

Publications

1. *HTHquery, a method for detecting DNA-binding proteins with a Helix-Turn-Helix structural motif*, H.P. Shanahan, C. Ferrer, S. Jones, and J.M. Thornton, *Bioinformatics*, **21**, 3679-3680, (2005).
2. *Amino Acid architecture and the distribution of polar atoms on the surfaces of proteins*, H.P. Shanahan and J.M. Thornton, *Biopolymers*, **78**, (6), 318-28, (2005).
3. *Identifying DNA binding proteins using structural motifs and the electrostatic potential*, H.P. Shanahan, M.A. Garcia, S. Jones and J.M. Thornton, *Nucl. Acid. Res.* **32**, (16), 4732-4741, (2004).
4. *An examination of the conservation of surface patch polarity for proteins*, H.P. Shanahan and J.M. Thornton, *Bioinformatics*, **20** (14) 2197-2204, (2004).
5. *Using electrostatic potentials to predict DNA-binding sites on DNA-binding proteins*, S. Jones, H.P. Shanahan, H.M. Berman and J.M. Thornton, *Nucl. Acid. Res.* **31** (24), 7189-7198, (2003)
6. *Light hadron spectrum and quark masses from quenched lattice QCD*, S. Aoki *et al.* *Phys. Rev. D* **67**, 034503 (2003)
7. *Light hadron spectroscopy with two flavors of dynamical quarks on the lattice*, A. Ali Khan *et al.* *Phys. Rev. D* **65**, 054505 (2002) [Erratum-ibid. *D* **67**, 059901 (2003)]
8. *Kaon B parameter from quenched domain-wall QCD*, A. Ali Khan *et al.* *Phys. Rev. D* **64**, 114506 (2001)
9. *Hybrid quarkonia with dynamical sea quarks*, T. Manke *et al.* *Phys. Rev. D* **64**, 097505 (2001)
10. *Topological susceptibility in lattice QCD with two flavors of dynamical quarks*, A. Ali Khan *et al.* *Phys. Rev. D* **64**, 114501 (2001)
11. *Decay constants of B and D mesons from improved relativistic lattice QCD with two flavours of sea quarks*, A. Ali Khan *et al.*, *Phys. Rev. D* **64**, 034505 (2001)
12. *Topological defects in lattice gauge theories*, A.C. Davis *et al.*, *JHEP* **0011**, 010 (2000)
13. *Measuring the aspect ratio renormalization of anisotropic-lattice gluons*, M. G. Alford *et al.*, *Phys. Rev. D* **63**, 074501 (2001)
14. *Spin effects in heavy hybrid mesons on an anisotropic lattice*, I.T. Drummond *et al.*, *Phys. Lett.* **B478** (2000) 151
15. *Quenched QCD with $O(a)$ Improvement 1.: The Spectrum of Light Hadrons*, K.C. Bowler *et al.*, *Phys. Rev. D* **62**, 054506 (2000)

16. *Quenched Light Hadron Spectrum*, S. Aoki *et al.*, Phys.Rev.Lett. 84 238-241, 2000.
17. *A non-perturbative calculation of the mass of the B_c* , H.P. Shanahan *et al.*, Phys.Lett. **B** 453, 289-294,1999. hep-lat/ 9902025.
18. *Hybrid quarkonia on asymmetric lattices* , T. Manke *et al.*, Phys.Rev.Lett. 82 4396-4399, 1999. hep-lat/9812017.
19. *The Chern-Simons number as an order parameter: classical sphaleron transitions for $SU(2)$ -Higgs field theories for $m_H \approx 120$ GeV.* , H.P. Shanahan and A.C. Davis, Phys.Lett. **B** 341, 135-140, 1998.
20. *Heavy Hybrids from NRQCD*, T. Manke *et al.*, Phys. Rev. D **57**, 3829 (1998)
21. *Υ spectrum from NRQCD with improved action* , T. Manke *et al.*, Phys. Lett. **B** 408, (1997), 308–314.
22. *The effect of tree-level and mean-field improvement on the light hadron spectrum in quenched QCD*, H.P. Shanahan *et al.*, Phys. Rev. **D** 55, 3 (1997), 1548–1558.
23. *Lattice Study of the Decay $\bar{B}^0 \rightarrow \rho^+ l^- \bar{\nu}_l$: Model-independent Determination of $|V_{ub}|$* , J.M. Flynn *et al.*, Nucl. Phys. **B** 461 (1996), 327–349.
24. *Lattice Study of Semi-Leptonic B Decays: I. $\bar{B} \rightarrow D l \bar{\nu}$ Decays*, K.C. Bowler *et al.*, Phys. Rev. **D** 52, 9 (1995), 5067–5094.
25. *Form factors for $B \rightarrow \pi l \bar{\nu}_l$ and $B \rightarrow K^* \gamma$ decays on the lattice*, D.R. Burford *et al.*, Nucl. Phys. **B** 447 (1995), 425–437.
26. *A lattice calculation of the branching ratio for some of the exclusive modes of $b \rightarrow s \gamma$* , K.C. Bowler *et al.*, Phys. Rev. **D** 51, 9 (1995), 4955–4970.
27. *Lattice Calculations in Heavy Hadron Physics*, H. Shanahan, Supervised by Prof. R.D. Kenway, Ph.D. Thesis, University of Edinburgh (1994)
28. *A lattice calculation of the penguin diagram decay $B \rightarrow K^* \gamma$* , K.C. Bowler *et al.*, Phys. Rev. Lett. 72 1398–1401 (1994)
29. *The Isgur–Wise function from the lattice*, S.P. Booth *et al.*, Phys. Rev. Lett. 72 462–465 (1994)
30. *Quenched Heavy-Light Decay Constants*, R.M. Baxter *et al.*, Phys. Rev. **D**49 1594–1605 (1994)
31. *There are no $R^3 \times S^1$ vacuum gravitational instantons*, N. O’Murachadha and H. Shanahan, Phys. Rev. Lett., **70**, (1993) 1576

32. *On a multipole expansion for Instantons, part 1*, M. Vandyck and H. Shanahan, Class. Quan. Grav., **8**, 11, 2035 (1991)
33. *On a multipole expansion for Instantons, part 2, $S^1 \times R^3$ instantons*, M. Vandyck and H. Shanahan, Class. Quan. Grav., **8**, 11, 2049 (1991)
34. *A non-existence theorem for $R^3 \times S^1$ gravitational instantons*, H. Shanahan, Supervised by Prof. N.O'Murachadha, M.Sc. Dissertation, National University of Ireland, (1991)

Conferences

1. H.P. Shanahan and J.M. Thornton, *Protein-solvent interfaces of monomeric proteins*, 5th European symposium of the Protein Society, 29 March-2 April, 2003, Florence, Italy.
2. S. Jones and H.P. Shanahan, *Towards the prediction of DNA-binding protein structures*, Albany 2003: The 13th Conversation, June 17-21, 2003, Albany, New York.
3. H. P. Shanahan, *The B/c and other hadrons from the bottom drawer of lattice QCD*, Proceedings of 4th International Conference on Quark Confinement and the Hadron Spectrum, Vienna, Austria, 3-8 Jul 2000, World Scientific, Eds. W. Lucha and K.M.Maung
4. *Heavy-light decay constants from relativistic $N_f = 2, 0$ QCD*, H.P. Shanahan, Proceedings of the International Europhysics Conference on High Energy Physics, Tampere, Finland, 15-21 July 1999, IOP Publishing, Eds. K. Huitu, H. Kurki-Suonio and J. Maalampi, hep-ph/9909398.
5. *Heavy-light decay constants from Clover Heavy quark action in QCD with two flavors of dynamical quarks*, H.P. Shanahan *et al.*, Nucl. Phys. Proc. Suppl. **83**, 331 (2000), hep-lat/9909052.
6. *Heavy-light spectrum and decay constants from NRQCD with two flavours of dynamical quarks*, A. Ali Khan *et al.*, Nucl. Phys. Proc. Suppl. **83**, 265 (2000), hep-lat/9911039.
7. *Heavy Quarkonia from Anisotropic and Isotropic Lattices*, T. Manke *et al.*, Nucl. Phys. Proc. Suppl. **83**, 319 (2000), hep-lat/9909133.
8. *Equation of state in finite temperature QCD with improved Wilson quarks*, S. Ejiri *et al.*, Nucl. Phys. Proc. Suppl. **83**, 360 (2000), hep-lat/9909075.
9. *Light hadron spectrum and quark masses in QCD with two flavors of dynamical quarks*, T. Kaneko *et al.*, Nucl. Phys. Proc. Suppl. **83**, 176 (2000), hep-lat/9909050.
10. *Quenched QCD with domain-wall fermions on coarse lattices* Y. Aoki *et al.*, Nucl. Phys. Proc. Suppl. **83**, 591 (2000), hep-lat/9909049.
11. *Eta meson mass and topology in QCD with two light flavors* R. Burkhalter *et al.*, Nucl. Phys. Proc. Suppl. **83**, 162 (2000) hep-lat/9909045.
12. *Heavy quark physics in $N_f = 2$ QCD*,
H.P. Shanahan *et al.*, Nucl. Phys. **B** (Proc.Suppl.) 73 (1999) 375-477.
13. *The static quark potential in full QCD*, T. Kaneko *et al.*, Nucl. Phys. **B** (Proc.Suppl.) 73 (1999) 216-218.

14. *NRQCD on an anisotropic lattice*, I.T.Drummond, R.R. Horgan, T. Manke and H.P. Shanahan, Nucl. Phys. **B** (Proc.Suppl.) 73 (1999) 336-338.
15. *A study of the quenched $\bar{b}c$ mass spectrum at $\beta=6.2$* ,
C.T.H. Davies, A.J. Lidsey and H.P. Shanahan, Nucl. Phys. **B** (Proc.Suppl.) 63 (1998) 323-325.
16. *Hybrid quarkonia with high statistics from NRQCD*, T. Manke *et al.*, Nucl. Phys. **B** (Proc.Suppl.) 63 (1998) 332-334.
17. *An examination of the electroweak phase structure for large Higgs mass*,
H.P. Shanahan, Strong and Electroweak Matter '97, Eger, Hungary, 1997, World Scientific, DAMTP-97-65, hep-ph/9708475.
18. *A comparison of Wilson and $\mathcal{O}(a)$ improved fermion actions in the quenched light hadron mass spectrum*, H. Shanahan, UKQCD collaboration, Quark Confinement and the Hadron Spectrum II, Villa-Olmo, Como, 1996, World Scientific, Eds. N. Brambilla and G.M. Prosperi.
19. *Masses and decay constants of the light mesons in the quenched approximation using the tadpole-improved SW-clover action*, C. Michael and H. Shanahan, Nucl. Phys. **B** (Proc. Suppl.) 47 (1996) 337-344.
20. *A Lattice Calculation of the Branching Ratio for $\bar{B} \rightarrow K^*\gamma$* , H. Shanahan, Nucl. Phys. **B** (Proc. Suppl.) 34 (1994) 474-476.