

HANNO GOTTSCHALK: SCIENTIFIC PUBLICATIONS¹

March 2016

RESEARCH

1. Assesment of models for pedestrian dynamics with functional principal component analysis, (with M. Chraïbi, T. Ensslen, M. Saadi and A. Seyfried), (2015) to appear in *Physica A* [arXiv:1502.00528].
2. Quantum fields obtained from convoluted generalized white noise never have positive metric, (with S. Albeverio), (2015) to appear in *Letters Math. Phys.* [arXiv:1506.01329].
3. Minimal failure probability for ceramic design via shape control (with M. Bolten and S. Schmitz), *Journal of Optimization Theory and Applications*, *J. Optim. Theory Appl.* **166** (2015), 983-1001.
4. Optimal Reliability in Design for Fatigue Life I: Existence of optimal shapes, (with S. Schmitz), *Siam Journal of Control and Optimization* **52** Vol. 5, (2014), 2727–2752.
5. Probabilistic Schmid Factors and scatter of LCF life (mit S. Schmitz, T. Seibel, R. Krause, G. Rollmann and T. Beck), (2014) to appear in *Materials Science and Engineering* [arXiv:1405.4743].
6. A triviality result in the AdS/CFT correspondence for Euclidean quantum fields with exponential interaction (with H. Thaler), *Commun. Math. Phys.* **324** No. 1 (2013), 63-75.
7. Probabilistic analysis of the LCF crack initiation life for a turbine blade under thermo-mechanical loading (with S. Schmitz, T. Seibel, T. Beck, G. Rollmann, and Rolf Krause), *Proc. Int. Conf LCF 7* (September 13).
8. A probabilistic Model for LCF, (with T. Beck, R. Krause, G. Rollmann and T. Seibel), *Computational Materials Science*, **79** (2013), 584-590.
9. Risk estimation for LCF crack initiation (with S. Schmitz, G. Rollmann and R. Krause), *Proc. ASME Turbo Expo 2013*, GT2013-94899.
10. Dynamical Backreaction on Robertson Walker Spacetimes (with B. Eltzner), *Rev. Math. Phys.* Vol **23**, No. 5 (2011), 531–551.

¹Most articles are available at http://arxiv.org/a/gottschalk_h_1.atom

11. A comment on the IR problem in the AdS/CFT correspondence (with H. Thaler), in: B. Fauser, J. Tolksdorf, E. Zeidler (Ed.), Quantum Field Theory, competitive models, Proc. Int. Conf. Recent Developments in QFT, Leipzig 2007, Birkhäuser 2009, pp 67–80.
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15. Feynman graphs for non-Gaussian measures (with S. H. Djah und H. Ouerdiane), Proc. International Conf. Analyse et Probabilite, Hammamet Mai 2004, Séminaires & Congrès SMF 16 (2007), 35–53.
16. How to determine the law to the solution of a SPDE driven by Lévy spacetime noise, (with B. Smii), J. Math. Phys. 48, (2007) 043303–043325.
17. White noise convolution calculus and the Feynman graph representation of generalized renormalization flows, (with H. Ouerdiane und B. Smii), in: Mathematical Analysis of Random Phenomena, A. B. Cruzeiro, H. Ouerdiane, N. Obata (eds.), pp 101-107, Proc. Int. Conf. Hammamet 2005, World Scientific, 2007.
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21. Particle systems in the grand canonical ensemble, scaling limits and quantum field theory, (with S. Albeverio und M. W. Yoshida), Rev. Math. Phys., 17 No. 2 (2005) 175 - 226.
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26. Scattering theory for quantum fields with indefinite metric, (with S. Albeverio), *Commun. Math. Phys.* 216 (2001), 491-513.
27. On the stability of one particle states generated by quantum fields fulfilling Yang-Feldman equations, *Rep. on Math. Phys.* 47 No. 2 (2001), 241-246.
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44. Option Pricing in Markets with Unknown Stochastic Dynamics, (with E. Nizami) 2016 [arXiv:1602.04848]
45. Optimal Reliability for Components under Thermomechanical Cyclic Loading, (with L. Bittner) 2016 [arXiv:1601.00419]
46. Calibration of Lévy processes using optimal control of Kolmogorov equations with periodic boundary conditions, (with M. Annunziato) 2015 [arXiv:1506.08439]
47. On the unitary transformation between non-quasifree and quasifree state spaces and its application to quantum field theory on curved spacetimes, (with T. Hack),

preprint, Bonn 2006, [arXiv:math-ph/0610041].

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48. Modelle und Strukturen der Quantenfeldtheorie mit kreinschem Zustandsraum, cumulative habilitation thesis with 15 p. introduction (in German), Bonn, July 2002.
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NOT PEER REVIEWED

51. Untersuchung von Größeneffekten bei Low-Cycle-Fatigue Beanspruchung der Ni-Legierung René 80 (with T. Seibel, S. Schmitz, G. Rollmann, R. Krause und T. Beck), Proc. Conf Langzeitverhalten warmfester Stähle VDEh, Düsseldorf 2013.

TECHNICAL REPORTS

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57. aiRfoil Developer Manual, Internal Report Siemens Energy Sector, 52 pages (2011).
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59. Statistical properties of the interface between bond coat and thermal barrier coat, (2009), Internal Report Siemens Energy Sector, 11 pages.
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61. The impact of core shift on the mechanical integrity of a turbine blade (with B. Suarez-Crosse), Internal Report Siemens Energy Sector (20 pages) 2009.
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