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LIST OF
PUBLICATIONS

Publications in International Journals

1. *Black hole solutions for scale dependent couplings: The de Sitter and the Reissner-Nordström case;*
Benjamin Koch and Paola Rioseco;
Class.Quantum Grav.accepted, 2015;
[arXiv:1501.00904].
2. *Differentiable Path Integrals in Quantum Mechanics;*
Benjamin Koch and Ignacio Reyes;
Int.J.Geom.Meth.Mod.Phys.vol.12.issue.09;
DOI:10.1142/S0219887815501005, 2015;
[arXiv:1404.6551].
3. *Scale setting for self-consistent backgrounds;*
Benjamin Koch, Paola Rioseco, and Carlos Contreras;
Phys.Rev.D91:025009, 2015;
[arXiv:1409.4443].
4. *On the integration of fields and quanta in time dependent backgrounds;*
Esteban Castillo, Benjamin Koch, and Gonzalo Palma;
JHEP 1405:111, 2014;
[arXiv:1312.3338].
5. *Black holes within asymptotic safety;*
Benjamin Koch and Frank Saueressig;
IJMPA.vol.29.issue.8, 2014;
[arXiv:1401.4452].
6. *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.

7. *Closing a window for massive photons;*
Sergio A. Hojman and Benjamin Koch;
AHEP.vol.2013 Article.ID.967805, 2013;
[arXiv:1209.4907].
8. *Structural aspects of asymptotically safe black holes;*
Benjamin Koch and Frank Saueressig;
Class.Quantum Grav.31:015006,2013;
[arXiv:1306.1546].
9. *Exact black hole solution for scale dependent gravitational couplings and the corresponding coupling flow;*
Carlos Contreras, Benjamin Koch, Paola Rioseco;
Class.Quantum Grav.30:175009,2013;
[arXiv:1303.3892].
10. *Higher dimensional geometric description of the Quantum Klein Gordon Equation;*
Benjamin Koch;
Int.J.Geom.Meth.Mod.Phys.10:1320014, 2013;
DOI: 10.1142/S0219887813200144
11. *Nondiagonal charged lepton Yukawa matrix: Effects on neutrino mixing in supersymmetry*
Giovanna Cottin, Marco Aurelio Díaz, and Benjamin Koch;
Phys.Rev.D85:095019, 2012;
[arXiv:1112.6351].
12. *Gravitino dark matter and neutrino masses in partial split supersymmetry;*
Marco Aurelio Díaz, Sebastián García Sáenz, and Benjamin Koch;
Phys.Rev.D84:055007, 2011;
[arXiv:1106.0308].
13. *Exact renormalization group with optimal scale and its application to cosmology;*
Benjamin Koch, Israel Ramirez;
Class.Quantum Grav.28:055008, 2011;
[arXiv:1010.2799].
14. *Renormalization group improved black hole space-time in large extra dimensions;*
Thomas Burschil, Benjamin Koch;
JETP Lett.92:4, 2010;
[arXiv:0912.4517].
15. *Explaining Solar Neutrinos with Heavy Higgs Masses in Partial Split Supersymmetry;*
Marco Aurelio Díaz, Benjamin Koch, Francisca Garay;
Phys.Rev.D80:113005, 2009;
[arXiv:0918.2987].

16. *Gravity Effects on Neutrino Masses in Split Supersymmetry*;
Marco Aurelio Díaz, Benjamin Koch, Boris Panes;
Phys.Rev.D79:113009, 2009;
[arXiv:0902.1720].
17. *Exclusion of black hole disaster scenarios at the LHC*;
Benjamin Koch, Marcus Bleicher, Horst Stöcker;
Phys.Lett.B672:71, 2009;
[arXiv:0807.3349].
18. *Renormalization group and black hole production in large extra dimensions*;
Benjamin Koch;
Phys.Lett.B663:334, 2008;
[arXiv:0707.4644].
19. *Gravitational radiation from elastic particle scattering
in models with extra dimensions*;
Benjamin Koch, M. Bleicher;
JETP Lett.87:75, 2008;
[hep-th/0512353].
20. *First Order Calculation of the Inclusive Cross Section pp to ZZ
by Graviton Exchange in Large Extra Dimensions*;
Martin Kober, Benjamin Koch, Marcus Bleicher;
Phys.Rev.D76:125001,2007, 2007;
[arXiv:0708.2368].
21. *The Gravitational analogue to the hydrogen atom. A summer study at the bor-
ders of quantum mechanics and general relativity*;
Martin Kober, Benjamin Koch, Marcus Bleicher;
J-Phys.E.28:465, 2007;
[arXiv:physics/0703064].
22. *Gravitational Radiation from Ultrahigh Energy Cosmic Rays
in Models with Large Extra Dimensions*;
Benjamin Koch, Hans Joachim Drescher, Marcus Bleicher;
Astropart.Phys.25:291, 2006;
[arXiv:astro-ph/0602164].
23. *Black Hole Remnants at the LHC*;
Benjamin Koch, Marcus Bleicher, Sabine Hossenfelder;
JHEP 0510:053, 2005;
[arXiv:hep-ph/0507138].

Publications in Conference Proceedings

24. *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;
AIP Conf. Proc. 1647:57, 2015.
25. *Black holes and running couplings: A comparison of two complementary approaches*
Benjamin Koch, Carlos Contreras, Paola Rioseco, and Frank Saueressig;
Karl Schwarzschild Meeting;
Frankfurt, Germany;
C13-07-22.2, 2013.
26. *Non-diagonal Charged Lepton Yukawa Matrix: Effects on Neutrino Mixing in Supersymmetry*
Giovanna Cottin, Marco Aurelio Díaz, and Benjamin Koch;
FLASY 2011;
Valencia, Spain;
C11-07-11.1, 2012.
27. *Quantizing Geometry or Geometrizing the Quantum?*
Benjamin Koch;
Quantum Theory Reconsideration of Foundations 5;
Vaxjo, Sweden;
AIP Conf.Proc.1232:313, 2010.
28. *Geometrizing the Quantum - a toy model*
Benjamin Koch;
13th Max Born Symposium;
Wroclaw, Poland;
AIP Conf.Proc.1196:161, 2009.
29. *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;
J.Phys.G35:054001, 2008;
[arXiv:0711.0974].
30. *Early black hole signals at the LHC;*
Benjamin Koch, Marcus Bleicher, Horst Stöcker;
7th Latin American Symposium on Nuclear Physics and Applications;
Cusco, Peru;
AIP Conf.Proc.947:376, 2007.

31. *An introduction to mini black holes at LHC*;
Horst Stöcker, Benjamin Koch, Marcus Bleicher;
36th International Symposium on Multiparticle Dynamics,
Rio de Janeiro, Brazil;
Braz.J.Phys.**37:836**, 2007.
32. *Black Holes at LHC?*
Benjamin Koch, Marcus Bleicher, Horst Stöcker;
Quark matter;
Shanghai;
J.Phys.G**34:535**, 2007;
[arXiv:hep-ph/0702187].
33. *Black Holes and Quasistable Remnants at the LHC*;
Benjamin Koch, Marcus Bleicher, Sabine Hossenfelder;
Fundamental Interactions;
Lake Louise, Canada;
Fund.Interactions.**21:235**, 2006.
34. *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;
IPPP-06-74, 2006;
[arXiv:hep-ph/0611033].
35. *Signatures for Black Hole Production from Hadronic Observables at the Large Hadron Collider*;
Thomas J. Humanic, Benjamin Koch, Horst Stöcker;
International Symposium on Heavy Ion Physics (ISHIP);
Frankfurt, Germany;
Int.J.Mod.Phys.E**16:841**, 2006
[arXiv:hep-ph/0607097].
36. *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, M. Bleicher, U. Harbach, T. Humanic, B. Koch, H. Stöcker;
22nd Winter Workshop on Nuclear Dynamic;
La Jolla, USA, 2006;
[arXiv:hep-ph/0606193].
37. *Large Extra Dimensions and the Minimal Scale Constraints through High Precision Experiments*;
U. Harbach, B. Koch, M. Bleicher, S. Hossenfelder;
Annual Meeting of the Division of Particles and Fields;
Riverside, California, USA;
Int.J.Mod.Phys.A**20:3334**, 2005.

38. *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;
[arXiv:hep-ph/0408331].

Submitted Publications

39. *Constraints to Dark Matter from Inert Higgs Doublet Model*
Marco Aurelio Díaz, Benjamin Koch, Sebastin Urrutia-Quiroga;
Unpublished, 2015;
[arXiv:1511.04429].
40. *Can Schwarzschild Black Holes Be Accelerators of Spinning Massive Particles?*
Cristobal Armaza, Maximo Bañados and Benjamin Koch;
Unpublished, 2015;
[arXiv:1510.01223].
41. *Improved Reissner-Nordström-(A)dS Black Hole in Asymptotic Safety*;
Cristopher González and Benjamin Koch;
Unpublished, 2015;
[arXiv:1508.01502].
42. *On the dynamics of fluctuations in time crystals*;
Esteban Castillo, Benjamin Koch, and Gonzalo Palma;
Unpublished, 2014;
[arXiv:1410.2261].
43. *A Comment on the OPERA result and CPT*;
Benjamin Koch;
Unpublished, 2011;
[arXiv:1109.5721].
44. *A Tractable Lagrangian for Arbitrary Spin*;
Benjamin Koch, Nicolas Rojas;
[arXiv:1107.3144].
45. *Trapping Black Hole Remnants*;
Sabine Hossenfelder, Benjamin Koch, Marcus Bleicher;
Unpublished, 2005;
[arXiv:hep-ph/0507140].