

List of publications

Eddy Ardonne

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Published:

51. *Spin-statistics relation for quantum Hall states*,
A. Nardin, E. Ardonne, L. Mazza,
[Phys. Rev. B **108**, L041105 \(2023\)](#), Editors' Suggestion; [arXiv:2211.07788](#).
50. *Sensitivity of non-Hermitian systems*,
E. Edvardsson, E. Ardonne,
[Phys. Rev. B **106**, 115107 \(2022\)](#); [arXiv:2206.08976](#).
49. *Study of the phase diagram of the Kitaev-Hubbard chain*,
I. Mahyaeh, E. Ardonne,
[Phys. Rev. B **101**, 085125 \(2020\)](#); [arXiv:1911.03156](#).
48. *Braiding properties of paired spin-singlet and non-abelian hierarchy states*,
Y. Tournois, E. Ardonne,
[J. Phys. A **53**, 055402 \(2020\)](#); [arXiv:1906.01919](#).
47. *Exact results for a Z_3 clock-type model and some close relatives*,
I. Mahyaeh, E. Ardonne,
[Phys. Rev. B **98**, 245104 \(2018\)](#); [arXiv:1804.03991](#).
46. *Matrix product state representation of quasielectron wave functions*,
J.A. Kjäll, E. Ardonne, V. Dwivedi, M. Hermanns, T.H. Hansson,
[J. Stat. Mech. **053101** \(2018\)](#); [arXiv:1711.01211](#).
45. *Quantum criticality in many-body parafermion chains*,
V. Lahtinen, T. Månsson, E. Ardonne,
[SciPost Phys. Core **4**, 014 \(2021\)](#); [arXiv:1709.04259](#).
44. *Zero modes of the Kitaev chain with phase-gradients and longer range couplings*,
I. Mahyaeh, E. Ardonne,
[J. Phys. Commun. **2**, 045010 \(2018\)](#); [arXiv:1709.00959](#).
43. *Anyon chains with pairing terms*,
B. Majidzadeh Garjani, E. Ardonne,
[J. Phys. A **50**, 135201 \(2017\)](#); [arXiv:1608.04927](#).
42. *Classification of Metaplectic Fusion Categories*,
E. Ardonne, P.E. Finch, M. Titsworth,
[Symmetry **13**, 2102 \(2021\)](#), special issue: "Symmetry and Quantum Orders"; [arXiv:1608.03762](#).
41. *Extended Majorana zero modes in a topological superconducting-normal T-junction*,
C. Spånslätt, E. Ardonne,
[J. Phys. C **29**, 105602 \(2017\)](#); [arXiv:1606.06920](#).
40. *Classification of Metaplectic Modular Categories*,
E. Ardonne, M. Cheng, E.C. Rowell, Z. Wang,
[J. Algebra **466**, 141 \(2016\)](#); [arXiv:1601.05460](#).
39. *Realizing all $so(n)_1$ quantum criticalities in symmetry protected cluster models*,
V. Lahtinen, E. Ardonne,
[Phys. Rev. Lett. **115**, 237203 \(2015\)](#); [arXiv:1504.07044](#).

38. *On the particle entanglement spectrum for the Laughlin states*,
B. Majidzadeh Garjani, B. Estienne, E. Ardonne,
J. Phys. A **48**, 285205 (2015), Publishers's pick; [arXiv:1501.04016](#).
37. *Topological aspects of Josephson π -junctions in superconducting wires*,
C. Spånslätt, E. Ardonne, J.C. Budich, T.H. Hansson,
J. Phys. C **27**, 405701 (2015); [arXiv:1501.03413](#).
36. *A hierarchy of exactly solvable spin-1/2 chains with $so(N)_1$ critical points*,
V. Lahtinen, T. Månsson, E. Ardonne,
Phys. Rev. B **89**, 014409 (2014), Editors' Suggestion; [arXiv:1310.1876](#).
35. *Topological invariant for generic 1D time reversal symmetric superconductors in class DIII*,
J.C. Budich, E. Ardonne,
Phys. Rev. B **88**, 134523 (2013); [arXiv:1308.1256](#).
34. *Equivalent topological invariants for one-dimensional Majorana wires in symmetry class D*,
J.C. Budich, E. Ardonne,
Phys. Rev. B **88**, 075419 (2013); [arXiv:1306.4459](#).
33. *Unraveling of the fractional topological phase in one-dimensional flatbands with nontrivial topology*,
J.C. Budich, E. Ardonne,
Phys. Rev. B **88**, 035139 (2013); [arXiv:1304.4366](#).
32. *Anyonic quantum spin chains: Spin-1 generalizations and topological stability*,
C. Gils, E. Ardonne, S. Trebst, D.A. Huse, A.W.W. Ludwig, M. Troyer, Z. Wang,
Phys. Rev. B **87**, 235120 (2013), Editors' Suggestion; [arXiv:1303.4290](#).
31. *Condensate-induced transitions and critical spin chains*,
T. Månsson, V. Lahtinen, J. Suorsa, E. Ardonne,
Phys. Rev. B **88**, 041403(R) (2013); [arXiv:1212.0351](#).
30. *Spin-singlet Gaffnian wave function for fractional quantum Hall systems*,
S.C. Davenport, E. Ardonne, N. Regnault, S.H. Simon,
Phys. Rev. B **87**, 045310 (2013); [arXiv:1210.8143](#).
29. *One-dimensional itinerant interacting non-Abelian anyons*,
D. Poilblanc, A. Feiguin, M. Troyer, E. Ardonne, P. Bonderson,
Phys. Rev. B **87**, 085106 (2013); [arXiv:1210.5605](#).
28. *Local height probabilities in a composite Andrews-Barter-Forrester model*,
J. Nissinen, E. Ardonne,
J. Phys. A **45**, 435001 (2012); [arXiv:1206.0649](#).
27. *Quantum torus chain*,
M. P. Qin, J. M. Leinaas, S. Ryu, E. Ardonne, T. Xiang, D.-H. Lee,
Phys. Rev. B **86**, 134430 (2012), Editors' Suggestion; [arXiv:1205.1464](#).
26. *Fractionalization of itinerant anyons in one dimensional chains*,
D. Poilblanc, M. Troyer, E. Ardonne, P. Bonderson,
Phys. Rev. Lett. **108**, 207201 (2012); [arXiv:1112.5950](#).
25. *Integrability in anyonic quantum spin chains via a composite height model*,
P. Kakashvili, E. Ardonne,
Phys. Rev. B **85**, 115116 (2012); [arXiv:1110.0719](#).

24. *The structure of spinful quantum Hall states: a squeezing perspective*,
E. Ardonne, N. Regnault,
[Phys. Rev. B **84**, 205134 \(2011\)](#); [arXiv:1107.2232](#).
23. *From Irrational to Non-Unitary: on the Haffnian and Haldane-Rezayi wave functions*,
M. Hermanns, N. Regnault, B.A. Bernevig, E. Ardonne,
[Phys. Rev. B **83**, 241302\(R\) \(2011\)](#); [arXiv:1101.4978](#).
22. *Microscopic models of interacting Yang-Lee anyons*,
E. Ardonne, J. Gukelberger, A.W.W. Ludwig, S. Trebst, M. Troyer,
[New J. Phys. **13**, 045006 \(2011\)](#); [arXiv:1012.1080](#).
21. *Chiral correlators of the Ising conformal field theory*,
E. Ardonne, G. Sierra,
[J. Phys. A. **43**, 505402 \(2010\)](#), highlights of 2010, IOPSelect; [arXiv:1008.2863](#).
20. *Clebsch-Gordan and 6j-coefficients for quantum groups of rank two algebras*,
E. Ardonne, J.K. Slingerland,
[J. Phys. A **43**, 395205 \(2010\)](#); [arXiv:1004.5456](#).
19. *Collective States of Interacting Anyons, Edge States, and the Nucleation of Topological Liquids*,
C. Gils, E. Ardonne, S. Trebst, A.W.W. Ludwig, M. Troyer, Z. Wang,
[Phys. Rev. Lett. **103**, 070401 \(2009\)](#); [arXiv:0810.2277](#).
18. *Domain walls, fusion rules and conformal field theory in the quantum Hall regime*,
E. Ardonne,
[Phys. Rev. Lett. **102**, 180401 \(2009\)](#); [arXiv:0809.0389](#).
17. *Degeneracy of non-abelian quantum Hall states on the torus: domain walls and conformal field theory*,
E. Ardonne, E.J. Bergholtz, J. Kailasvuori, E. Wikberg,
[J. Stat. Mech. P04016 \(2008\)](#); [arXiv:0802.0675](#).
16. *Collective states of interacting Fibonacci anyons*,
S. Trebst, E. Ardonne, A. Feiguin, D.A. Huse, A.W.W. Ludwig, M. Troyer,
[Phys. Rev. Lett. **101**, 050401 \(2008\)](#); [arXiv:0801.4602](#).
15. *Non-abelian statistics in the interference noise of the Moore-Read quantum Hall state*,
E. Ardonne, E.-A. Kim,
[J. Stat. Mech L04001 \(2008\)](#); [arXiv:0705.2902](#).
14. *Wavefunctions for topological quantum registers*,
E. Ardonne, K. Schoutens,
[Ann. Phys. **322**, 201 \(2007\)](#); [arXiv:cond-mat/0606217](#).
13. *Fusion products of Kirillov-Reshetikhin modules and fermionic multiplicity formulas*,
E. Ardonne, R. Kedem,
[J. Algebra **308**, 270 \(2007\)](#); [arXiv:math.RT/0602177](#).
12. *Fusion products, Kostka polynomials, and fermionic characters of $su(r+1)_k$* ,
E. Ardonne, R. Kedem, M. Stone,
[J. Phys. A **38**, 9183 \(2005\)](#); [arXiv:math-ph/0506071](#).
11. *Fermionic characters of arbitrary highest-weight integrable sl_{r+1} -modules*,
E. Ardonne, R. Kedem, M. Stone,
[Comm. Math. Phys. **264**, 427 \(2006\)](#); [arXiv:math.RT/0504364](#).

10. *Filling the Bose sea: symmetric quantum Hall edge states and affine characters*,
E. Ardonne, R. Kedem, M. Stone,
[J. Phys. A **38**, 617 \(2005\)](#); [arXiv:cond-mat/0409369](#).
9. *Topological order and conformal quantum critical points*,
E. Ardonne, P. Fendley, E. Fradkin,
[Ann. Phys. **330**, 493 \(2004\)](#); [arXiv:cond-mat/0311466](#).
8. *K-matrices for 2D conformal field theories*,
E. Ardonne, P. Bouwknegt, P. Dawson,
[Nucl. Phys. B **660**, 473 \(2003\)](#); [arXiv:hep-th/0212084](#).
7. *Parafermion statistics and the application to non-abelian quantum Hall states*,
E. Ardonne,
[J. Phys. A **35**, 447 \(2002\)](#); [arXiv:cond-mat/0110108](#).
6. *Non-abelian quantum Hall states: wave functions and quasihole state counting*,
E. Ardonne, N. Read, E. Rezayi, K. Schoutens,
[Nucl. Phys. B **607**, 549 \(2001\)](#); [arXiv:cond-mat/0104250](#).
5. *Separation of spin and charge in paired spin-singlet quantum Hall states*,
E. Ardonne, F.J.M. van Lankvelt, A.W.W. Ludwig, K. Schoutens,
[Phys. Rev. B **65**, 041305\(R\) \(2002\)](#); [arXiv:cond-mat/0102072](#).
4. *Non-abelian quantum Hall states - Exclusion statistics, K-matrices and duality*,
E. Ardonne, P. Bouwknegt, K. Schoutens,
[J. Stat. Phys. **102**, 421 \(2001\)](#); [arXiv:cond-mat/0004084](#).
3. *K-matrices for non-abelian quantum Hall states*,
E. Ardonne, P. Bouwknegt, S. Guruswamy, K. Schoutens,
[Phys. Rev. B **61**, 10298 \(2000\)](#); [arXiv:cond-mat/9908285](#).
2. *New class of non-abelian spin-singlet quantum Hall states*,
E. Ardonne, K. Schoutens,
[Phys. Rev. Lett. **82**, 5096 \(1999\)](#); [arXiv:cond-mat/9811352](#).
1. *Influence of the spin susceptibility on the peak-effect in La-doped CeRu₂*,
D. Groten, E. Ardonne, S. Ramakrishnan, G.J. Nieuwenhuys, J.A. Mydosh,
[Physica C **306**, 271 \(1998\)](#).

Guest Editor:

2. Nobel symposium 156 - New forms of matter: topological insulators and superconductors
Editorial,
E. Ardonne, H. Hansson, S. Östlund
[Phys. Scr. T **168**, 010301 \(2016\)](#).
1. Nobel symposium 148 - Graphene and Quantum Matter
Editorial,
A. Niemi, F. Wilczek, E. Ardonne, H. Hansson,
[Phys. Scr. T **146**, 010101 \(2012\)](#).

Conference proceedings:

2. *Paired and clustered quantum Hall states*,
K. Schoutens, E. Ardonne, F.J.M. van Lankvelt,
Contribution to the proceedings of the NATO Advanced Research Workshop "Statistical Field Theories" Como (Italy), June 18-23 2001; [arXiv:cond-mat/0112379](#).

1. *Non-abelian statistics in quantum Hall systems*,
E. Ardonne, K. Schoutens,
Contribution to the Proceedings of the XIII International Congress on Mathematical Physics (ICMP 2000), 17-22 July 2000, Imperial College, London; [ITFA-00-26](#).

Popular:

2. *Topologiskt ordnad materia*,
E. Ardonne, T.H. Hansson,
[Fysikaktuellt 3, 24 \(2014\)](#).
1. *Nobelprijswinnaar 1998 Robert Laughlin: 'ik had niets te verliezen'*,
E. Ardonne, F. Poelwijk, R. Verbeek,
[NTvN 65, 326-328 \(1999\)](#).

Software:

1. Mathematica package 'affine-lie-algebra-tensor-category' (alatc):
Package to calculate the F - and R -symbols, as well as the modular data, from the quantum groups associated with affine Lie algebras.
GitHub: github.com/ardonne/affine-lie-algebra-tensor-category
doi: [10.5281/zenodo.5646436](https://doi.org/10.5281/zenodo.5646436)