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Peer-Reviewed Journal Articles

Mathematical Physics:

1. *One-boson scattering processes in the massless Spin-Boson model – A non-perturbative formula*, M. Ballesteros, D.-A. Deckert, J. Faupin, F. Hänle, Advances in Mathematics, 371:107248, 27 pages, 2020
2. *One-Boson Scattering Processes in the massive Spin-Boson Model*, M. Ballesteros, D.-A. Deckert, J. Faupin, F. Hänle, Journal of Mathematical Analysis and Applications, 489:1, 44 pages, 2020
3. *Multi-time dynamics of the Dirac-Fock-Podolsky model of QED*, D.-A. Deckert, L. Nickel, Journal of Mathematical Physics, 60:072301, 20 pages, 2019 [editor's pick]
4. *Distinguished self-adjoint extension of the two-body Dirac operator with Coulomb interaction*, D.-A. Deckert, M. Ölker, Annales Henri Poincaré, 20:2407–2445, 38 pages, 2019
5. *Relation between the Resonance and the Scattering Matrix in the massless Spin-Boson Model*, M. Ballesteros, D.-A. Deckert, F. Hänle, Communications in Mathematical Physics, 370:249–290, 41, pages, 2019
6. *Analyticity of Resonances and Eigenvalues and Spectral Properties of the massless Spin-Boson Model*, M. Ballesteros, D.-A. Deckert, F. Hänle, Journal of Functional Analysis, 8:2524-2581, 57 pages, 2019
7. *Global solutions to the electrodynamic two-body problem on the straight line*, G. Bauer, D.-A. Deckert, D. Dürr, G. Hinrichs, Journal of Applied Mathematics and Physics, 68: 71, 20 pages, 2017
8. *External Field QED on Cauchy Surfaces for Varying Electromagnetic Fields*, D.-A. Deckert, F. Merkl, Communications in Mathematical Physics, 345(3):973–1017, 44 pages, 2016
9. *Dynamics of sound waves in an interacting Bose gas*, D.-A. Deckert, J. Fröhlich, P. Pickl, P. Pizzo, Advances in Mathematics, 293:275, 48 pages, 2016
10. *Electrodynamic two-body problem for prescribed initial data on a straight line*, D.-A. Deckert, G. Hinrichs, Journal of Differential Equations, 260(9):6900, 29 pages, 2016
11. *Consistency of multi-time Dirac equations with general interaction potentials*, D.-A. Deckert, L. Nickel, Journal of Mathematical Physics 57:072301, 15 pages, 2016
12. *On the initial value formulation of classical electrodynamics*, D.-A. Deckert, V. Hartenstein, Journal of Physics A: Mathematical and Theoretical, 49:44, 19 pages, 2016
13. *Effective Dynamics of a Tracer Particle Interacting with an Ideal Bose Gas*, D.-A. Deckert, J. Fröhlich, P. Pickl, A. Pizzo, Communications in Mathematical Physics, 328(2):597, 27 pages, 2014

14. *Ultraviolet Properties of the Spinless, One-Particle Yukawa Model*, D.-A. Deckert, A. Pizzo, Communications in Mathematical Physics, 327(3):887, 33 pages, 2014
 15. *Dirac equation with external potential and initial data on Cauchy surfaces*, D.-A. Deckert, F. Merkl, Journal of Mathematical Physics, 55(12):122305, 35 pages, 2014
 16. *On Irreversibility and Radiation in Classical Electrodynamics of Point Particles*, G. Bauer, D.-A. Deckert, D. Dürr, G. Hinrichs, Journal of Statistical Physics, 154(1-2):610, 12 pages, 2014
 17. *Maxwell-Lorentz Dynamics of Rigid Charges*, G. Bauer, D.-A. Deckert, D. Dürr, Communications in Partial Differential Equations, 38(9):1519, 19 pages, 2013
 18. *The Mass Shell of the Nelson Model without Cut-offs*, S. Bachmann, D.-A. Deckert, A. Pizzo, Journal of Functional Analysis, 263(5):1224, 58 pages, 2012
 19. *On the Existence of Dynamics of Wheeler-Feynman Electrodynamics*, G. Bauer, D.-A. Deckert, D. Dürr, Journal of Applied Mathematics and Physics, 64(4):1087, 37 pages, 2012
 20. *Time-evolution of the external field problem in Quantum Electrodynamics*, D.-A. Deckert, D. Dürr, F. Merkl, M. Schottenloher, Journal of Mathematical Physics, 51:122301, 30 pages, 2010
- [top 20 of JMP's monthly most downloaded articles of that year]**

Physics and Numerics:

21. *On Radiation Reaction in Classical Electrodynamics*, C. Bild, D.-A. Deckert, H. Ruhl, Physical Review D, 99:096001, 17 pages, 2019
 22. *Quantum phenomena modelled by interactions between many classical worlds*, M. Hall, D.-A. Deckert, H. Wiseman, Physical Review X, 4:041013, 17 pages, 2014
- [Covered by Nature News, 24 October 2014 and Nature News 521, 278–280]**
23. *On the spontaneous emission of electromagnetic radiation in the CSL model*, S. Donadi, A. Bassi, D.-A. Deckert, Annals of Physics, 340(1):70, 16 pages, 2014
 24. *Breaking quantum linearity: Constraints from human perception and cosmological implications*, A. Bassi, D.-A. Deckert, L. Ferialdi, Europhysics Letters, 92(5):50006, 13 pages, 2010
 25. *Noise gates for decoherent quantum circuits*, A. Bassi, D.-A. Deckert, Physical Review A, 77:032323, 9 pages, 2008
 26. *Quantum Dynamics with Bohmian Trajectories*, D.-A. Deckert, D. Dürr, P. Pickl, Journal Physical Chemistry A, 111(41):10325, 15 pages, 2007

Physics and Philosophy of Science:

27. *A persistent particle ontology for QFT in terms of the Dirac sea*, D.-A. Deckert, M. Esfeld, A. Oldofredi, British Journal for the Philosophy of Science, accepted for publication, 17 pages, to appear 2016
28. *Relationalism about mechanics based on a minimalist ontology of matter*, A. Vassallo, D.-A. Deckert, M. Esfeld, European Journal for Philosophy of Science, 1-20, 19 pages, 2016
29. *From the Universe to Subsystems: Why Quantum Mechanics Appears More Stochastic than Classical Mechanics*, A. Oldofredi, D. Lazarovicu, D.-A. Deckert, M. Esfeld, Fluctuation and Noise Letters 1640002, 19 pages, 2016

Conference Proceedings

Mathematical Physics:

30. *A Perspective on External Field QED*, D.-A. Deckert, F. Merkl, chapter in Quantum Mathematical Physics: A Bridge between Mathematics and Physics, Springer, 381-399, 18 pages, 2016

Mathematical Physics without Peer-Review:

31. *Delay Equations of the Wheeler-Feynman Type*, D.-A. Deckert, D. Dürr, N. Vona, Proceedings of the Sixth International Conference on Differential and Functional-Differential Equations, Moscow 2011, Contemporary Mathematics. Fundamental Directions, 47:36, 2013 [[Russian](#)], and Journal of Mathematical Sciences, 202(5):623, 13 pages, 2014 [[English](#)]

Physics and Philosophy of Science:

32. *Authors' response: the virtues of minimalism in ontology and epistemology*, M. Esfeld, D.-A. Deckert, Metascience, 27:442-451, 9 pages, 2018

Books and Book Chapters

Mathematical Physics:

33. *Electrodynamic Absorber Theory: A Mathematical Study*, D.-A. Deckert, Der Andere Verlag, ISBN-13: 978-3862470044, 190 pages, 2010

Physics and Numerics:

34. *Bohmian Grids and the Numerics of Schrödinger Evolutions*, D.-A. Deckert, D. Dürr, P. Pickl, Chapter in *Quantum Trajectories (Atoms, Molecules, and Clusters)*, CRC Press, edited by P.K. Chattaraj, ISBN-13: 978-1439825617, 19 pages, 2010

Physics and Philosophy of Science:

35. *A Minimalist Ontology of the Natural World*, M. Esfeld, D.-A. Deckert, Routledge Studies in the Philosophy of Mathematics and Physics, 182 pages, 2018
36. *What is matter? The fundamental ontology of atomism and structural realism*, D.-A. Deckert, M. Esfeld, A. Olofredi, Chapter in for *A guide to the philosophy of cosmology*, Editors Anna Ijjas, Barry Loewer, Oxford University Press, edited by A. Ijjas and B. Loewer, 22 pages, to 2017

Editorial Work

Mathematical Physics:

37. *Mathematical Questions and Challenges in Quantum Electrodynamics and its Applications*, Editors V. Bach, M. Ballesteros, D.-A. Deckert, I. M. Sigal, Oberwolfach Reports, 14(3):2539–2599, 60 pages, 2017

Popular Science Articles

Mathematical Physics:

38. *Delay Equations in Electrodynamics*, D.-A. Deckert, G. Hinrichs, Fields Institute For Research in Mathematical Sciences Newsletter, Canada, 24, 4 pages, 2015

Physics and Philosophy of Science:

39. *Ein Märchen von Statistik – eine Wahrheit über die Natur* (article on Bell's inequality in German), D.-A. Deckert, P. Pickl, Carathéodory-Society for promoting mathematics in economy, universities, and schools at LMU Munich, Germany, 24, 8 pages, 2015

Preprints

Physics and Numerics:

40. *Comparison of semi-classical approximations to the Rabi model*, D.-A. Deckert, L. Kellers, T. Norsen, W. Struyve, arXiv:2011.05300, 20 pages, 2020
41. *Ground states in the Many Interacting Worlds approach*, M. Hall, D.-A. Deckert, H. Wiseman, arXiv:1712.01918, 16 pages, 2018