

PUBLICATIONS 2008

A. Bredenstein, A. Denner, S. Dittmaier and S. Pozzorini,
NLO QCD Corrections to $t\bar{t}b\bar{b}$ Production at the LHC: 1. Quark-Antiquark Annihilation
JHEP **0808**, 108 (2008).

S. Brensing, S. Dittmaier, M. Krämer and A. Mück,
Radiative Corrections to W-boson Hadroproduction: Higher-order Electroweak and Supersymmetric Effects
Phys. Rev. **D 77**, 073006 (2008).

J. Brod, F. Fugel and B. A. Kniehl,
Dominant Two-Loop Electroweak Corrections to the Hadroproduction of a Pseudoscalar Higgs Boson and its Photonic Decay
Phys. Rev. **D 78**, 011303 (2008).

M. Ciccolini, A. Denner and S. Dittmaier,
Electroweak and QCD Corrections to Higgs Production via Vector-Boson Fusion at the LHC
Phys. Rev. **D 77**, 013002 (2008).

A. Denner, B. Jantzen and S. Pozzorini,
Two-Loop Electroweak Next-to-Leading Logarithms for Processes Involving Heavy Quarks
JHEP **0811**, 062 (2008).

R. Horsky, M. Krämer, A. Mück and P. Zerwas,
Squark Cascade Decays to Charginos/Neutralinos: Gluon Radiation
Phys. Rev. **D 78**, 035004 (2008).

M. Mühlleitner and M. Spira,
Higgs Boson Production via Gluon Fusion: Squark Loops at NLO QCD
Nucl. Phys. **B 790**, 1 (2008).

D. Noth and M. Spira,
Higgs Boson Couplings to Bottom Quarks: Two-Loop Supersymmetry-QCD Corrections
Phys. Rev. Lett. **101**, 181801 (2008).

R. Unterdorfer and H. Pichl,
On the Radiative Pion Decay
Eur. Phys. J. **C 55**, 273 (2008).

CONTRIBUTIONS TO CONFERENCES AND WORKSHOPS

N.E. Adam *et al.* (PSI: M. Ciccolini, A. Denner, M. Spira),

Higgs Working Group Summary Report

Report of the Working Group on Higgs Bosons for the Workshop "Physics at TeV Colliders",
Les Houches (France), 11 -29 June 2007

arXiv:0803.1154 [hep-ph].

Z. Bern *et al.* (PSI: A. Denner),

The NLO Multileg Working Group: Summary Report

Report of the NLO Multileg Working Group for the Workshop "Physics at TeV Colliders", Les
Houches (France), 11 - 29 Jun 2007

arXiv:0803.0494 [hep-ph].

A. Bredenstein, A. Denner, S. Dittmaier and S. Pozzorini,

NLO QCD Corrections to $pp \rightarrow t\bar{t}b\bar{b} + X$ via Quark Anti-Quark Annihilation

Proceedings of 9th Workshop on Elementary Particle Theory: Loops and Legs in Quantum Field
Theory, Sondershausen (Germany), 20 - 25 April 2008

Nucl. Phys. Proc. Suppl. **183**, 226 (2008).

C. Buttar *et al.* (PSI: B. Jantzen),

Standard Model Handles and Candles Working Group: Tools and Jets Summary Report

Report of SMHC working group for the Workshop "Physics at TeV Colliders", Les Houches
(France), 11 - 29 June, 2007

arXiv:0803.0678 [hep-ph].

M. Ciccolini, A. Denner and S. Dittmaier,

*Strong and Electroweak NLO Corrections to Higgs-Boson Production in Vector-Boson Fusion at
the LHC*

Proceedings of 9th Workshop on Elementary Particle Theory: Loops and Legs in Quantum Field
Theory, Sondershausen (Germany), 20 - 25 April 2008

Nucl. Phys. Proc. Suppl. **183**, 103 (2008).

M. Ciccolini, A. Denner and S. Dittmaier,

*Strong and Electroweak NLO Corrections to Higgs-Boson Production in Vector-Boson Fusion at
the LHC*

Proceedings of 9th Workshop on Elementary Particle Theory: Loops and Legs in Quantum Field
Theory, Sondershausen (Germany), 20 - 25 April 2008

Nucl. Phys. Proc. Suppl. **183**, 103 (2008).

A. Denner, B. Jantzen and S. Pozzorini,

Two-Loop Electroweak Sudakov Logarithms for Massive Fermion Scattering

Proceedings of the 8th International Symposium on Radiative Corrections (RADCOR07), Flo-
rence (Italy), 1 - 5 October 2007

PoS RADCOR2007:002,2007, arXiv:0801.2647 [hep-ph].

T. Hahn, S. Heinemeyer, W. Hollik, H. Rzehak and G. Weiglein,
FeynHiggs and More

Proceedings of the 9th DESY Workshop on Elementary Particle Theory, Sondershausen (Germany), 20 - 25 April 2008

Nucl. Phys. Proc. Suppl. **183**, 202 (2008).

T. Hahn, S. Heinemeyer, W. Hollik, H. Rzehak and G. Weiglein,

Two-Loop Corrections to the Charged Higgs-Boson Mass in the MSSM

Proceedings of the 9th DESY Workshop on Elementary Particle Theory, Sondershausen (Germany), 20 - 25 April 2008

Nucl. Phys. Proc. Suppl. **183**, 86 (2008).

K. Kampf, J. Novotny and J. Trnka,

Renormalization of Tensor Self-energy in Resonance Chiral Theory

Contribution to *Hadron structure 07*, Slovakia

arXiv:0803.1731.

K. Kampf, M. Knecht, J. Novotny and M. Zdrahal,

Dispersive Representation of $K \rightarrow 3\pi$ Amplitudes and Cusps

Contribution to QCD 08, Montpellier (France)

arXiv:0810.1906.

K. Kampf, J. Novotny and J. Trnka,

Renormalization of the Antisymmetric Tensor Field Propagator and Dynamical Generation of the 1^{+-} mesons in Resonance Chiral Theory

Contribution to QCD 08, Montpellier (France)

R. Rosenfelder,

Stochastic Evaluation of High-Energy potential Scattering

Poster at *PANIC08 - International Conference on Particles And Nuclei*, Eilat (Israel), 9 - 14 November 2008, abstract no. 82-288.

PUBLISHED PROCEEDINGS (from previous conferences)

F. del Aguila *et al.* (PSI: M. Spira),

Collider Aspects of Flavour Physics at high Q

Report of Working Group 1 of the CERN Workshop Flavor in the Era of the LHC: A Workshop on the Interplay of Flavor and Collider Physics, Geneva (Switzerland), 7 - 10 November 2005

Eur. Phys. J. **C 57** (2008) 183

R. Rosenfelder,

Perturbative Results Without Diagrams

Proceedings of the 9th International Conference "Path Integrals - New Trends and Perspectives", Dresden, Germany (2007), eds. W. Janke and A. Pelster, World Scientific, Singapore, 2008.

INVITED TALKS

A. Denner,

Reduction of Multiparticle One-Loop Integrals and Amplitudes (5 lectures)

Third Graduate School in Physics at Colliders: from Twistors to Monte Carlos, Turin (Italy),
7 - 11 January 2008.

A. Denner,

Electroweak and QCD Corrections to Higgs Production in Vector-Boson Fusion at the LHC

8th DESY Workshop: Loops and Legs in Quantum Field Theory, Sondershausen (Germany),
20 - 25 April 2008.

A. Denner,

Towards Reliable Predictions for Multiparticle Processes at the LHC

Seminar Elementarteilchentheorie, Würzburg (Germany), 5 June 2008.

A. Mück,

Squark Decay Chains at NLO SUSY-QCD

Theory Seminar, MPI München (Germany), 28 January 2008.

A. Mück,

Electroweak Precision at the LHC

Frühjahrstagung der Deutschen Physikalischen Gesellschaft, Freiburg (Germany), 4 March 2008.

A. Mück,

Electroweak Precision for W-boson Production at the LHC

Swiss Physical Society Annual Meeting, Geneva (Switzerland), 26 March 2008.

A. Mück,

Squark Decay Chains at NLO SUSY-QCD

CMS SUSY Meeting, CERN, 30 April 2008.

A. Mück,

Squark Decay Chains at NLO SUSY-QCD

ATLAS SUSY Meeting, CERN, 21 May 2008.

A. Mück,

Squark Decay Chains at NLO SUSY-QCD

Particle Physics Seminar, ETH Zürich, 27 May 2008.

A. Mück,

Electroweak Corrections to W Hadroproduction

LHC-D workshop on QCD and EW Physics, Zürich, 3 June 2008.

A. Mück,

Precise Prediction for MSSM Higgs-Boson Production in Bottom Quark Fusion

MSSM Higgs Physics at the LHC: Theory meets Experiment, Santander (Spain), 8 October 2008.

M. Spira,
Associated MSSM Higgs Production with Heavy Quarks: SUSY-QCD Corrections
SUSY08 conference, Seoul (Korea), 16 - 21 June 2008.

M. Spira,
Recent Progress In Higgs Cross Section (and Branching Ratios) Calculations
CMS-Meeting, CERN, 4 July 2008.

M. Spira,
Associated MSSM Higgs Production with Heavy Quarks: SUSY-QCD Corrections
SUSY08 conference, Seoul (Korea), 16 - 21 June 2008.

M. Spira,
Higgs & ILC: Reality or Wishful Thinking?
LC08 School, Frascati (Italy), 22 - 25 September 2008.

OUTREACH AND OTHER SCIENTIFIC ACTIVITIES

R. Rosenfelder and M. Spira (organizers),
New Ideas in Particle Physics
Summer School, Lyceum Alpinum, Zuoz, Engadine (Switzerland), 13 - 19 July 2008.

LECTURES AND COURSES

A. Denner: "Das Standardmodell der elektroschwachen Wechselwirkung und dessen Erweiterungen", ETH Zürich, HS 08.

R. Rosenfelder: "Pfadintegrale in der Quantenphysik", ETH Zürich, HS 08.

M. Spira and A. Mück: "LTP-Colloquium", PSI, FS 08, HS 08.

M. Spira: "Einführung in die Quantenchromodynamik", ETH Zürich, FS 08.

M. Spira (with F. Moortgat): "Jenseits des Standardmodells", ETH Zürich, HS 08.

THESIS

D. Noth,

Supersymmetric Precision Calculations of Bottom Yukawa couplings

Doctoral thesis, Universität Zürich, December 2008

Advisors: M. Spira (PSI), D. Wyler (U. Zürich).

COMMITTEES

R. Rosenfelder:

Member of the Research Committee BVR at PSI.

M. Spira:

Convenor of the working group 'Electroweak Gauge Theories and Alternative Theories' of the 'ECFA Study of Physics and Detectors for a Linear Collider'.