

Curriculum Vitae

Name: Dr. Björn Garbrecht
Born: August 10th, 1977 in Lich/Germany
Status: married, one child
Address: Physik-Department T70
James-Franck-Straße
Technische Universität München
85748 Garching
Germany

Employment:

- Since 10/12 Professor (W2) for Theoretical Physics of the Early Universe at Technische Universität München, Germany.
- 10/09–09/12 Juniorprofessor (W1) at Institut für Theoretische Teilchenphysik und Kosmologie, RWTH Aachen, Germany. Successful Evaluation in 08/2012.
- 10/07–09/09 Postdoctoral position at the Theoretical Nuclear, Particle, Astrophysics and Cosmology (NPAC) Group at the Department of Physics, University of Wisconsin-Madison/USA.
- 10/05–09/07 Postdoctoral position at the Particle Physics Group of the School of Physics & Astronomy, The University of Manchester, U.K.

University:

- 07/05 Dissertation: Promotion “magna cum laude” (*very good*).
- 04/02–07/05 PhD student at the Institute for Theoretical Physics, University of Heidelberg, under the supervision of Prof. M. G. Schmidt.
Doctoral thesis: *Some Aspects of Inflationary Particle Production*.
- 09/01–03/02 Oral diploma examinations, Mathematics 1.0 (*very good*), Experimental Physics 1.3 (*very good*), Theoretical Physics 1.3 (*very good*).
Based on these and the research work conducted for the M.S. degree gained admission as a PhD student.
- 09/00–05/01 Exchange student at the University of Massachusetts Amherst/USA.
Master of Science (M.S.) degree under the supervision of Prof. B. R. Holstein and Prof. J. F. Donoghue.
Thesis title: *A Perturbative Calculation of the Gravitational Field of Charged Particles*.
- 06/99 Preliminary exam: Vordiplom “sehr gut” (*very good*).
- 10/97–04/02 Study of Physics at the University of Heidelberg/Germany.

School and Community Service:

- 08/96–09/97 Community service (in lieu of military service) at the Gießen University medical centre.
- 06/96 Liebigschule Gießen/Germany, Abitur.

Teaching: (FT = Fall/Winter Term, ST = Spring/Summer Term)

Lectures:

- FT 15/16, FT 13/14 Advanced Quantum Mechanics, Munich.
 ST 15 Quantum Mechanics, Munich.
 FT 14/15 Introduction to Nuclear-, Particle- and Astrophysics, Munich.
 ST 14 Advanced Cosmology: Cosmic Microwave Background & Large Scale Structure, Munich.
 FT 12/13, ST 13 Theoretical Elementary Particle Physics I & II, Munich.
 FT 11/12, FT 10/11 Special Relativity, Aachen.
 ST 12, ST 11, ST 10 Relativistic Quantum Mechanics, Aachen.
 FT 09/10 Thermal Field Theory, Aachen.

Tutorial classes:

Correction of problem sheets and written exams and giving lessons in Mathematics and Physics.

- ST 06, FT05 Second year Physics tutorials, Manchester.
 ST 05, ST 04, Thermodynamics and Statistical Physics, Heidelberg.
 FT 03/04,
 FT 02/03, ST 02
 ST 03 Quantum Mechanics, Heidelberg.
 FT 01/02, FT 99/00 Analysis I, Mathematics Department, Heidelberg.
 ST 00 Analysis II, Mathematics Department, Heidelberg.

Physics help service:

- FT 00 Helping students with homework problems and general questions on Physics, UMass Amherst.

Instructor for laboratory courses:

- ST 01 Introductory laboratory course, UMass Amherst.

Outreach:

- 30/03/07 Presentation *The Modern View of Particle Physics*. Particle Physics Masterclass, Manchester.

Supervision:Postdocs:

- 10/2014–09/2015 Peter Millington (TUM University Foundation Fellow)
 10/2013–09/2015 Florian Gautier
 since 10/2011 Marco Drewes
 10/2012–09/2013 Sébastien Clesse (Alexander von Humboldt Fellow)
 10/2010–09/2013 Gerasimos Rigopoulos (now faculty in Newcastle, UK)
 10/2009–09/2012 Matti Herranen (Alexander von Humboldt Fellow 2010–2012)

PhD Students:

- since 10/2015 Wenyuan Ai (Chinese Scholarship Council)
 since 10/2014 Dario Güter
 since 02/2014 Juraj Klaric
 11/2010–08/2015 Frank Glowna
 11/2011– 02/2015 Yi Zhu (Chinese Scholarship Council, now faculty in Wuhan)

Diploma & MSc Students:

- 06/2014–09/2015 Matthias Lochbrunner
 10/2013–10/2014 Dario Güter
 05/2013–04/2014 Ignacio Izaguirre
 03/2011–03/2012 Guillermo Zecua
 08/2010–07/2011 Jan Busch

Conference Organisation:

- 30/05–24/06/2016 MIAPP Workshop “Why is there more Matter than Antimatter in the Universe?”, Excellence Cluster Universe Munich (with M. J. Ramsey-Musolf, S. J. Huber and J. Shu).
 25/04–27/04/2012 Network Meeting of the Alexander von Humboldt Fellows, RWTH Aachen, organised program and presentation session for the Mathematics, Computer Science and Theoretical Physics Group at the Physics Department.
 29/08–09/09/2011 Lorentz Center Workshop “Baryogenesis and First Order Phase Transitions in the Early Universe”, Lorentz Center Leiden (with T. Prokopec).
 06/09–09/09/2010 International Workshop *Out-of-Equilibrium Quantum Fields in the Early Universe*, RWTH Aachen.

Grants:

- 10/2014–09/2016 Extension of funding for “Leptogenesis in non-equilibrium Quantum Field Theory” from DFG. One position of a postdoctoral research associate over the period of two years (EUR 161,600).
- 11/2015–11/2018 Host and supervisor of Wenyuan Ai, Chinese Scholarship Council doctoral candidate.
- 10/2014–09/2015 Academic host of Peter Millington, TUM University Foundation postdoctoral fellow.
- 10/2014–09/2017 Joint supervision with Frank Steffen (MPP Munich) of PhD student Dario Güter, position funded by the PhD Pool of the “Excellence Cluster Origin and Structure of the Universe”.
- 10/2012–09/2013 Academic host of Dr. Sébastien Clesse, Humboldt postdoctoral fellow.
- 11/2011–02/2015 Host and supervisor of Yi Zhu, Chinese Scholarship Council doctoral candidate.
- 10/2011–09/2014 Fundig of the project “Leptogenesis in non-equilibrium Quantum Field Theory” from DFG (Deutsche Forschungsgemeinschaft). Three quarters of a position of a research associate over the period of three years (EUR 164,000).
- 10/2010–09/2012 Academic host of Dr. Matti Herranen, Humboldt postdoctoral fellow.
- 06/2011 Subsidy of an amount of EUR 4,790 from DFG (Deutsche Forschungsgemeinschaft) for Lorentz Center workshop “Baryogenesis and First Order Phase Transitions in the Early Universe.”
- 11/2010 Financial support by an amount of EUR 20,800 from the Lorentz Center for hosting a two-week Workshop on “Baryogenesis and First Order Phase Transitions in the Early Universe” in 2011 (with T. Prokopec).
- 04/2005 Postdoctoral research fellowship of the DAAD (German Academic Exchange Service) for the academic year 05/06, for working at the Physics Department of McGill University, Montreal (declined).

Referees:

1. Prof. M. Beneke
Physik-Department T31
Technische Universität München
James-Franck-Straße 1
85748 Garching
Germany
e-mail: mbeneke@ph.tum.de
telephone: +49 89 289 12371
2. Prof. M. J. Ramsey-Musolf
Amherst Center for Fundamental Interactions
Department of Physics
416 Lederle Graduate Research Tower
University of Massachusetts-Amherst
Amherst, MA 01003
USA
e-mail: mjrm@physics.umass.edu
telephone: +1 (413) 545-0320
3. Prof. D. J. H. Chung
Department of Physics
University of Wisconsin-Madison
Madison, WI 53706
USA
e-mail: danielchung@wisc.edu
telephone: +1 (608) 265-3133
4. Prof. R. A. Battye
Jodrell Bank Centre for Astrophysics
School of Physics & Astronomy
The University of Manchester
Oxford Road
Manchester M13 9PL
United Kingdom
e-mail: richard.battye@manchester.ac.uk
telephone: +44 161 275 4185
5. Prof. T. Prokopec
Institute for Theoretical Physics and Spinoza Institute
Universiteit Utrecht
Leuvenlaan 4
3584 CE Utrecht
The Netherlands
e-mail: t.prokopec@phys.uu.nl telephone: +31 30 253 2969

Conferences and Scientific Schools:

- 26/04–30/04/15 BLV 2015, UMass Amherst: International Workshop on Baryon and Lepton Number Violation, presentation *Leptogenesis – Theoretical Developments**.
- 28/07–01/08/14 Mainz Institute for Theoretical Physics Program “Jets, particle production and transport properties in collider and cosmological environments”, presentation *Leptogenesis with light sterile neutrinos**.
- 10/06–12/06/14 First SHIP Workshop, Universität Zürich, Switzerland, presentation *Baryogenesis**.
- 19/05–03/07/14 KITP Santa Barbara Program “Particlegenesis”, presentation *Status of Leptogenesis**.
- 14/10–18/10/13 Max-Planck-Institut für Astrophysik Workshop “The Return of de Sitter II,” Garching, Germany, presentation *Infrared correlations in de Sitter space**.
- 20/05–24/05/13 PLANCK 2013 Workshop: From the Planck Scale to the Electroweak Scale, Bonn/Germany, presentation *Low Scale Leptogenesis from Non-Leptonic CP-Phases*.
- 10/09–14/09/12 COSMO-12 International Workshop on Particle Physics and the Early Universe, Beijing/China, presentation *Results for Leptogenesis from Non-Equilibrium Field Theory*.
- 10/03–17/03/12 XLVII. Rencontres de Moriond, “Contents and Structure of the Universe,” La Thuile/Italy, presentation *Self-Regularisation of IR-Divergences During Inflation*.
- 11/30–12/02/11 Amsterdam Particle Physics Symposium “Theory and Experiment in the LHC Era”, Amsterdam/The Netherlands, presentation *Leptogenesis & Electroweak Baryogenesis: Status of Transport Theory**.
- 27/09–30/09/11 DESY Theory Workshop 2011: “Cosmology meets Particle Physics: Ideas & Measurements”, Hamburg/Germany, presentation *What Can Be Learnt from the CTP Approach to Leptogenesis**.
- 15/06–18/06/11 PPC 2011: Vth International Workshop on the Interconnection between Particle Physics and Cosmology, CERN, Geneva/Switzerland, presentation *CTP Approach to Leptogenesis**.
- 01/05–08/05/11 Workshop “Electroweak Baryogenesis in the Era of the LHC”, Weizmann Institute, Rehovot/Israel, presentation *Diffusion Transport**.
- 28/03–01/04/11 DPG Frühjahrstagung (Annual Convention of the German Physical Society), Karlsruhe Institute of Technology/Germany, presentation *Leptogenesis from First Principles: Finite Density Effects and Flavour Decoherence**.

*Invited talk.

- 14/06–16/06/10 International Workshop on Particle’s EDM and Implications, Shanghai Jiao Tong University/China, presentation *Diffusion in Electroweak Baryogenesis**.
- 08/03–11/03/10 XXII. Workshop Beyond the Standard Model, Bad Honnef/Germany, presentation *Leptogenesis: CPT and CTP**.
- 21/09–23/09/09 Workshop on Lepton and Baryon Number Violation, University of Wisconsin, Madison/USA, presentation *The Diffusion Process in Electroweak Baryogenesis**.
- 15/06–02/07/09 NORDITA Electroweak Phase Transition Workshop, Stockholm/Sweden, presentation *Electroweak baryogenesis: Diffusion and Sparticle Masses**.
- 25/05–29/05/09 PLANCK 2009 Workshop: From the Planck Scale to the Electroweak Scale, Padova/Italy, presentation *Low Scale Leptogenesis from Non-Leptonic CP-Phases*.
- 11/05–13/05/09 Pheno 2009 Symposium, University of Wisconsin, Madison/USA, presentation *Low Scale Leptogenesis from Non-Leptonic CP-Phases*.
- 06/10–17/10/08 Institute of Nuclear Theory (INT) Workshop: Low Energy Precision Electroweak Physics in the LHC Era, University of Washington, Seattle/USA, seminar: *How Diffusion Works for Electroweak Baryogenesis and what we Learn for Leptogenesis**.
- 08/25–08/29/08 COSMO-08 International Workshop on Particle Physics and the Early Universe, University of Wisconsin-Madison/USA, presentation *Strings, Textures and the CMB*.
- 16/06–21/06/08 SUSY 08: The 16th International Conference on Supersymmetry and the Unification of Fundamental Interactions, Seoul/Korea, presentation *Radiative Lifting of Flat Directions of the MSSM during Inflation*.
- 19/05–23/05/08 PLANCK 2008 Workshop: From the Planck Scale to the Electroweak Scale, Barcelona/Spain, presentation *Supergauge Interactions and Electroweak Baryogenesis*.
- 01/11–09/11/07 Kavli Institute for Cosmological Physics Workshop: “Baryogenesis Confronts Experiment,” University of Chicago, presentation *Baryogenesis from Vacuum Fluctuations During Inflation*.
- 05/09–21/09/07 International School of Subnuclear Physics, 45th Course: Search for the ‘Totally Unexpected’ in the LHC era, Erice/Italy, presentation *Radiative Lifting of Flat Directions of the MSSM during Inflation*, awarded with the “John Bell Diploma”.
- 21/08–25/08/07 COSMO-07 International Workshop on Particle Physics and the Early Universe, University of Sussex/UK, presentation *Radiative Lifting of Flat Directions of the MSSM during Inflation*.
- 25/-3–29/03/07 Workshop on Outstanding Questions for the Standard Cosmological Model, Imperial College, London/UK, presentation *Constraining Supersymmetric Models of Hybrid Inflation with Cosmic Strings*.

*Invited talk.

- 12/03–15/03/07 XIX. Workshop Beyond the Standard Model, Bad Honnef/Germany, presentation *Constraining Supersymmetric Models of Hybrid Inflation with Cosmic Strings*.
- 18/03–25/03/06 XLI. Rencontres de Moriond, “Contents and Structure of the Universe,” La Thuile/Italy, poster *SUSY F_D -Hybrid Inflation*.
- 28/08–01/09/05 COSMO-05 International Workshop on Particle Physics and the Early Universe, Bonn/Germany, presentation *Lamb Shift of Unruh Detector Levels*.
- 17/09–21/09/04 COSMO-04 International Workshop on Particle Physics and the Early Universe, Toronto/Canada, presentation *Coherent Baryogenesis and Nonthermal Leptogenesis – a Comparison*.
- 09/03–11/03/04 XV. Workshop Beyond the Standard Model, Bad Honnef/Germany, presentation *Coherent Baryogenesis*.
- 23/09–27/09/03 Summer School Quantum Fields in and out of Equilibrium, Bielefeld/Germany.
- 25/08–29/08/03 COSMO-03 International Workshop on Particle Physics and the Early Universe, Ambleside/UK, presentation *Coherent Baryogenesis*.
- 08/03–11/03/03 XIV. Workshop Beyond the Standard Model, Bad Honnef/Germany, presentation *Particle Number in Kinetic Theory*.
- 02/09–13/09/02 WE-Heraeus-Doktorandenschule Saalburg “Grundlagen und neue Methoden der theoretischen Physik”, Wolfersdorf, Thüringen/Germany.

Other Presentations and Seminars:

- 02/07/15 *Radiative Corrections to the Decay of a Metastable Vacuum*, Universität Würzburg, Germany.
- 14/04/14 *Nonequilibrium Theory and Baryogenesis*, Universität Leipzig, Germany.
- 03/03/14 *New ways to Baryogenesis from Nonequilibrium Theory*, University of Sussex, Brighton, UK.
- 11/02/14 *Particlegenesis in the hot early Universe: Inclusive methods*, Interdisciplinary Cluster Workshop on Dark Matter, DFG Excellence Cluster Universe, Garching, Germany.
- 05/09/13 Lecture on *Early Universe Cosmology – Methods & Topics*, Scientific report week of the DFG Graduate School “Particle and Astroparticle Physics in the Light of LHC” (RWTH Aachen), Vaals/The Netherlands.
- 05/12/12 *Non-Equilibrium Field Theory Approach to Leptogenesis*, Cluster Science Week 03/12–06/12/2012, Universe Cluster Munich, Garching.
- 26/01/12 *Leptogenesis: CPT & CTP*, IPPP Durham.
- 30/06/11 *The CTP Formalism and some of its Applications in Cosmology*, TU München.
- 01/04/11 *The CTP Formalism and some of its Applications in Cosmology*, DESY, Hamburg.
- 14/02/11 *Leptogenesis: CPT , CTP and Flavour*, University of Sussex.
- 03/02/11 *Leptogenesis: CPT , CTP and Flavour*, Teilchen-Tee Seminar, Universität Heidelberg.
- 30/11/10 *Leptogenesis: CPT , CTP and Flavour*, Universität Bielefeld.
- 15/11/10 *Leptogenesis: CPT , CTP and Flavour*, Max-Planck-Institut für Kernphysik, Heidelberg.
- 08/06/10 *Leptogenesis: CPT and CTP*, Universität Mainz.
- 19/04/10 *Leptogenesis: CPT and CTP*, DESY, Hamburg.
- 09/04/10 *Leptogenesis: CPT and CTP*, The University of Manchester.
- 10/12/09 *The Diffusion Process in Electroweak Baryogenesis*, Universität Würzburg.
- 03/03/09 *Baryon Asymmetry of the Universe and the Mass Spectrum at the Electroweak Scale*, Argonne National Laboratory.
- 18/02/09 *Baryon Asymmetry of the Universe and the Mass Spectrum at the Electroweak Scale*, California Institute of Technology.
- 14/01/09 *The Baryon Asymmetry of the Universe and the Electroweak Scale*, RWTH Aachen.
- 30/05/08 *Transport Equations in Precision Cosmology*, The University of Manchester.
- 23/05/08 *Transport Equations in Precision Cosmology*, RWTH Aachen.
- 02/02/07 *Radiative Lifting of Flat Directions of the MSSM during Inflation*, IPPP Durham.

- 29/01/07 *Radiative Lifting of Flat Directions of the MSSM during Inflation*, University of Sussex.
- 13/03/06 *F_D -Term Inflation*, University of Sussex.
- 17/02/06 *Fermion Mass Generation in de Sitter Space*, University of Lancaster.
- 12/12/05 *Fermion Mass Generation in de Sitter Space*, Utrecht University.
- 09/11/05 *Fermion Mass Generation in de Sitter Space*, The University of Manchester.
- 01/12/04 *Coherent Baryogenesis*, University of Heidelberg.
- 27/10/04 *Energy Density as Seen by Unruh's Detector*, University of Heidelberg.
- 07/10/04 *Energy Density as Seen by Unruh's Detector*, University of Minnesota Minneapolis.
- 04/10/04 *Energy Density as Seen by Unruh's Detector*, University of California Los Angeles.
- 29/09/04 *Energy Density as Seen by Unruh's Detector*, Stanford Linear Accelerator Center.
- 23/09/04 *Energy Density as Seen by Unruh's Detector*, Tufts University, Somerville Massachusetts.
- 14/09/04 *Energy Density as Seen by Unruh's Detector*, McGill University, Montréal.
- 09/09/04 *Coherent Baryogenesis*, University of Wisconsin-Madison.

List of Publications

Journal Articles:

- [1] B. Garbrecht and P. Millington, “Self-consistent solitons for vacuum decay in radiatively generated potentials,” arXiv:1509.08480 [hep-ph], to appear in Phys. Rev. D.
- [2] B. Garbrecht and P. Millington, “Greens function method for handling radiative effects on false vacuum decay,” Phys. Rev. D **91** (2015) 105021 [arXiv:1501.07466 [hep-th]].
- [3] B. Garbrecht, F. Gautier, G. Rigopoulos and Y. Zhu, “Feynman Diagrams for Stochastic Inflation and Quantum Field Theory in de Sitter Space,” Phys. Rev. D **91** (2015) 6, 063520 [arXiv:1412.4893 [hep-th]].
- [4] B. Garbrecht and I. Izaguirre, “Phenomenology of Baryogenesis from Lepton-Doublet Mixing,” Nucl. Phys. B **896** (2015) 412 [arXiv:1411.2834 [hep-ph]].
- [5] B. Garbrecht, F. Gautier and J. Klaric, “Strong Washout Approximation to Resonant Leptogenesis,” JCAP **1409** (2014) 09, 033 [arXiv:1406.4190 [hep-ph]].
- [6] J. E. Camargo-Molina, B. Garbrecht, B. O’Leary, W. Porod and F. Staub, “Constraining the Natural MSSM through tunneling to color-breaking vacua at zero and non-zero temperature,” Phys. Lett. B **737** (2014) 156 [arXiv:1405.7376 [hep-ph]].
- [7] L. Canetti, M. Drewes and B. Garbrecht, “Probing leptogenesis with GeV-scale sterile neutrinos at LHCb and Belle II,” Phys. Rev. D **90** (2014) 12, 125005 [arXiv:1404.7114 [hep-ph]].
- [8] B. Garbrecht and P. Schwaller, “Spectator Effects during Leptogenesis in the Strong Washout Regime,” JCAP **1410** (2014) 10, 012 [arXiv:1404.2915 [hep-ph]].
- [9] S. Clesse, B. Garbrecht and Y. Zhu, “Testing Inflation and Curvaton Scenarios with CMB Distortions,” JCAP **1410** (2014) 10, 046 [arXiv:1402.2257 [astro-ph.CO]].
- [10] B. Garbrecht, “More Viable Parameter Space for Leptogenesis,” Phys. Rev. D **90** (2014) 063522 [arXiv:1401.3278 [hep-ph]].
- [11] B. Garbrecht, G. Rigopoulos and Y. Zhu, “Infrared Correlations in de Sitter Space: Field Theoretic vs. Stochastic Approach,” Phys. Rev. D **89** (2014) 063506 [arXiv:1310.0367 [hep-th]].
- [12] B. Garbrecht and M. J. Ramsey-Musolf, “Cuts, Cancellations and the Closed Time Path: The Soft Leptogenesis Example,” Nucl. Phys. B **882** (2014) 145 [arXiv:1307.0524 [hep-ph]].
- [13] S. Clesse, B. Garbrecht and Y. Zhu, “Non-Gaussianities and Curvature Perturbations from Hybrid Inflation,” Phys. Rev. D **89** (2014) 063519 [arXiv:1304.7042 [astro-ph.CO]].
- [14] B. Garbrecht, F. Glowna and P. Schwaller, “Scattering Rates For Leptogenesis: Damping of Lepton Flavour Coherence and Production of Singlet Neutrinos,” Nucl. Phys. B **877** (2013) 1 [arXiv:1303.5498 [hep-ph]].

- [15] B. Garbrecht, F. Glowna and M. Herranen, “Right-Handed Neutrino Production at Finite Temperature: Radiative Corrections, Soft and Collinear Divergences,” *JHEP* **1304** (2013) 099 [arXiv:1302.0743 [hep-ph]].
- [16] B. Garbrecht, “Baryogenesis from Mixing of Lepton Doublets,” *Nucl. Phys. B* **868** (2013) 557 [arXiv:1210.0553 [hep-ph]].
- [17] M. Drewes and B. Garbrecht, “Leptogenesis from a GeV Seesaw without Mass Degeneracy,” *JHEP* **1303** (2013) 096 [arXiv:1206.5537 [hep-ph]].
- [18] S. Clesse and B. Garbrecht, “Slow Roll during the Waterfall Regime: The Small Coupling Window for SUSY Hybrid Inflation,” *Phys. Rev. D* **86** (2012) 023525 [arXiv:1204.3540 [hep-ph]].
- [19] B. Garbrecht, “Leptogenesis from Additional Higgs Doublets,” *Phys. Rev. D* **85** (2012) 123509 [arXiv:1201.5126 [hep-ph]].
- [20] B. Garbrecht and M. Herranen, “Effective Theory of Resonant Leptogenesis in the Closed-Time-Path Approach,” *Nucl. Phys. B* **861** (2012) 17 [arXiv:1112.5954 [hep-ph]].
- [21] B. Garbrecht and M. Garny, “Finite Width in out-of-Equilibrium Propagators and Kinetic Theory,” *Annals Phys.* **327** (2012) 914 [arXiv:1108.3688 [hep-ph]].
- [22] B. Garbrecht, G. Rigopoulos, “Self Regulation of Infrared Correlations for Massless Scalar Fields during Inflation,” *Phys. Rev. D* **84**, (2011) 063516 [arXiv:1105.0418 [hep-th]].
- [23] B. Garbrecht, “Leptogenesis: The Other Cuts,” *Nucl. Phys.* **B847** (2011) 350-366. [arXiv:1011.3122 [hep-ph]].
- [24] M. Beneke, B. Garbrecht, C. Fidler, M. Herranen and P. Schwaller, “Flavoured Leptogenesis in the CTP Formalism,” *Nucl. Phys. B* **843** (2011) 177 [arXiv:1007.4783 [hep-ph]].
- [25] M. Beneke, B. Garbrecht, M. Herranen and P. Schwaller, “Finite Number Density Corrections to Leptogenesis,” *Nucl. Phys. B* **838** (2010) 1 [arXiv:1002.1326 [hep-ph]].
- [26] R. Battye, B. Garbrecht and A. Moss, “Tight constraints on F- and D-term hybrid inflation scenarios,” *Phys. Rev. D* **81** (2010) 123512 [arXiv:1001.0769 [astro-ph.CO]].
- [27] D. J. H. Chung, B. Garbrecht, M. J. Ramsey-Musolf and S. Tulin, “Supergauge interactions and electroweak baryogenesis,” *JHEP* **0912** 067 [arXiv:0908.2187 [hep-ph]].
- [28] D. J. H. Chung, B. Garbrecht, M. J. Ramsey-Musolf and S. Tulin, “Lepton-mediated electroweak baryogenesis,” *Phys. Rev. D* **81** (2010) 063506 [arXiv:0905.4509 [hep-ph]].
- [29] B. Garbrecht and T. Konstandin, “Separation of Equilibration Time-Scales in the Gradient Expansion,” *Phys. Rev. D* **79**, (2009) 085003 [arXiv:0810.4016 [hep-ph]].
- [30] D. J. H. Chung, B. Garbrecht, M. J. Ramsey-Musolf and S. Tulin, “Yukawa Interactions and Supersymmetric Electroweak Baryogenesis,” *Phys. Rev. Lett.* **102** (2009) 061301 [arXiv:0808.1144 [hep-ph]].
- [31] D. J. H. Chung, B. Garbrecht and S. Tulin, “The Effect of the Sparticle Mass Spectrum on the Conversion of $B - L$ to B ,” *JCAP* **0903** (2009) 008 [arXiv:0807.2283 [hep-ph]].

- [32] R. A. Battye, B. Garbrecht and A. Pilaftsis, “Textures and Semi-Local Strings in SUSY Hybrid Inflation,” JCAP **0809** (2008) 020 [arXiv:0807.1729 [hep-ph]].
- [33] R. A. Battye, B. Garbrecht, A. Moss and H. Stoica, “Constraints on Brane Inflation and Cosmic Strings,” JCAP **0801** (2008) 020 [arXiv:0710.1541 [astro-ph]].
- [34] B. Garbrecht and T. Prokopec, “Baryogenesis from the Amplification of Vacuum Fluctuations during Inflation,” Phys. Rev. D **78** (2008) 123501 [arXiv:0706.2594 [astro-ph]].
- [35] B. Garbrecht, “Radiative Lifting of Flat Directions of the MSSM in de Sitter Background,” Nucl. Phys. B **784** (2007) 118 [arXiv:hep-ph/0612011].
- [36] B. Garbrecht and T. Konstandin, “Hybrid Inflation Exit through Tunneling,” JHEP **0701** (2007) 033 [arXiv:hep-ph/0610321].
- [37] R. A. Battye, B. Garbrecht and A. Moss, “Constraints on Supersymmetric Models of Hybrid Inflation,” JCAP **09** (2006) 007 [arXiv:astro-ph/0607339].
- [38] B. Garbrecht, C. Pallis and A. Pilaftsis, “Anatomy of F_D -Term Hybrid Inflation,” JHEP **0612** (2006) 038 [arXiv:hep-ph/0605264].
- [39] B. Garbrecht, “Ultraviolet Regularisation in de Sitter Space,” Phys. Rev. D **74** (2006) 043507 [arXiv:hep-th/0604166].
- [40] K. R. S. Balaji and B. Garbrecht, “Perturbative and Nonperturbative Contributions to a Simple Model for Baryogenesis,” Phys. Lett. B **638** (2006) 320 [arXiv:hep-ph/0603230].
- [41] B. Garbrecht and T. Prokopec, “Fermion Mass Generation in de Sitter Space,” Phys. Rev. D **73** (2006) 064036 [arXiv:gr-qc/0602011].
- [42] B. Garbrecht and A. Pilaftsis, “ F_D -Term Hybrid Inflation With Electroweak-Scale Lepton Number Violation,” Phys. Lett. B **636** (2006) 154 [arXiv:hep-ph/0601080].
- [43] B. Garbrecht and T. Prokopec, “Lamb Shift of Unruh Detector Levels,” Class. Quant. Grav. **23** (2006) 3917 [arXiv:gr-qc/0510120].
- [44] B. Garbrecht, T. Prokopec and M. G. Schmidt, “SO(10) - GUT Coherent Baryogenesis,” Nucl. Phys. B **736** (2006) 133 [arXiv:hep-ph/0509190].
- [45] B. Garbrecht and T. Prokopec, “Energy Density in Expanding Universes as Seen by Unruh’s Detector,” Phys. Rev. D **70** (2004) 083529 [arXiv:gr-qc/0406114].
- [46] B. Garbrecht and T. Prokopec, “Unruh Response Functions for Scalar Fields in de Sitter Space,” Class. Quant. Grav. **21** (2004) 4993 [arXiv:gr-qc/0404058].
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