

Benjamin Koch

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RESEARCH Physics beyond the standard model, phenomenology.
INTERESTS

EDUCATION **1996**, School leaving examination (Abitur). Grade: 2.2 (from 1 to 6, 1 is best)

At: Theodor Heuss Gymnasium Nördlingen, Germany.

1997, Entering university:

At: Technical University of Munich, Germany.

2001, One semester of language study:

At: Universidad de Complutense in Madrid, Spain.

2003, Diploma (M.Sc.):

Title: Radiative Corrections to Deep-inelastic Neutrino-nucleon Scattering in the MSSM.

Supervisors: Prof. Dr. W. Hollik, Prof. Dr. M. Lindner.

At: Max Planck Institute for Theoretical Physics, and
Technical University of Munich, Germany.

2004, Start of PhD work:

Title: Observables of Large Extra Dimensions.

At: Frankfurt International Graduate School of Science (FIGSS) and
Institute for Theoretical Physics Frankfurt, Germany.

2007, PhD defense: (Presumably in January 2007)

At: Frankfurt International Graduate School of Science (FIGSS) and
Institute for Theoretical Physics Frankfurt, Germany.

WORKING
EXPERIENCE

1996-1997, Civil service:

Job: Work with mentally disordered people.

At: Lebenshilfe Nördlingen, Germany.

2001, Internship:

Job: Simulation and construction of a water Cherenkov detector.

At: Max Planck Institute for Physics in Munich, Germany

2004-2007, Teaching assistant:

Topics: Mechanics, electrodynamics, quantum mechanics (I+II), and thermodynamics.
At: Institute for Theoretical Physics Frankfurt, Germany.

LANGUAGES

- **German**, native language.
- **English**, fluently.
- **Spanish**, fluently.
- **Latin**, (great latinum).

COMPUTING
SKILLS

- Programming skills: C++, Fortran, Perl, html, latex, Mathematica, and Maple.
- Operating systems: Mac OSX, Linux and Windows.

FURTHER
INTERESTS

Gymnastics, athletics, and surfing.

Publications in International Journals

1. *Gravitational Radiation from Ultrahigh Energy Cosmic Rays in Models with Large Extra Dimensions.*
Benjamin Koch, Hans Joachim Drescher, Marcus Bleicher;
Astropart.Phys.**25:291-297,2006** ; [arXiv:astro-ph/0602164].
2. *Black Hole Remnants at the LHC.*
Benjamin Koch, Marcus Bleicher, Sabine Hossenfelder;
JHEP **0510:053,2005** ; [arXiv:hep-ph/0507138].
3. *Large Extra Dimensions and the Minimal Scale Constraints through High Precision Experiments.*
U. Harbach, B. Koch, M. Bleicher, S. Hossenfelder;
Int.J.Mod.Phys.A**20:3334-3336, 2005.**

Publications in Conference Proceedings

4. *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, 2006; **IPPP-06-74**; [arXiv:hep-ph/0611033].
5. *Signatures for Black Hole Production from Hadronic Observables at the Large Hadron Collider.*
Thomas J. Humanic, Benjamin Koch, Horst Stoecker;
International Symposium on Heavy Ion Physics 2006 (ISHIP 2006), Frankfurt; [arXiv:hep-ph/0607097].
6. *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. Stoecker;
22nd Winter Workshop on Nuclear Dynamics, La Jolla, California, 2006; [arXiv:hep-ph/0606193].
7. *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, [arXiv:hep-ph/0408331].

Submitted Publications

8. *Gravitational Radiation from Elastic Particle Scattering in models with Extra Dimensions.*
Benjamin Koch, Marcus Bleicher;
[arXiv:hep-th/0512353].
9. *Trapping Black Hole Remnants.*
Sabine Hossenfelder, Benjamin Koch, Marcus Bleicher;
[arXiv:hep-ph/0507140].