Astronomy (Gamma 2016)*
CTA Collaboration;
6th International Symposium on High-Energy Gamma-Ray Astronomy, Heidelberg, Germany;
C16-07-11.5, 2016.
39. *Setting the Renormalization Scale in QFT*
Carlos Contreras, Benjamin Koch, and Paola Rioseco;
Proceedings del XIII Simposio Chileno de Física; Concepcion, Chile;
J.Phys.Conf.Ser. 720, no.1, 012020, 2016.
40. *The bending of light within gravity with large scale renormalization group effects*
Davi Rodrigues, Benjamin Koch, Oliver Piattella, and Ilya Shapiro;
Verao Cuantico;
Valparaiso, Chile;
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41. *Black holes and running couplings: A comparison of two complementary approaches*
Benjamin Koch, Carlos Contreras, Paola Rioseco, and Frank Saueressig;
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Frankfurt, Germany;
C13-07-22.2, 2013.
42. *Non-diagonal Charged Lepton Yukawa Matrix: Effects on Neutrino Mixing in Supersymmetry*
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Valencia, Spain;
C11-07-11.1, 2012.
43. *Quantizing Geometry or Geometrizing the Quantum?*
Benjamin Koch;
Quantum Theory Reconsideration of Foundations 5;
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44. *Geometrizing the Quantum - a toy model*
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45. *Heavy Ion Collisions at the LHC - Last Call for Predictions*;
N. Armesto, (ed.) et al.;
Workshop on Heavy Ion Collisions at the LHC: Last Call for Predictions;
Geneva, Switzerland;
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46. *Early black hole signals at the LHC*;
Benjamin Koch, Marcus Bleicher, Horst Stöcker;
7th Latin American Symposium on Nuclear Physics and Applications;
Cusco, Peru;
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47. *An introduction to mini black holes at LHC*;
Horst Stöcker, Benjamin Koch, Marcus Bleicher;
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48. *Black Holes at LHC?*
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49. *Black Holes and Quasistable Remnants at the LHC*;
Benjamin Koch, Marcus Bleicher, Sabine Hossenfelder;
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50. *Towards a Realistic MSSM Prediction for Neutrino-nucleon Deep-inelastic Scattering*;
Oliver Brein, Wolfgang Hollik, Benjamin Koch;
14th International Conference on Supersymmetry and the Unification of Fundamental Interactions; Irvine, USA;
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51. *Signatures for Black Hole Production from Hadronic Observables at the Large Hadron Collider*;
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52. *Mini Black Holes at the LHC: Discovery through Di-jet Suppression, Mono-jet Emission and a Supersonic boom in the Quark-gluon Plasma in ALICE, ATLAS and CMS*;
B. Betz, Marcus Bleicher, U. Harbach, T. Humanic, B. Koch, H. Stöcker;
22nd Winter Workshop on Nuclear Dynamic;
La Jolla, USA, 2006;
[arXiv:hep-ph/0606193].
53. *Large Extra Dimensions and the Minimal Scale Constraints through High Precision Experiments*;
U. Harbach, B. Koch, Marcus Bleicher, S. Hossenfelder;
Annual Meeting of the Division of Particles and Fields;
Riverside, California, USA;
Int.J.Mod.Phys.A20:3334, 2005.
54. *Radiative Corrections to Deep-inelastic Neutrino-nucleon Scattering in the MSSM*;
Oliver Brein, Wolfgang Hollik, Benjamin Koch;
International Conference on Linear Colliders (LCWS 2004);
Paris, France;
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Submitted Publications

55. *Gravitational collapse in Quantum Einstein Gravity*;
Alfio Bonanno, Benjamin Koch and Alessia Platania;
[arXiv:1710.10845].
56. *Science with the Cherenkov Telescope Array*;
Cherenkov Telescope Array Consortium;
[arXiv:1709.07997].
57. *The stepwise path integral of the relativistic point particle*;
Benjamin Koch and Enrique Muñoz;
[arXiv:1706.05388].
58. *On the null energy condition in scale dependent frameworks with spherical symmetry*;
Angel Rincon and Benjamin Koch;
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59. *On the dynamics of fluctuations in time crystals*;
Esteban Castillo, Benjamin Koch, and Gonzalo Palma;
[arXiv:1410.2261].
60. *Exploring a Tractable Lagrangian for Arbitrary Spin*;
Benjamin Koch and Nicolas Rojas;
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61. *A Geometrical dual to relativistic Bohmian mechanics: The Multi particle case*;
Benjamin Koch;
[arXiv:0901.4106].
62. *Relativistic Bohmian mechanics from scalar gravity*;
Benjamin Koch;
[arXiv:0810.2786].
63. *(2+3) dimensional geometrical dual of the complex Klein-Gordon equation*;
Benjamin Koch;
[arXiv:0801.4635].
64. *Trapping black hole remnants*;
Sabine Hossenfelder, Benjamin Koch, and Marcus Bleicher;
[hep-ph/0507140].