Carlo Beenakker

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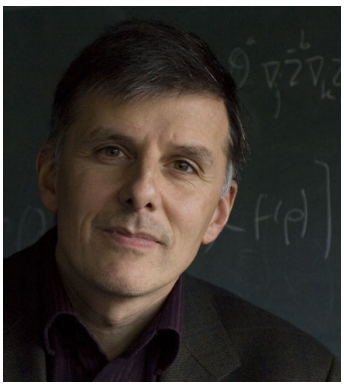

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1982 Graduated in Physics from Leiden University.
1984 Doctorate in Theoretical Physics from Leiden University; Thesis advisor: Peter Mazur.
1985 Postdoctoral research in Stanford and in Santa Barbara, as a Fellow of the Niels Stensen Foundation.
1986 (–1991) Member of the scientific staff of the Philips Research Laboratories in Eindhoven.
1991 (–present) Professor of Theoretical Physics at Leiden University.

born in Leiden (1960), married (1983)
4 children, 12 grandchildren

View the publication list at Google Scholar or at Web of Science or at arXiv.
Hirsch index = 88 [WoS] or 107 [GS].

Distinctions —

1985 C.J. Kok prize for the Ph.D. thesis *On transport properties of concentrated suspensions.*
1993 PIONIER award.
1993 Royal/Shell prize for "the discovery and explanation of conductance quantization" (with Henk van Houten & Bart van Wees).
1997 Winner of the Dutch National Science Quiz.
1999 NWO/Spinoza prize.
2001 Elected member of the Royal Holland Society of Sciences and Humanities.
2002 Elected member of the Royal Netherlands Academy of Arts and Sciences.
2003 Physica prize.
2006 AKZO Nobel Science Award. for "pioneering contributions to nanoscience".
2009 Leigh Page prize.
2009 ERC Advanced Investigator Grant.
2012 ERC Synergy Grant (with Leo Kouwenhoven & Lieven Vandersypen).
2015 W.J. Carr lecturer.
2015 Knighted in the Order of the Dutch Lion.
2018 Honorary doctorate (Bogolyubov Institute of the National Academy of Sciences of Ukraine).
2019 ERC Advanced Investigator Grant.
2020 Elected Fellow of the American Physical Society.
2024 Elected Fellow of the American Association for the Advancement of Science.

Professional activities —

- Consultant at the Philips Research Laboratories in Eindhoven (1992–1996).
- Member of the Council for Physics and Astronomy of the Royal Netherlands Academy of Arts and Sciences (2000–2006). Secretary of the Physics and Astronomy division (2006–2016).
- Member of the Scientific Council of the Dutch Forensic Institute (2001-2003).
- Member of the Physics Advisory Board of the Lorentz Center, Leiden University (2001–2005).
- Chair of the board of the Lorentz Foundation (2002–2022).
- Member (vice-chair since 2007) of the Executive Board of the Foundation for Fundamental Research on Matter and of the Physics Division of the Netherlands Organization for Scientific Research (2004–2011).
- Member of the board of the Niels Stensen Foundation (2005–2019).
- Member/Chair of the Investigator Grant Panels of the European Research Council (since 2010).
- Conference Ambassador for Leiden (since 2014).
- Member of the International Advisory Committee of the National Center for Theoretical Sciences, Taiwan (2016–2020).

- Member of the Science Advisory Board of the Institute for Molecules and Materials, Nijmegen (since 2016).
- Member of the Austrian Wittgenstein prize jury (2016–2024).
- Member of the board of the Minerva Scholarship Fund (since 2016).
- Member of the International Advisory Committee of the Ukraine Ministry of Science and Technology (since 2016).
- Coordinator of the Quantum/Nano research line of the Dutch National Science Agenda (2017–2026).
- Member of the International Advisory Board of the European Microkelvin Platform (since 2019).
- Member of the Executive Board of the Dutch Physics Council (2020–2025).
- Advisory board member of the Centre for Dynamics and Topology (TopDyn) (since 2020).
- Chair of the Board of the Quantum Delta Foundation (since 2020).
- Evaluation committee member of the European Innovation Council (since 2021).
- Member of the Strategic Advisory Board of QuantAlps (since 2022).
- Member of the jury of the Legatum Stolpianum (since 2023).
- Member of the Scientific Advisory Committee of the Institute for Theoretical Studies, ETH Zürich (since 2025).

Editorial activities —

- Advisory Editor, Physica A (1995–1999).
- Editorial Board Member, Physical Review B (1996–2002).
- Editor, Physics Reports (1998–2004).
- Divisional Associate Editor, Physical Review Letters (2003–2009).
- EPL Distinguished Referee (2009).
- APS Outstanding Referee (2011).
- Editorial Board Member, Annalen der Physik (since 2012).
- Editor, New Journal of Physics (2012–2018).
- Member of the Board of Reviewing Editors, Science (since 2014).
- Founding Editor, Quantum (since 2016).
- Senior Editor, SciPost (2017–2026).
- IOP Outstanding Reviewer (2017).
- Editorial Board Member, Advanced Quantum Technologies (since 2018).
- Editorial Board Member, PRX Quantum (2020–2024).
- Editorial Board Member, Radix (2022–2026).
- Editorial Board Member, Advances in Theoretical and Mathematical Physics (since 2022).
- Editorial Board Member, APL Quantum (2024–2026)
- Advisory Editor, Physica E (since 2025).

Ph.D. students —

- A.A.M. Staring, *Coulomb-blockade oscillations in quantum dots and wires* (1992).
- B. Rejaei-Salmassi, *On the conductivity of strongly correlated low-dimensional systems* (1994).
- M.J.M. de Jong, *Shot noise and electrical conduction in mesoscopic systems* (1995).
- P.W. Brouwer, *On the random-matrix theory of quantum transport* (1997).
- J.A. Melsen, *Induced superconductivity in microstructures* (1997).
- J.C.J. Paasschens, *On the transmission of light through random media* (1997).
- S.A. van Langen, *Thermal and electrical phenomena in chaotic conductors* (1998).
- M.C.J.M. Vissenberg, *Opto-electronic properties of disordered organic semiconductors* (1999).
- M. Patra, *On quantum optics of random media* (2000).
- K.J.H. van Bemmel, *On chaotic wave dynamics* (2001).
- M. Kindermann, *Electron counting statistics in nanostructures* (2003).
- A. Tajic, *Study of a stroboscopic model of a quantum dot* (2005).
- A. F. Andreev, *honorary doctorate* (2005).
- M.C. Goorden, *Superconductivity in nanostructures: Andreev billiards and Josephson junction qubits* (2005).
- J.L. van Velsen, *On the production and transfer of entangled electrons and photons* (2005).
- B.D. Michaelis, *On dephasing and spin decay in open quantum dots* (2006).
- J.H. Bardarson, *Effects of spin-orbit coupling on quantum transport* (2008).
- I. Snyman, *Scattering problems involving electrons, photons, and Dirac fermions* (2008).

- R.A. Sepkhanov, *Light scattering by photonic crystals with a Dirac spectrum* (2009).
- C.W. Groth, *Anomalous diffusion of Dirac fermions* (2010).
- M.V. Medvedyeva, *On localization of Dirac fermions by disorder* (2011).
- A.R. Akhmerov, *Dirac and Majorana edge states in graphene and topological superconductors* (2011).
- J.P. Dahlhaus, *Random-matrix theory and stroboscopic models of topological insulators and superconductors* (2012).
- I.C. Fulga, *Scattering theory of topological phase transitions* (2013).
- D.I. Pikulin, *On topological properties of superconducting nanowires* (2013).
- S. Mi, *Signatures of Majorana zero-modes in nanowires, quantum spin Hall edges, and quantum dots* (2015).
- B. van Heck, *Quantum computation with Majorana modes in superconducting circuits* (2015).
- M. Diez, *On electronic signatures of topological superconductivity* (2015).
- B.M. Tarasinski, *On periodically driven quantum systems* (2016).
- P.S. Baireuther, *On transport properties of Weyl semimetals* (2017).
- M. Marciani, *On the random-matrix theory of Majorana fermions in topological superconductors* (2017).
- V.P. Ostroukh, *Lattice models for Josephson junctions and graphene superlattices* (2018).
- N. Bovenzi, *Spin-momentum locking in oxide interfaces and in Weyl semimetals* (2018).
- N.V. Gnezdilov, *On transport properties of Majorana fermions in superconductors: free & interacting* (2019).
- T.E. O'Brien, *Applications of topology to Weyl semimetals and quantum computing* (2019).
- M. Steudtner, *Methods to simulate fermions on quantum computers with hardware limitations* (2019).
- M.J. Pacholski, *On the coexistence of Landau levels and superconductivity* (2021).
- Y. Herasymenko, *Strategies for braiding and ground state preparation in digital quantum hardware* (2022).
- M. Semenyakin, *On cluster algebras and topological string theory* (2022).
- X. Bonet-Monroig, *Optimization of quantum algorithms for near-term quantum computers* (2022).
- Y.I. Cheipesh, *Anyonic, cosmic, and chaotic: three faces of Majorana fermions* (2022).
- G. Lemut, *On topological properties of massless fermions in a magnetic field* (2023).
- D.O. Oriekhov, *On quantum transport in flat-band materials* (2023).
- S. Polla, *The power of one qubit in quantum simulation algorithms* (2024).
- A. Donís Vela, *Tangent fermions: massless fermions on a lattice* (2024).
- T. Vakhtel, *Hybrid Josephson junctions and their qubit applications* (2024).
- V.A. Zakharov, *Luttinger liquid on a lattice* (2025).
- A. Dutkiewicz, *Quantum parametric estimation for early fault-tolerant quantum simulation* (2026).

List of publications —

1. *Diffusion of spheres in suspension: three-body hydrodynamic interaction effects,* C.W.J. Beenakker and P. Mazur, Physics Letters A **91**, 290–291 (1982).
2. *Self-diffusion of spheres in a concentrated suspension,* C.W.J. Beenakker and P. Mazur, Physica A **120**, 388–410 (1983).
3. *Diffusion of spheres in a concentrated suspension: resummation of many-body hydrodynamic interactions,* C.W.J. Beenakker and P. Mazur, Physics Letters A **98**, 22–24 (1983).
4. *General discussion on hydrodynamic interactions,* C.W.J. Beenakker, Faraday Discussions of the Chemical Society **76**, 229–260 (1983).
5. *Diffusion of spheres in a concentrated suspension II,* C.W.J. Beenakker and P. Mazur, Physica A **126**, 349–370 (1984).
6. *Many-sphere hydrodynamic interactions III. The influence of a plane wall,* C.W.J. Beenakker, W. van Saarloos, and P. Mazur, Physica A **127**, 451–472 (1984).
7. *The effective viscosity of a concentrated suspension of spheres (and its relation to diffusion),* C.W.J. Beenakker, Physica A **128**, 48–81 (1984).
8. *On transport properties of concentrated suspensions,* C.W.J. Beenakker, Ph.D. Thesis, Universiteit Leiden (1984).
9. *On the Smoluchowski paradox in a sedimenting suspension,* C.W.J. Beenakker and P. Mazur, Physics of Fluids **28**, 767–769 (1985).
10. *Phase separation and pattern formation,* J.S. Langer and C.W.J. Beenakker, in: Fundamental Problems in Statistical Mechanics VI, edited by E.G.D. Cohen (North-Holland, Amsterdam, 1985): pp. 313–328.
11. *Many-sphere hydrodynamic interactions IV. Wall-effects inside a spherical container,* C.W.J. Beenakker and P. Mazur, Physica A **131**, 311–328 (1985).
12. *Is sedimentation container-shape dependent?,* C.W.J. Beenakker and P. Mazur, Physics of Fluids **28**, 3203–3206 (1985).
13. *Theory of Ostwald ripening for open systems,* C.W.J. Beenakker and J. Ross, Journal of Chemical Physics **83**, 4710–4714 (1985).
14. *Monte Carlo study of a model of diffusion-controlled reactions,* C.W.J. Beenakker and J. Ross, Journal of Chemical Physics **84**, 3857–3864 (1986).

15. *Numerical simulation of diffusion-controlled droplet growth: Dynamical correlation effects,* C.W.J. Beenakker, Physical Review A **33**, 4482(R) (1986).
16. *Ewald sum of the Rotne-Prager tensor,* C.W.J. Beenakker, Journal of Chemical Physics **85**, 1581–1582 (1986).
17. *Evolution of two-dimensional soap-film networks,* C.W.J. Beenakker, Physical Review Letters **57**, 2454–2457 (1986).
18. *Two-dimensional soap froths and polycrystalline networks: why are large cells many-sided?,* C.W.J. Beenakker, Physica A **147**, 256–267 (1987).
19. *Numerical simulation of a coarsening two-dimensional network,* C.W.J. Beenakker, Physical Review A **37**, 1697–1702 (1988).
20. *Boundary scattering modified one-dimensional weak localization in submicron GaAs/AlGaAs heterostructures,* H. van Houten, C.W.J. Beenakker, B.J. van Wees, and J.E. Mooij, Surface Science **196**, 144–149 (1988).
21. *Quantized conductance of point contacts in a two–dimensional electron gas,* B.J. van Wees, H. van Houten, C.W.J. Beenakker, J.G. Williamson, L.P. Kouwenhoven, D. van der Marel, and C.T. Foxon, Physical Review Letters **60**, 848–850 (1988).
22. *Coherent electron focussing in a two–dimensional electron gas,* H. van Houten, B.J. van Wees, J.E. Mooij, C.W.J. Beenakker, J.G. Williamson, and C.T. Foxon, Europhysics Letters **5**, 721–725 (1988).
23. *Quantum and classical ballistic transport in constricted two-dimensional electron gases,* H. van Houten, B.J. van Wees, and C.W.J. Beenakker, in: Springer Series in Solid-State Sciences Vol. 83: Physics and Technology of Submicron Structures, edited by H. Heinrich, G. Bauer, and F. Kuchar (Springer, Berlin, 1988): pp. 198–207.
24. *Flux-cancellation effect on narrow-channel magnetoresistance fluctuations,* C.W.J. Beenakker and H. van Houten, Physical Review B **37**, 6544(R) (1988).
25. *Four-terminal magnetoresistance of a two-dimensional electron-gas constriction in the ballistic regime,* H. van Houten, C.W.J. Beenakker, P.H.M. van Loosdrecht, T.J. Thornton, H. Ahmed, M. Pepper, C.T. Foxon, and J.J. Harris, Physical Review B **37**, 8534(R) (1988).
26. *Quenching of the Hall effect,* C.W.J. Beenakker and H. van Houten, Physical Review Letters **60**, 2406–2409 (1988).
27. *Quantized conductance of magnetoelectric subbands in ballistic point contacts,* B.J. van Wees, L.P. Kouwenhoven, H. van Houten, C.W.J. Beenakker, J.E. Mooij, C.T. Foxon, and J.J. Harris, Physical Review B **38**, 3625(R) (1988).
28. *Boundary scattering and weak localization of electrons in a magnetic field,* C.W.J. Beenakker and H. van Houten, Physical Review B **38**, 3232–3240 (1988).
29. *Quantum ballistic electron transport in a constricted two-dimensional electron gas,* B.J. van Wees, H. van Houten, C.W.J. Beenakker, L.P. Kouwenhoven, J.G. Williamson, J.E. Mooij, C.T. Foxon, and J.J. Harris, in: Proceedings 19th International Conference on the Physics of Semiconductors, Vol. 1, edited by W. Zawadzki (Warsaw, 1988): pp. 39–46.
30. *Mode interference effect in coherent electron focusing,* C.W.J. Beenakker, H. van Houten, and B.J. van Wees, Europhysics Letters **7**, 359–364 (1988).
31. *Van kogelbaan tot hinkelbaan: elektronen als interfererende kaatsballen,* H. van Houten, B.J. van Wees, and C.W.J. Beenakker, Nederlands Tijdschrift voor Natuurkunde A **54** (3/4), 121–125 (1988).
32. *Aharonov-Bohm effect in a singly connected point contact,* P.H.M. van Loosdrecht, C.W.J. Beenakker, H. van Houten, J.G. Williamson, B.J. van Wees, J.E. Mooij, C.T. Foxon, and J.J. Harris, Physical Review B **38**, 10162(R) (1988).
33. *Magnetoresistance of narrow GaAs-(Al,Ga)As heterostructures in the quasi-ballistic regime,* H. van Houten, C.W.J. Beenakker, M.E.I. Broekaart, M.G.H.J. Heijman, B.J. van Wees, J.E. Mooij, and J.-P. André, Acta Electronica **28**, 27–38 (1988).
34. *Skipping orbits, traversing trajectories, and quantum ballistic transport in microstructures,* C.W.J. Beenakker, H. van Houten, and B.J. van Wees, Superlattices and Microstructures **5**, 127–132 (1989).
35. *Anomalous integer quantum Hall effect in the ballistic regime with quantum point contacts,* B.J. van Wees, E.M.M. Willems, C.J.P.M. Harmans, C.W.J. Beenakker, H. van Houten, J.G. Williamson, C.T. Foxon, and J.J. Harris, Physical Review Letters **62**, 1181–1184 (1989).
36. *Nonlinear conductance of quantum point contacts,* L.P. Kouwenhoven, B.J. van Wees, C.J.P.M. Harmans, J.G. Williamson, H. van Houten, C.W.J. Beenakker, C.T. Foxon, and J.J. Harris, Physical Review B **39**, 8040(R) (1989).
37. *Coherent electron focusing with quantum point contacts in a two-dimensional electron gas,* H. van Houten, C.W.J. Beenakker, J.G. Williamson, M.E.I. Broekaart, P.H.M. van Loosdrecht, B.J. van Wees, J.E. Mooij, C.T. Foxon, and J.J. Harris, Physical Review B **39**, 8556–8575 (1989).
38. *Reply to Comment on "Quenching of the Hall effect",* C.W.J. Beenakker and H. van Houten, Physical Review Letters **62**, 1921 (1989).
39. *Guiding-center-drift resonance in a periodically modulated two-dimensional electron gas,* C.W.J. Beenakker, Physical Review Letters **62**, 2020–2023 (1989).
40. *Magnetotransport and nonadditivity of point-contact resistances in series,* C.W.J. Beenakker and H. van Houten, Physical Review B **39**, 10445(R) (1989).
41. *Coherent electron focusing,* C.W.J. Beenakker, H. van Houten, and B.J. van Wees, in: Festkörperprobleme/Advances in Solid State Physics, Vol. 29, edited by U. Rößler (Vieweg, Braunschweig, 1989): pp. 299–316.
42. *Electron beams and waveguide modes: aspects of quantum ballistic transport,* H. van Houten and C.W.J. Beenakker, in: Nanostructure Physics and Fabrication, edited by M.A. Reed and W.P. Kirk (Academic Press, New York, 1989): pp. 347–359.

43. *Billiard model of a ballistic multiprobe conductor,* C.W.J. Beenakker and H. van Houten, Physical Review Letters **63**, 1857–1860 (1989).
44. *Comment on "Conductance oscillations periodic in the density of a one-dimensional electron gas",* H. van Houten and C.W.J. Beenakker, Physical Review Letters **63**, 1893 (1989).
45. *Edge channels for the fractional quantum Hall effect,* C.W.J. Beenakker, Physical Review Letters **64**, 216–219 (1990).
46. *Hot-electron spectrometry with quantum point contacts,* J.G. Williamson, H. van Houten, C.W.J. Beenakker, M.E.I. Broekaart, L.I.A. Spendeler, B.J. van Wees, and C.T. Foxon, Physical Review B **41**, 1207–1210 (1990).
47. *Electron-beam collimation with a quantum point contact,* L.W. Molenkamp, A.A.M. Staring, C.W.J. Beenakker, R. Eppenga, C.E. Timmering, J.G. Williamson, C.J.P.M. Harmans, and C.T. Foxon, Physical Review B **41**, 1274(R) (1990).
48. *Magnetoconductance of two point contacts in series,* A.A.M. Staring, L.W. Molenkamp, C.W.J. Beenakker, L.P. Kouwenhoven, and C.T. Foxon, Physical Review B **41**, 8461–8464 (1990).
49. *Quantum oscillations in the transverse voltage of a channel in the non-linear transport regime,* L.W. Molenkamp, H. van Houten, C.W.J. Beenakker, R. Eppenga, and C.T. Foxon, Physical Review Letters **65**, 1052–1055 (1990).
50. *Semi-classical theory of magnetoresistance anomalies in ballistic multi-probe conductors,* C.W.J. Beenakker and H. van Houten, in: Electronic Properties of Multilayers and Low-Dimensional Semiconductor Structures, edited by J.M. Chamberlain, L. Eaves, and J.C. Portal, NATO ASI Series B231 (Plenum, New York, 1990): pp. 75–94.
51. *Quantum point contacts and coherent electron focusing,* H. van Houten and C.W.J. Beenakker, in: Analogies in Optics and Micro Electronics, edited by W. van Haeringen and D. Lenstra (Kluwer, Dordrecht, 1990): pp. 203–225.
52. *Quantum ballistic and adiabatic electron transport studied with quantum point contacts,* B.J. van Wees, L.P. Kouwenhoven, E.M.M. Willems, C.J.P.M. Harmans, J.E. Mooij, H. van Houten, C.W.J. Beenakker, J.G. Williamson, and C.T. Foxon, Physical Review B **43**, 12431–12453 (1991).
53. *Injection of ballistic hot electrons and cool holes in a two-dimensional electron gas,* J.G. Williamson, H. van Houten, C.W.J. Beenakker, M.E.I. Broekaart, L.I.A. Spendeler, B.J. van Wees, and C.T. Foxon, Surface Science **229**, 303–306 (1990).
54. *Quantum point contacts,* H. van Houten, C.W.J. Beenakker, and B.J. van Wees, in: Semiconductors and Semimetals, Vol. 35, edited by M.A. Reed (Academic Press, New York, 1992): pp. 9–112.
55. *Quantum transport in semiconductor nanostructures,* C.W.J. Beenakker and H. van Houten, in: Solid State Physics, Vol. 44, edited by H. Ehrenreich and D. Turnbull (Academic Press, New York, 1991): pp. 1–228.
56. *Spatial potential distribution in $GaAs/Al_xGa_{1-x}As$ heterostructures under quantum Hall conditions studied with the linear electro-optic effect,* P.F. Fontein, J.A. Kleinen, P. Hendriks, F.A.P. Blom, J.H. Wolter, H.G.M. Lochs, F.A.J.M. Driessen, L.J. Giling, and C.W.J. Beenakker, Physical Review B **43**, 12090(R) (1991).
57. *Coulomb blockade of the Aharonov-Bohm effect,* C.W.J. Beenakker, H. van Houten, and A.A.M. Staring, in: Granular Nanoelectronics, edited by D.K. Ferry, J.R. Barker, and C. Jacoboni, NATO ASI Series B251 (Plenum, New York, 1991): pp. 359–370.
58. *Oscillating transverse voltage in a channel with quantum point contact voltage probes,* L.W. Molenkamp, H. van Houten, C.W.J. Beenakker, R. Eppenga, and C.T. Foxon, in: Condensed Systems of Low Dimensionality, edited by J.L. Beeby, P.K. Bhattacharya, P.Ch. Gravelle, F. Koch, and D.J. Lockwood, NATO ASI Series B253 (Plenum, New York, 1991): pp. 335–345.
59. *Adiabatic transport in the fractional quantum Hall effect regime,* C.W.J. Beenakker, in: Quantum Coherence in Mesoscopic Systems, edited by B. Kramer, NATO ASI Series B254 (Plenum, New York, 1991): pp. 177–193.
60. *Limits on deviations from Onsager-Casimir symmetry in the resistance of $YBa_2Cu_3O_{7-\delta}$,* M.A.M. Gijs, A.M. Gerrits, and C.W.J. Beenakker, Physical Review B **42**, 10789(R) (1990).
61. *Coulomb-regulated conductance oscillations in a disordered quantum wire,* A.A.M. Staring, H. van Houten, C.W.J. Beenakker, and C.T. Foxon, in: High Magnetic Fields in Semiconductor Physics III, edited by G. Landwehr (Springer, Berlin, 1992): pp. 301-312.
62. *Oscillatory thermopower of a quantum point contact,* L.W. Molenkamp, H. van Houten, C.W.J. Beenakker, R. Eppenga, M.F.H. Schuurmans, and C.T. Foxon, in: Proceedings 20th International Conference on the Physics of Semiconductors, Vol. 3, edited by E.M. Anastassakis and J.D. Joannopoulos (World Scientific, Singapore, 1991): pp. 2347–2350.
63. *Theory of Coulomb-blockade oscillations in the conductance of a quantum dot,* C.W.J. Beenakker, Physical Review B **44**, 1646–1656 (1991).
64. *Influence of Coulomb repulsion on the Aharonov-Bohm effect in a quantum dot,* C.W.J. Beenakker, H. van Houten, and A.A.M. Staring, Physical Review B **44**, 1657–1662 (1991).
65. *Observation of the optical analogue of quantized conductance of a point contact,* E.A. Montie, E.C. Cosman, G.W. 't Hooft, M.B. van der Mark, and C.W.J. Beenakker, Nature **350**, 594–595 (1991).
66. *Superconductivity in the mean-field anyon gas,* B. Rejaei and C.W.J. Beenakker, Physical Review B **43**, 11392–11395 (1991).
67. *Biljarten met elektronen,* C.W.J. Beenakker, Oratie, Universiteit Leiden (1991).
68. *Semiclassical theory of shot noise and its suppression in a conductor with deterministic scattering,* C.W.J. Beenakker and H. van Houten, Physical Review B **43**, 12066(R) (1991).
69. *Voltage-probe-controlled breakdown of the quantum Hall effect,* L.W. Molenkamp, M.J.P. Brugmans, H. van Houten, C.W.J. Beenakker, and C.T. Foxon, Physical Review B **43**, 12118(R) (1991).
70. *Schakelen met elektronen in nanostructuren,* C.W.J. Beenakker and H. van Houten, Polytechnisch Tijdschrift, **46**(4), 50–53 (1991).

71. *Josephson current through a superconducting quantum point contact shorter than the coherence length,* C.W.J. Beenakker and H. van Houten, Physical Review Letters **66**, 3056–3059 (1991).
72. *Coulomb-blockade oscillations in semiconductor nanostructures,* H. van Houten, C.W.J. Beenakker, and A.A.M. Staring, in: Single Charge Tunneling, edited by H. Grabert and M.H. Devoret, NATO ASI Series B294 (Plenum, New York, 1992): pp. 167–216.
73. *Observation of the optical analogue of the quantised conductance of a point contact,* E.A. Montie, E.C. Cosman, G.W. 't Hooft, M.B. van der Mark, and C.W.J. Beenakker, Physica B **175**, 149–152 (1991).
74. *Andreev reflection and the Josephson effect in a quantum point contact: An analogy with phase-conjugating resonators,* H. van Houten and C.W.J. Beenakker, Physica B **175**, 187–197 (1991).
75. *Coulomb-blockade oscillations in a quantum dot,* A.A.M. Staring, J.G. Williamson, H. van Houten, C.W.J. Beenakker, L.P. Kouwenhoven, and C.T. Foxon, Physica B **175**, 226–230 (1991).
76. *Lateral electron transport through a quantum dot: Coulomb blockade and quantum transport,* J.G. Williamson, A.A.M. Staring, L.P. Kouwenhoven, H. van Houten, C.W.J. Beenakker, C.E. Timmering, M. Mabesoone, and C.T. Foxon, in: Nanostructures and Mesoscopic Systems, edited by W.P. Kirk and M.A. Reed (Academic, New York, 1992): pp. 255–266.
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