





## List of publications

Most of the results presented in this work are already published in one of the references listed below. The selection has been done with focus on those results where the author contributed significantly to the implementation, the simulations and the analysis. This concerns in particular the references [P2-P5], [P8], [P10], [P11] and [P12].

- [P1]  Collaboration: K. Jansen, C. McNeile, C. Michael, K. Nagai, M. Papinutto, J. Pickavance, A. Shindler, C. Urbach, I. Wetzorke, *Flavour Breaking Effects of Wilson twisted mass fermions*, accepted for publication in Phys. Lett. **B** (2005), [hep-lat/0507032](#).
- [P2]  Collaboration: K. Jansen, M. Papinutto, A. Shindler, C. Urbach, I. Wetzorke, *Quenched Scaling of Wilson twisted mass fermions*, accepted for publication in JHEP (2005), [hep-lat/0507010](#).
- [P3] F. Farchioni, K. Jansen, I. Montvay, E.E. Scholz, L. Scorzato, A. Shindler, N. Ukita, C. Urbach, U. Wenger, I. Wetzorke, *Lattice Spacing Dependence of the First Order Phase Transition for Dynamical Twisted Mass Fermions*, accepted for publication in Phys. Lett. **B** (2005), [hep-lat/0506025](#)
- [P4] C. Urbach, K. Jansen, A. Shindler, U. Wenger, *HMC algorithm with multiple time scale integration and mass preconditioning*, accepted for publication in Comp. Phys. Com. (2005), [hep-lat/0506011](#).
- [P5]  Collaboration: K. Jansen, M. Papinutto, A. Shindler, C. Urbach, I. Wetzorke, *Light quarks with twisted mass fermions*, Phys.Lett. **B619** (2005) 184-191, [hep-lat/0503031](#),
- [P6]  Collaboration: W. Bietenholz, S. Capitani, T. Chiarappa, N. Christian, M. Hasenbusch, K. Jansen, K-I. Nagai, M. Papinutto, L. Scorzato, S. Shcheredin, A. Shindler, C. Urbach, U. Wenger, I. Wetzorke, *Going chiral: overlap versus twisted mass fermions*, JHEP **0412** (2004) 044, [hep-lat/0411001](#).
- [P7] F. Farchioni, K. Jansen, I. Montvay, E.E. Scholz, L. Scorzato, A. Shindler, N. Ukita, C. Urbach, I. Wetzorke, *The phase structure of lattice QCD with Wilson quarks and renormalization group improved gluons*, Eur.Phys.J.**C42** (2005) 73-87, [hep-lat/0410031](#).
- [P8] F. Farchioni, R. Frezzotti, K. Jansen, I. Montvay, G.C. Rossi, E.E. Scholz, A. Shindler, N. Ukita, C. Urbach, I. Wetzorke, *Twisted mass quarks and the phase structure of lattice QCD*, Eur.Phys.J.**C39** (2005) 421-433, [hep-lat/0406039](#).

- [P9]  $\chi_{\text{L}}^{\text{F}}$  Collaboration: T. Chiarappa, K. Jansen, K.-I. Nagai, M. Papinutto, L. Scorzato, A. Shindler, C. Urbach, U. Wenger, I. Wetzorke, *Comparison between overlap and twisted mass fermions towards the chiral limit*, Nucl.Phys.Proc.Suppl.**140** (2005) 683, hep-lat/0409109.
- [P10]  $\chi_{\text{L}}^{\text{F}}$  Collaboration: T. Chiarappa, K. Jansen, K.-I. Nagai, M. Papinutto, L. Scorzato, A. Shindler, C. Urbach, U. Wenger, I. Wetzorke, *Comparing iterative methods for overlap and twisted mass fermions*, Nucl.Phys.Proc.Suppl.**140** (2005) 853, hep-lat/0409107.
- [P11] F. Farchioni, C. Urbach, R. Frezzotti, K. Jansen, I. Montvay, G.C. Rossi, E.E. Scholz, A. Shindler, N. Ukita, I. Wetzorke, *Exploring the phase structure of lattice QCD with twisted mass quarks*, Nucl.Phys.Proc.Suppl.**140** (2005) 240, hep-lat/0409098.
- [P12]  $\chi_{\text{L}}^{\text{F}}$  Collaboration: K. Jansen, A. Shindler, C. Urbach, I. Wetzorke, *Scaling test for Wilson twisted mass QCD*, Phys. Lett. **B586** (2004) 432-438, hep-lat/0312013.
- [P13]  $\chi_{\text{L}}^{\text{F}}$  Collaboration: W. Bietenholz, S. Capitani, T. Chiarappa, M. Hasenbusch, K. Jansen, M. Müller-Preussker, K.I. Nagai, M. Papinutto, S. Shcheredin, A. Shindler, C. Urbach, I. Wetzorke, *Extracting physics from an unphysical situation: light mesons in a small box*, published in: NIC Symposium 2004, NIC Series **Volume 20** (2004) 117-127, physics/0309072.