

PUBLICATIONS 2009

- S. Actis, P. Mastrolia and G. Ossola,
Numerical Evaluation of One-Loop Scattering Amplitudes for Hard-Photon Emission in Bhabha Scattering
Acta Phys. Polon. **B 40**, 2957 (2009).
- B. Allanach *et al.* (PSI: M. Spira),
SUSY Les Houches Accord 2
Comp. Phys. Comm. **180**, 8 (2009).
- A. Bredenstein, A. Denner, S. Dittmaier and S. Pozzorini,
NLO QCD Corrections to $pp \rightarrow t\bar{t}b\bar{b} + X$ at the LHC
Phys. Rev. Lett. **103**, 012002 (2009)
- J. Brod, F. Fugel and B. A. Kniehl,
Two-Loop Electroweak Corrections to the $A^0\gamma\gamma$ and A^0gg Couplings of the CP-Odd Higgs Boson
Nucl. Phys. **B 807**, 188 (2009).
- A. Denner, S. Dittmaier, T. Kasprzik and A. Mück,
Electroweak Corrections to $W + jet$ Hadroproduction Including Leptonic W -Boson Decays
JHEP **0908**, 075 (2009).
- A. Denner, S. Dittmaier, Th. Gehrmann and Ch. Kurz,
Electroweak Corrections to Three-Jet Production in Electron-Positron Annihilation
Phys. Lett. **B 679**, 219 (2009).
- W. Hollik, T. Plehn, M. Rauch and H. Rzehak,
Supersymmetric Higgs Bosons in Weak Boson Fusion
Phys. Rev. Lett. **102**, 091802 (2009).
- K. Kampf and B. Moussallam,
Chiral Expansions of the π^0 Lifetime
Phys. Rev. **D 79**, 076005 (2009).
- M. Krämer, E. Popenza, M. Spira and P. M. Zerwas,
Gluino Polarization at the LHC
Phys. Rev. **D 80**, 055002 (2009).
- M. Mühlleitner, H. Rzehak and M. Spira,
MSSM Higgs Boson Production via Gluon Fusion: The Large Gluino Mass Limit
JHEP **0904**, 023 (2009).
- R. Rosenfelder,
Perturbation Theory Without Diagrams: The Polaron Case
Phys. Rev. **E 79**, 016705 (2009).

R. Rosenfelder,
Path Integrals for Potential Scattering
Phys. Rev. A **79**, 012701 (2009).

PREPRINTS

S. Actis *et al.*,
Quest for Precision in Hadronic Cross sections at Low Energy: Monte Carlo Tools vs. Experimental Data
Report of the "Working Group on Radiative Corrections and Monte Carlo Generators for Low Energies"
arXiv:0912.0749 [hep-ph]

J. Carron,
Variational Methods for Path Integral Scattering
arXiv:0903.0273 [nucl-th]

J. Carron and R. Rosenfelder,
Variational Approximations in a Path-Integral Description of Potential Scattering
arXiv:0912.4429 [nucl-th]

G. Chachamis, M. Hentschinski, A. Sabio Vera and C. Salas,
Exclusive Central Production of Heavy Quarks at the LHC
arXiv:0911.2662 [hep-ph]

S. Dittmaier, M. Krämer, M. Spira and M. Walser,
Charged-Higgs Boson Production at the LHC: NLO Supersymmetric QCD Corrections
arXiv:0906.2648 [hep-ph]

S. Dittmaier, S. Kallweit and P. Uwer,
NLO QCD Corrections to $pp/p\bar{p} \rightarrow WW + Jet + X$ Including Leptonic W-Boson Decays
arXiv:0908.4124 [hep-ph]

CONTRIBUTIONS TO CONFERENCES AND WORKSHOPS

A. Denner, S. Dittmaier, T. Kasprzik, A. Mück,
Electroweak Corrections to $W + Jet$ Hadroproduction Including Leptonic W-Boson Decays
Proceedings of the 2009 Europhysics Conference on High Energy Physics: HEP 2009 (EPS-HEP 2009), Cracow (Poland), 16 - 22 Jul 2009.
arXiv:0909.3943 [hep-ph]

A. De Roeck *et al.* (PSI: G. Chachamis),
From the LHC to Future Colliders
CERN Theory Institute Summary Report, CERN, Geneva (Switzerland), 9 - 27 February 2009.
arXiv:0909.3240 [hep-ph].

K. Kampf,
Chiral Expansion for π^0 decays
Proceedings of the International Workshop on Effective Field Theories: From the Pion to the Upsilon (EFT 09), Valencia (Spain), 2 - 6 February 2009, p. 030.
arXiv:0905.0585 [hep-ph]

K. Kampf, J. Novotny and J. Trnka,
Note on Renormalization of the Spin-1 Resonance Propagator at One Loop Order
Proceedings of the International Workshop on Effective Field Theories: From the Pion to the Upsilon (EFT 09), Valencia (Spain), 2 - 6 February 2009, p. 13.
arXiv:0905.1348 [hep-ph]

M. Spira,
Higgs Physics at e^+e^- and Photon Colliders
Proceedings of the International Conference on the Structure and the Interactions of the Photon (Photon 09), Hamburg, Germany, 11 - 15 May 2009.
<https://indico.desy.de/conferenceOtherViews.py?view=nicecompact&confId=140>: Monday 11 May, 12:00 - 12:25

M. Zdrahal, K. Kampf, M. Knecht and J. Novotny,
Dispersive Construction of Two-Loop $P \rightarrow 3\pi$ ($P = K, \eta$) Amplitudes
Proceedings of the International Workshop on Effective Field Theories: From the Pion to the Upsilon (EFT 09), Valencia (Spain), 2 - 6 February 2009, p. 063.
arXiv:0905.4868 [hep-ph]

PUBLISHED PROCEEDINGS (from previous conferences)

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
Proceedings of 14th High-Energy Physics International Conference in Quantum Chromodynamics (QCD 08), Montpellier (France), 7 - 12 July 2008.
Nucl. Phys. Proc. Suppl. **186**, 153 (2009).

K. Kampf, M. Knecht, J. Novotny and M. Zdrahal,
Dispersive Representation of $K \rightarrow 3\pi$ Amplitudes and Cusps
Proceedings of 14th High-Energy Physics International Conference in Quantum Chromodynamics (QCD 08), Montpellier (France), 7 - 12 July 2008.
Nucl. Phys. Proc. Suppl. **186**, 334 (2009).

INVITED TALKS

G. Chachamis,

Two-Loop QCD Amplitudes for $qq \rightarrow WW$ at Hadron Colliders

IPPP seminar talk, Durham University, Durham (United Kingdom), 26 November 2009.

A. Denner,

NLO Corrections to $pp \rightarrow t\bar{t}b\bar{b} + X$ at the LHC

Workshop on Higgs Boson Phenomenology, Zürich (Switzerland), 7 - 9 January 2009.

A. Denner,

Electroweak Radiative Corrections for the LHC (2 lectures)

Training event: MC4LHC: from parton showers to NNLO, CERN, Geneva (Switzerland), 4 - 8 May 2009.

A. Denner,

Quantenkorrekturen für die Suche nach dem Higgs-Boson am LHC

Seminar Elementarteilchentheorie, Würzburg (Germany), 15 July 2009.

A. Denner,

Techniques and Concepts for Higher-Order Calculations

DESY Theory Workshop: Collider Phenomenology, Hamburg (Germany), 29 September 2009.

A. Denner,

Reliable Predictions for Multiparticle Processes at the LHC

Theory Seminar, Bern (Switzerland), 20 November 2009.

S. Kallweit,

NLO QCD Corrections to $WW + \text{Jet}$ Production Including Leptonic W Decays at Hadron Colliders

DPG Frühjahrstagung der Deutschen Physikalischen Gesellschaft, München (Germany), 10 March 2009.

S. Kallweit,

NLO QCD Corrections to $WW + \text{Jet}$ Production Including Leptonic W Decays at Hadron Colliders

Particle Physics Seminar, University of Zurich (Switzerland), 20 October 2009.

S. Kallweit,

NLO QCD Corrections to $WW + \text{Jet}$ Production Including Leptonic W Decays at Hadron Colliders

IPPP Seminar, Durham (United Kingdom), 22 October 2009.

S. Kallweit,
NLO QCD Corrections to $WW + \text{Jet}$ Production Including Leptonic W Decays at Hadron Colliders

9th International Symposium on Radiative Corrections (RADCOR 2009): Applications of Quantum Field Theory to Phenomenology, Ascona (Switzerland), 26 October 2009.

R. Rosenfelder,
Path Integrals for Stochastic Scattering
Seminar, Università degli Studi di Trento, Povo/Trento (Italy), March 26, 2009.

R. Rosenfelder,
Exact Path-Integral Representations for the T -matrix in Nonrelativistic Potential Scattering
International Workshop on Relativistic Description of Two- and Three-Body Systems in Nuclear Physics, ECT*, Trento (Italy), October 19 - 23, 2009.

M. Spira,
Higgs Couplings: Two-Loop Corrections and Decoupling Properties
Workshop on Higgs Boson Phenomenology, Zürich (Switzerland), 7 - 9 January 2009.

M. Spira,
New Developments in Higgs Physics
Workshop on Determining the Higgs Properties at the LHC, Seattle (USA), 12 - 16 January 2009.

M. Spira,
Associated MSSM Higgs Production with Heavy Quarks: SUSY-QCD Corrections
9th International Symposium on Radiative Corrections (RADCOR 2009): Applications of Quantum Field Theory to Phenomenology, Ascona (Switzerland), 25 - 30 October 2009.

M. Spira,
News on Higgs Production and Decays
ATLAS-Meeting, CERN, Geneva (Switzerland), 6 November 2009.

LECTURES AND COURSES

A. Denner: "Das Standardmodell der elektroschwachen Wechselwirkung", ETH Zürich, HS 09.

M. Spira: "Einführung in die Quantenchromodynamik", ETH Zürich, FS 09.

M. Spira and A. Mück: "LTP-Colloquium", PSI, FS 09.

M. Spira and G. Chachamis: "LTP-Colloquium", PSI, HS 09.

THESIS

J. Carron,

Variational Methods for Path Integral Scattering

Master thesis, ETH Zürich, March 2009

Advisors: R. Rosenfelder (PSI), J. Fröhlich (ETH)

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'.