

## PUBLICATIONS 2006

E. Accomando, A. Denner and C. Meier,

*Electroweak Corrections to  $W\gamma$  and  $Z\gamma$  Production at the LHC*

Eur. Phys. J. **C 47**, 125 (2006).

J. A. Aguilar-Saavedra, *et al.*, (PSI: H. Rzehak, M. Spira),

*Supersymmetry Parameter Analysis: SPA Convention and Project*

Eur. Phys. J. **C 46**, 43 (2006).

K. Barro-Bergflödt, R. Rosenfelder and M. Stingl,

*Variational Worldline Approximation for the Relativistic Two-Body Bound State in a Scalar Model*

Few-Body Syst. **39**, 193 (2006).

T. Binoth, M. Ciccolini, N. Kauer and M. Kramer,

*Gluon-Induced  $W$ -Boson Pair Production at the LHC*

JHEP **12**, 046 (2006).

A. Bredenstein, A. Denner, S. Dittmaier and M. M. Weber,

*Precise Predictions for the Higgs-Boson Decay  $H \rightarrow WW/ZZ \rightarrow 4$  leptons*

Phys. Rev. **D 74**, 013004 (2006).

A. Denner and S. Dittmaier,

*Reduction Schemes for One-Loop Tensor Integrals*

Nucl. Phys. **B 734**, 62 (2006).

B. Jantzen and V.A. Smirnov,

*The Two-Loop Vector Form Factor in the Sudakov Limit*

Eur. Phys. J. **C 47**, 671 (2006).

U. Langenegger, M. Spira, A. Starodumov and P. Trüb,

*SM and MSSM Higgs Boson Production: Spectra at Large Transverse Momentum*

JHEP **06**, 035 (2006).

G. Weiglein *et al.*, (LHC/LC Study Group, PSI : M. Spira),

*Physics Interplay of the LHC and the ILC*

Phys. Rept. **426**, 47 (2006).

## CONTRIBUTIONS TO CONFERENCES AND WORKSHOPS

A. Bredenstein, A. Denner, S. Dittmaier and M. M. Weber,

*Precision Calculations for the Higgs Decays  $H \rightarrow ZZ/WW \rightarrow 4$  leptons*

Proceedings of the 8th DESY Workshop on Elementary Particle Theory: Loops and Legs in Quantum Field Theory, Eisenach (Germany), 23 - 28 April 2006

Nucl. Phys. Proc. Suppl. **160**, 131 (2006).

A. Denner and S. Dittmaier,

*The Complex-Mass Scheme for Perturbative Calculations With Unstable Particles*

Proceedings of the 8th DESY Workshop on Elementary Particle Theory: Loops and Legs in Quantum Field Theory, Eisenach (Germany), 23 - 28 April 2006

Nucl. Phys. Proc. Suppl. **160**, 22 (2006).

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

*QCD Corrections to the Mass of the Lightest Higgs Boson in the complex MSSM*

LHC-D workshop, Higgs physics, Karlsruhe (Germany), 7 - 8 March 2006.

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

*Higher-Order Corrected Higgs Bosons in FeynHiggs 2.5*

Linear Collider Workshop (LCWS 06), Bangalore (India), 9 - 13 March 2006.

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

*The Higgs Sector in the Complex MSSM: QCD Corrections*

SUSY 06, Irvine, California (USA), 12 - 17 June 2006.

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

*Two-Loop Contributions to the Higgs Sector in the MSSM with Complex Parameters*

LoopFest V, SLAC (USA), 19 - 21 June 2006

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

*Two-Loop Calculations in the MSSM with Complex Parameters*

Proceedings of the 8th DESY Workshop on Elementary Particle Theory: Loops and Legs in Quantum Field Theory, Eisenach (Germany), 23 - 28 April 2006

Nucl. Phys. Proc. Suppl. **160**, 106 (2006).

B. Jantzen,

*Two-Loop Electroweak Next-to-Leading Logarithms*

KET-Workshop on QCD and electroweak physics at the LHC, DESY Hamburg (Germany), 16 - 17 October 2006.

B. Jantzen,

*Two-Loop Electroweak Next-to-Leading Logarithmic Corrections to Massless Fermionic Processes*

ILC Workshop - ECFA and GDE Joint Meeting, Valencia (Spain), 6 - 10 November 2006.

## PUBLISHED PROCEEDINGS (from previous conferences)

T. Binoth, M. Ciccolini and G. Heinrich,

*Towards LHC Phenomenology at the Loop Level: A New Method for One-Loop Amplitudes*

Proceedings of the 7th International Symposium on Radiative Corrections: Application of Quantum Field Theory to Phenomenology (RADCOR 2005), Shonan Village, Kanagawa (Japan), 2 - 7 October 2005.

Nucl. Phys. Proc. Suppl. **157**, 48 (2006).

A. Bredenstein, A. Denner, S. Dittmaier and M. M. Weber,

*Electroweak Corrections to  $H \rightarrow ZZ/WW \rightarrow 4$  leptons*

Proceedings of the 7th International Symposium on Radiative Corrections: Application of Quantum Field Theory to Phenomenology (RADCOR 2005), Shonan Village, Kanagawa (Japan), 2 - 7 October 2005.

Nucl. Phys. Proc. Suppl. **157**, 63 (2006).

C. Buttar *et al.* (PSI: A. Denner, M. Spira),

*Les Houches Physics at TeV Colliders 2005, Standard model and Higgs Working Group: Summary Report*

Les Houches Workshop on Physics at TeV Colliders, Les Houches (France), 2-20 May 2005.

e-Print Archive: hep-ph/0604120.

A. Denner and S. Dittmaier,

*Techniques for One-Loop Tensor Integrals in Many-Particle Processes*

Proceedings of the 7th International Symposium on Radiative Corrections: Application of Quantum Field Theory to Phenomenology (RADCOR 2005), Shonan Village, Kanagawa (Japan), 2 - 7 October 2005.

Nucl. Phys. Proc. Suppl. **157**, 53 (2006).

A. Denner, S. Dittmaier, M. Roth and L.H. Wieders

*Electroweak Corrections to  $e^+e^- \rightarrow 4$  fermions*

Proceedings of the 7th International Symposium on Radiative Corrections: Application of Quantum Field Theory to Phenomenology (RADCOR 2005), Shonan Village, Kanagawa (Japan), 2 - 7 October 2005.

Nucl. Phys. Proc. Suppl. **157**, 68 (2006).

A. Djouadi, M. M. Mühlleitner and M. Spira,

*Decays of Supersymmetric Particles: The Program SUSY-HIT (SUspect-SdecaY-Hdecay-InTerface)*

Proceedings of the Workshop 'Physics at LHC', Cracow (Poland) 2006

hep-ph/0609292.

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

*Higgs Phenomenology in the Feynman-diagrammatic Approach/FeynHiggs* Proceedings of the

Workshop on CP-studies and Non-standard Higgs Physics, CERN, May 2004 -December 2005, CERN report 2006-009, p. 124.

P. Häfliger and M. Spira,  
*Associated Higgs Boson Production with Heavy Quarks in  $e^+e^-$  Collisions: SUSY-QCD*  
Proceedings ICHEP '05, Lisboa, Portugal, 2005  
PoS **HEP2005**,351 (2006).

R. Rosenfelder,  
*Vacuum Polarization Effects in the Worldline Variational Approach to Quantum Field Theory*  
Proceedings of the 17th International Conference on Particles and Nuclei (PANIC05), Santa Fe,  
New Mexico, 24 - 28 October 2005, ed. P. Barnes, M. Cooper, R. Eisenstein, H. van Hecke and  
G. Stephenson,  
AIP Conf. Proc. **842**, 929 (2006).

## INVITED TALKS

A. Denner,  
*Complete Electroweak  $\mathcal{O}(\alpha)$  Corrections to  $e^+e^- \rightarrow 4$  Fermions and  $H \rightarrow 4$  Fermion*  
IPPP, Durham (England), 9 March 2006.

A. Denner,  
*Complete Electroweak  $\mathcal{O}(\alpha)$  Corrections to  $e^+e^- \rightarrow 4$  Fermions*  
8th DESY Workshop on Elementary Particle Theory: Loops and Legs in Quantum Field Theory,  
Eisenach (Germany). 23–28 April 2006.

A. Denner,  
*Die Elektroschwache Wechselwirkung - Theorie und Präzisionstests*  
Theoriekolloquium, Universität Würzburg (Germany) 24 July 2006.

A. Denner,  
*Precise Predictions for the Higgs-Boson Decay  $H \rightarrow WW/ZZ \rightarrow 4$  Fermions*  
HP<sup>2</sup> workshop: High precision for hard processes at the LHC, Zürich (Switzerland), 6 - 9 September 2006.

A. Denner,  
*One-loop Corrections for 4-Fermion Final States*  
Symposium on Precision Calculations for Hadron and Lepton Colliders Karlsruhe (Germany),  
23 - 24 November 2006.

B. Jantzen,  
*Evaluation of Electroweak Two-Loop Corrections in the High Energy Limit*  
Particle Physics Seminar, University of Zürich (Switzerland), 26 June 2006.

B. Jantzen,

*Two-Loop Electroweak Logarithms at High Energies*

Symposium on Precision Calculations for Hadron and Lepton Colliders, Karlsruhe (Germany), 23 November 2006.

M. Spira,

*Production of Higgs and SUSY Particles at the LHC*

Seminar, Warschau (Poland), 20 February, 2006.

M. Spira,

*Higgs Physics at LHC: Theory*

LHC-D Workshop 2006 - Higgs Physik, Karlsruhe (Germany), 7 - 8 March 2006.

M. Spira,

*SUSY Particle Production at Hadron Colliders*

LHC-D Workshop 2006 - SUSY and BSM, Aachen (Germany), 21 - 22 April 2006.

M. Spira,

*NLO Corrections to SUSY Particle Production at Hadron Colliders*

Tools for SUSY and the New Physics, Annecy (France), 26 - 28 June 2006.

M. Spira,

*Physics Motivation for the ILC*

CHIPP Workshop on the High-Energy Frontier of Particle Physics, Zürich (Switzerland), 4 - 6 September 2006.

M. Spira,

*Higgs Production via Gluon Fusion: QCD Corrections to Squark Loops*

Workshop 'High Precision for Hard Processes at the LHC', Zürich (Switzerland), 6 - 8 September 2006.

M. Spira,

*Exotics*

Linear Collider Physics School, Ambleside (UK), 15 - 19 September 2006.

M. Spira,

*Higgs Search at Future Colliders*

6a Trobada de Nadal de Física Teòrica, Barcelona (Spain), 20 - 21 December 2006.

R. Unterdorfer,

*The Radiative Pion Decay*

Inst. f. Theor. Physik, Universität Wien (Austria) 13 June 2006.

## SUMMER SCHOOL

A. Denner and R. Rosenfelder (organizers): *Summer School on Effective Theories in Particle Physics*

Zuoz, Engadin (Switzerland) 16 - 22 July 2006.

## LECTURES AND COURSES

A. Denner: "Das Standardmodell der elektroschwachen Wechselwirkung und dessen Erweiterungen", ETH Zürich, WS 06/07.

R. Rosenfelder: "Pfadintegrale in der Quantenphysik", ETH Zürich, WS 06/07.

M. Spira and M. Ciccolini: "LTP-Colloquium", PSI, SS 06 and WS 06/07.

M. Spira: "Einführung in die Quantenchromodynamik", ETH Zürich, SS 06.

M. Spira (with F. Moortgat): "Jenseits des Standardmodells", ETH Zürich, WS 06/07.

## AWARDS

H. Rzehak: Otto-Hahn-Medaille 2005 für Nachwuchswissenschaftlerinnen und Nachwuchswissenschaftler,

Hauptversammlung der Max-Planck-Gesellschaft, Frankfurt (Germany), 12 - 14 July 2006.

P. Häfliger: *Associated MSSM Higgs Production with Heavy Quarks: SUSY-QCD Corrections & Impact of  $A_0$  on the  $mSUGRA$  Parameter Space*

Doctoral thesis, ETH Zürich, December 2006

Advisors: M. Spira (PSI), F. Pauss (ETH Zürich)