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November 2018

List of Publications

(a) Refereed Publications

Monograph

Fabian H. L. Essler, Holger Frahm, Frank Göhmann, Andreas Klümper, and Vladimir E. Korepin:
"The One-Dimensional Hubbard Model"
(Cambridge University Press, 2005)

Scientific Journals

87. Daniel Borcherding and Holger Frahm:
"Condensation of non-Abelian $SU(3)_{N_f}$ anyons in a one-dimensional fermion model",
*J. Phys. A: Math. Theor.***51** (2018) 495002

86. Daniel Borcherding and Holger Frahm:
"Signatures of non-Abelian anyons in the thermodynamics of an interacting fermion model",
J. Phys. A: Math. Theor. **51** (2018) 195001

85. Holger Frahm and Márcio J. Martins:
"The fine structure of the finite-size effects for the spectrum of the $OSp(n|2m)$ spin chain",
Nucl. Phys. B **930** (2018) 545-562

84. Peter E. Finch, Michael Flohr, and Holger Frahm:
"$\mathbf{Z}_n$ clock models and chains of $so(n)_2$ non-Abelian anyons: symmetries,
integrable points and low energy properties",
J. Stat. Mech. (2018) 023103

83. Holger Frahm and Konstantin Hobuß:
"Spectral flow for an integrable staggered superspin chain",
J. Phys. A: Math. Theor. **50** (2017) 294002

82. Natalia Braylovskaya, Peter E. Finch, and Holger Frahm:
"Exact solution of the D_3 non-Abelian anyon chain",
Phys. Rev. B **94** (2016) 085138

81. Holger Frahm and Nikos Karaiskos:
"Non-Abelian $SU(3)_k$ anyons: inversion identities for higher rank face models",
J. Phys. A: Math. Theor. **48** (2015) 484001

80. Holger Frahm and Márcio J. Martins:
"Finite-size effects in the spectrum of the $OSp(3|2)$ superspin chain",
Nucl. Phys. B **894** (2015) 665-684

79. Peter E. Finch, Michael Flohr, and Holger Frahm:
"Integrable anyon chains: from fusion rules to face models to effective field theories",
Nucl. Phys. B **889** (2014) 299-332

78. Holger Frahm and Nikos Karaiskos:
"Inversion identities for inhomogeneous face models",
Nucl. Phys. B **887** (2014) 423-440

77. Peter E. Finch, Holger Frahm, Markus Lewerenz, Ashley Milsted, and Tobias J. Osborne:
"Quantum phases of a chain of strongly interacting anyons",
Phys. Rev. B **90** (2014) 081111(R)

76. Holger Frahm and Alexander Seel:
"The staggered six-vertex model: conformal invariance and corrections to scaling",
Nucl. Phys. B **879** [FS] (2014) 382-406

75. Nikos Karaiskos, André M. Grabinski, and Holger Frahm:
"Bethe ansatz solution of the small polaron model with non-diagonal boundary terms",
J. Stat. Mech. (2013) P07009

74. Peter E. Finch and Holger Frahm:
"The $D(D_3)$ anyon chain: integrable boundary conditions and excitation spectra",
New J. Phys. **15** (2013) 053035

73. André M. Grabinski and Holger Frahm:
"Truncation identities for the small polaron fusion hierarchy",
New J. Phys. **15** (2013) 043026

72. A. C. Tiegel, P. E. Dargel, K. A. Hallberg, H. Frahm, and T. Pruschke:
"Spin-spin correlations between two Kondo impurities coupled to an open Hubbard chain",
Phys. Rev. B **87** (2013) 075122

71. Holger Frahm and Márcio J. Martins:
"Phase Diagram of an Integrable Alternating $U_q[sl(2|1)]$ Superspin Chain",
Nucl. Phys. B **862** [FS] (2012) 504–552

70. Peter E. Finch and Holger Frahm:
"Collective states of interacting $D(D_3)$ non-Abelian anyons",
J. Stat. Mech. (2012) L05001

69. Holger Frahm and Márcio J. Martins:
"Finite size properties of staggered $U_q[sl(2|1)]$ superspin chains",
Nucl. Phys. B **847** [FS] (2011) 220–246

68. Peter E. Finch, Holger Frahm, and John Links:
"Ground-state phase diagram for a system of interacting, $D(D_3)$ non-Abelian anyons",
Nucl. Phys. B **844** [FS] (2011) 129–145

67. Holger Frahm, Jan H. Grelik, Alexander Seel, and Tobias Wirth:
"Functional Bethe ansatz methods for the open XXX chain",
J. Phys. A: Math. Theor. **44** (2011) 015001
('Highlights of 2011' collection of *J. Phys. A: Math. Theor.*)

66. Luigi Amico, Holger Frahm, Andreas Osterloh, and Tobias Wirth:
"Separation of variables for integrable spin-boson models",
Nucl. Phys. B **839** [FS] (2010) 604–626

65. André M. Grabinski and Holger Frahm:
"Non-diagonal boundary conditions for $\mathfrak{gl}(1|1)$ super spin chains",
J. Phys. A: Math. Theor. **43** (2010) 045207

64. Sönke Niekamp, Tobias Wirth, and Holger Frahm:
"The XXZ model with anti-periodic twisted boundary conditions",
J. Phys. A: Math. Theor. **42** (2009) 195008

63. Holger Frahm, Alexander Seel, and Tobias Wirth:
"Separation of variables in the open XXX chain",
Nucl. Phys. B **802** [FS] (2008) 351–367

62. Holger Frahm and Temo Vekua:
"The Mott metal-insulator transition in the 1D Hubbard model in an external magnetic field",
J. Stat. Mech. (2008) P01007

61. F. Schulze-Wischeler, U. Zeitler, C. v. Zobeltitz, F. Hohls, D. Reuter, A. D. Wieck, H. Frahm, and R. J. Haug:
"Measurement of the specific heat of a fractional quantum Hall system",
*Phys. Rev. B***76** (2007) 153311

60. Luigi Amico, Holger Frahm, Andreas Osterloh, and G. A. P. Ribeiro:
"Integrable spin-boson models descending from rational six-vertex model",
Nucl. Phys. B **787** [FS] (2007) 283–300

59. Holger Frahm and Guillaume Palacios:
"Interplay between a quantum impurity and a boundary field in the SUSY t–J model",
J. Stat. Mech. (2007) P05006

58. Holger Frahm, Carsten v. Zobeltitz, Niels Maire, and Rolf J. Haug:
"Fermi edge singularities in transport through quantum dots",
*Phys. Rev. B***74** (2006) 035329

57. Holger Frahm and Guillaume Palacios:
"Anderson-like impurity in the one-dimensional t–J model: formation of local states and magnetic behaviour",
*Phys. Rev. B***73** (2006) 214419

56. Holger Frahm and Guillaume Palacios:
"Correlation functions of one-dimensional Bose-Fermi mixtures",
*Phys. Rev. A***72** (2005) 061604(R)

55. Frank Göhmann, Michael Bortz, and Holger Frahm:
"Surface free energy for systems with integrable boundary conditions",
J. Phys. A: Math. Gen. **38** (2005) 10879–10891

54. Fabian H. L. Essler, Holger Frahm, and Hubert Saleur:
"Continuum limit of the integrable $sl(2|1)$ 3–$\bar{3}$ superspin chain",
Nucl. Phys. B **712** [FS] (2005) 513–572

53. Holger Frahm and Martin Stahlsmeier:
"Electronic Ladders with $SO(5)$ Symmetry: Phase Diagrams and Correlations at half-filling",
*Phys. Rev. B***63** (2001) 125109

52. Isabella Hapke-Wurst, Ulrich Zeitler, Holger Frahm, A. G. M. Jansen, Rolf J. Haug, and Klaus Pierz:
"Magnetic-field-induced singularities in spin dependent tunneling through InAs quantum dots",
*Phys. Rev. B***62** (2000) 12621–12624

51. Holger Frahm and Nikita A. Slavnov:
"Magnetic properties of doped Heisenberg chains",
Nucl. Phys. B **575** [FS] (2000) 485–503

50. Holger Frahm and Constantin Sobiella:
"Doping-induced magnetization plateaus",
Phys. Rev. Lett. **83** (1999) 5579–5582

49. Holger Frahm and Anjan Kundu:
"Phase diagram of an exactly solvable t–J ladder model",
*J. Phys. Condensed Matter***11** (1999) L557–L562

48. Holger Frahm:
"Doped Heisenberg chains: Spin-S generalizations of the supersymmetric t–J model",
Nucl. Phys. B **559** [FS] (1999) 613–636

47. Fabian H. L. Eßler and Holger Frahm:
"Density correlations in the half-filled Hubbard model",
*Phys. Rev. B***60** (1999) 8540–8542

46. Gerald Bedürftig and Holger Frahm:
"Tunneling singularities in the open Hubbard chain",
*Physica E***4** (1999) 246–255

45. Holger Frahm and Claus Rödenbeck:
"A generalized spin ladder in a magnetic field",
*Eur. Phys. J. B***10** (1999) 409–414

44. Gerald Bedürftig and Holger Frahm:
"Open t–J chain with boundary impurities",
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43. Holger Frahm and Nikita A. Slavnov:
"New solutions to the reflection equation and the projecting method",
J. Phys. A: Math. Gen. **32** (1999) 1547–1555

42. Holger Frahm and Martin Stahlsmeier:
"Spinon statistics in integrable spin-S Heisenberg chains",
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41. Holger Frahm and Sergey I. Matveenko:
"Correlation functions in the Calogero–Sutherland model with open boundaries",
*Eur. Phys. J. B***5** (1998) 671–675

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*Phys. Rev. B***58** (1998) 10225–10235

39. Holger Frahm and Sascha Ledowski:
"Boundary states and edge singularities in the degenerate Hubbard chain",
J. Phys. Condensed Matter **10** (1998) 8829–8841

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"Doping of a spin-1 chain: an integrable model",
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37. Holger Frahm and Andrei A. Zvyagin:
"The open spin chain with impurity: an exact solution",
J. Phys. Condensed Matter **9** (1997) 9939–9946

36. Fabian H. L. Eßler and Holger Frahm:
"X-ray edge singularity in integrable lattice models of correlated electrons",
*Phys. Rev. B***56** (1997) 6631–6641

35. Holger Frahm and John Schliemann:
"Variational states for the spin-Peierls system",
*Phys. Rev. B***56** (1997) 5359–5365

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"A new algebraic Bethe Ansatz for $gl(2,1)$ invariant vertex models",
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"Properties of the chiral spin liquid state in generalized spin ladders",
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32. Gerald Bedürftig and Holger Frahm:
"Spectrum of boundary states in the open Hubbard chain",
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31. Gerald Bedürftig, Fabian H. L. Eßler, and Holger Frahm:
"Exact solution of a t–J chain with impurity",
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30. Holger Frahm and Andrei A. Zvyagin:
"Nonlinear boundary oscillations in strongly correlated electron quantum wires",
*Phys. Rev. B***55** (1997) 1341–1344

29. Fabian H. L. Eßler, Holger Frahm, Alexander R. Its, and Vladimir E. Korepin:
"Determinant representation for a quantum correlation function of the lattice sine–Gordon model",
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28. Gerald Bedürftig, Fabian H. L. Eßler, and Holger Frahm:
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27. Fabian H. L. Eßler, Holger Frahm, Alexander R. Its, and Vladimir E. Korepin:
"Painlevé transcendent describes quantum correlation function of the XXZ antiferromagnet away from the free-fermion point",
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26. Markus P. Pfannmüller and Holger Frahm:
"Algebraic Bethe Ansatz for $gl(2,1)$ invariant 36-vertex models",
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25. Holger Frahm and Claus Rödenbeck:
"Integrable models of coupled Heisenberg chains",
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24. Holger Frahm and Markus P. Pfannmüller:
"On the Hubbard model in the limit of vanishing interaction",
Phys. Lett. A**204** (1995) 347–352

23. Gerald Bedürftig and Holger Frahm:
"Thermodynamics of an integrable model for electrons with correlated hopping",
J. Phys. A: Math. Gen. **28** (1995) 4453–4468

22. Fabian H. L. Eßler, Holger Frahm, Alexander R. Its, and Vladimir E. Korepin:
"Integro–difference equation for a correlation function of the spin-$\frac{1}{2}$ Heisenberg XXZ chain",
Nucl. Phys. B **446** [FS] (1995) 448–460

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"Comment on 'Model of Fermions with Correlated Hopping (Integrable Cases)'",
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20. Fabian H. L. Eßler, Holger Frahm, Anatoli G. Izergin, and Vladimir E. Korepin:
"Determinant representation for correlation functions of spin-$\frac{1}{2}$ XXX and XXZ Heisenberg chains",
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"New family of solvable 1D Heisenberg models",
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18. Holger Frahm, Alexander R. Its, and Vladimir E. Korepin:
"Differential equation for a correlation function of the spin-$\frac{1}{2}$ Heisenberg chain",
Nucl. Phys. B **428** [FS] (1994) 694–710

17. Holger Frahm:
"Spectrum of a spin chain with inverse square exchange",
J. Phys. A: Math. Gen. **26** (1993) L473–L479

16. Holger Frahm and Andreas Schadschneider:
"Critical exponents of the degenerate Hubbard model",
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15. Holger Frahm:
"Integrable spin-$\frac{1}{2}$ XXZ Heisenberg chain with competing interactions",
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14. Holger Frahm and H. B. Thacker:
"Corner transfer matrix eigenstates for the six-vertex model",
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"Flux dynamics and growth of the superconducting phase",
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"Critical exponents for the one-dimensional Hubbard model",
*Phys. Rev. B***42** (1990) 10553–10565

10. Holger Frahm and Nai-Chang Yu:
"Finite size effects in the integrable XXZ Heisenberg model with arbitrary spin",
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9. Holger Frahm, Nai-Chang Yu, and Michael Fowler:
"The integrable XXZ Heisenberg model with arbitrary spin: Construction of the Hamiltonian, the ground-state configuration and conformal properties",
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"On spin squeezed states and their application to semiclassical kink dynamics in magnetic chains",
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5. H. Frahm and H. J. Mikeska:
"Quantum suppression of irregularity in the spectral properties of the kicked rotator",
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4. H. Hasegawa, H. J. Mikeska, and H. Frahm:
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*Phys. Rev. A***38** (1988) 395–399

3. H. J. Mikeska and H. Frahm:
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"Levelstatistics and stochasticity in a driven quantum system",
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For an up-to-date list see `https://www.itp.uni-hannover.de/frahm.html`