CURICULUM VITAE

Name: Mário Ziman
Date of birth: 01/09/1977
Place of birth: Nitra (N 48,3° E 18,1°)
Residential address: Ivana Bukovčana 15, 84108 Bratislava, Slovakia
Marital status: married (2 kids)
Sex: male
E-mail: ziman@savba.sk
Web: http://www.quniverse.sk/people/ziman/

Current position :

- independent researcher at Research Center for Quantum Information, Institute of Physics SAS, Bratislava
- associate professor at Faculty of Informatics, Masaryk University, Brno (part-time)

Employment history:

Institute of Physics, Slovak Academy of Sciences, Bratislava
11/2004 - 10/2008 Štefan Schwarz Postdoctoral Fellow (part-time)
07/2004 - 11/2005 research assistant (part-time)
since 07/2004 permanent position
09/2000 - 09/2003 PhD study
ETH Zurich, Switzerland
08/2011 - 07/2012 SCIEX Postdoctoral Fellowship
Faculty of Informatics, Masaryk University, Brno
09/2005 - 06/2011 researcher (part-time)
07/2004 – 12/2004 postdoctoral fellow
Quniverse, non-profit research organization, Bratislava
09/2003 - 06/2008 member of the administration board, researcher (part-time)
Elementary school and gymnasium for gifted children, Teplická 7, Bratislava
09/2000 - 06/2001, physics teacher (part-time)

Education history:

- 09/1992 – 06/1995 Secondary grammar school, Golianova 38, Nitra
- 09/1995 – 06/2000 Faculty of mathematics and physics, Comenius university, Bratislava
  branch: theoretical and mathematical physics
  diploma thesis: Quantum dense coding and measures of entanglement
  supervisor: prof.RNDr.Vladimír Bužek, DrSc
- 09/2000 – 09/2003 PhD study, Institute of Physics, Slovak Academy of Sciences, Bratislava
  PhD thesis: Entanglement as a structure: applications to quantum information processing
  supervisor: prof.RNDr.Vladimír Bužek, DrSc.
- 07/2004 -12/2004 postdoctoral fellow, Faculty of Informatics, Masaryk University, Brno
  supervisor: prof. RNDr. Jozef Gruska, DrSc.
- 1/2004 - 10/2008 Štefan Schwarz Postdoctoral Fellow
  supervisor: Prof. Vladimír Bužek, DrSc.
- 08/2011 – 07/2012 SCIEX Postdoctoral Fellowship, ETH Zurich
  supervisor: Prof. Renato Renner

Scientific degrees:

- magister of physics (Mgr) – 06/2000, Comenius University, Bratislava
- philosophae doctor (PhD) – 09/12/2003, Comenius University, Bratislava
- habilitation (doc) – 12/2010, Masaryk University, Brno

Awards:

- SCIEX Fellowship (2011)
- V4 Academies Prize (2007)
- Slovak Academy of Science Award for popularization (2007)
- Prize of the Ministry of education SR (2006)
- 3rd place, Competition of young physicists publication (2004)

– 1st place, SAS Award, Best publication of young scientists (2004)

Number of scientific publications: 75 (70 CC, 5 arXive)
Number of popular-science publications: 30
Number of citations: 700+ (http://www.quniverse.sk/ziman/index.php?take=citziman)
Number of conference talks: 32 (11 invited)

Teaching and training experience:
– Elementary school for gifted children (Bratislava), 2000/2001, physics teacher
– Faculty of mathematics, physics and informatics, Comenius University, Bratislava
  - Excercises in statistical physics and thermodynamics, (2000)
  - Excercises in quantum mechanics II, (summer semester 2001-2003)
  - Introduction to quantum information theory (summer semester, 2007-2014)
  - Quatum theory of measurement (winter semester, since 2016)
– Faculty of Informatics, Masaryk University, Brno
  - Selected topics from quantum physics (since 2004)
  - Hot topics in quantum information processing (2005-2010)
– graduate students:
  - Libor Caha, Quantum kSAT, IP SAS, Bratislava (since 09/2012, jointly with D. Nagaj)
  - Tomáš Rybár, Quantum channels with memory, IP SAS, Bratislava (2012, jointly with V. Bužek)
– undergraduate students:
  – Šimon Valko, Probabilistic learning of quantum measurements, FMFI UK, Bratislava (2015)
  – Lenka Moravčíková, Dynamics of quantum entanglement, FMFI UK, Bratislava (2009)
  – Martin Piják, Imperfect quantum key distribution, FMFI UK, Bratislava (2009)
  – Tomáš Rybár, Quantum memory channels, FMFI UK, Bratislava (2008)
  – Martina Bieliková, Quantum concepts in cryptography, FMFI UK, Bratislava (2005)
– bachelor students:
  – Jan Hreha, Partial quantum teleportation, FMFI UK, Bratislava (2010)
  – Šimon Valko, Nonuniform unitary 1-designs, FMFI UK, Bratislava (2013)
  – Matej Valúšek, Correlated quantum graphs, FIMU, Brno (2013)
  – Jan Přikryl, Equivalent programmable quantum processors, FIMU, Brno (2014)

Academic stays:
– 08/2011-07/2012, ETH Zurich,Switzerland (Prof. Renato Renner)
– 06/2011, University of Turku, Finland (Dr. Teiko Heinosaari)
– 03/2011, Herriot-Watt University, Edinburgh, United Kingdom (Dr. Erika Anderson)
– 03/2006, Macquarrie University, Sydney, Australia (prof. Jason Twamley)
– 11/2004, Institut fur Mathematikal Physik, Braunschweig, Germany (prof. Reinhard Werner)
– 10-12/2002, Department of Mathematical Physics, Maynooth, Ireland (prof. Jason Twamley)
– 11/2000, Erwin Schrodinger Institute for Mathematical Physics, Wien, Austria (prof. Anton Zeilinger)

Organization of scientific conferences:
– CEQIP 2017, Smolenice, 31.5-3.6.2017, http://ceqip.eu/2017/
– MATHERMO 2016, Smolenice, 6-9.6.2016, http://quantum.physics.sk/conf/mathermo2016/
– CEQIP 2016, Valtice, 16-19.6. 2016, http://www.ceqip.eu/
– CEQIP 2015, Znojmo, 18-21.6.2015, http://www.ceqip.eu/
– Qute-Europe Summer School 2014, Smolenice, 18-28.8.2014, http://quantum.physics.sk/conf/qess2014/
– 12th Biennal IQSA Meeting, Olomouc, 23-27.6.2014, http://ameql.math.muni.cz/iqsa2014/
– CEQIP 2014, Znojmo, 4-8.6.2014, http://www.ceqip.eu/
– CEQIP 2013, Valtice, 5-9.6.2013, http://www.ceqip.eu/
– CEQIP 2012, Smolenice, 7-10.6.2012, http://www.ceqip.eu/
– CEQIP 2011, Znojmo, 2-5.6.2011, http://www.ceqip.eu/
– CEQIP 2010, Valtice, 3.-6.6.2010, http://www.ceqip.eu/
– V4 quantum school, 21.-27.9.2009, Budmerice, http://quantum.physics.sk/conf/v4school/
– CEQIP 2009, Jindřichuv Hradec, 1.-4.6.2009, http://www.ceqip.eu/
– CEQIP 2008, Telč, 5.-8.6.2008, http://www.ceqip.eu/
– CEQIP 2007, Valtice, 24.-27.6.2007, http://www.ceqip.eu/

- YEP meeting 2006, Budmerice, 11-14.12.2006, http://quantum.physics.sk/conf/yep2006/
- Focus meeting: Quantum Process Estimation, Bratislava, 27.9.-1.10.2006, http://quantum.physcis.sk/quprest06/
- CEQIP 2006, Znojmo, 4.-8.5.2006, http://www.ceqip.eu/
- YEP meeting 2005, Budmerice, 11-14.10.2005, http://quantum.physics.sk/conf/yep2005/
- YEP meeting 2004, Budmerice, 30.11-4.12.2004,htpp://quantum.physics.sk/conf/budmerice2004/
- YEP meeting 2003, Budmerice, 11-14.10.2003, http://quantum.physics.sk/conf/budmerice2003/

Memberships:
- member of Advisory Board of the Institute of Theoretical and Applied Informatics of Polish Academy of Sciences, Gliwice, Poland (since 2010)
- member of Scientific board of Institute of Physics of Slovak Academy of Sciences (2006-2010, 2014-)
- member of commitee for Bachelor degrees (Faculty of Mathematics, Physics and Informatics, Comenius university, Bratislava)

Refereeing for journals:
- QuantumPhysical Review Letters, Physical Review A, Journal of Physics A, Journal of Physics B, European Journal of Physics D, Physica A, Central European Journal of Physics, Europhysics Letters, Physics Letters A, Nature Communications, Scientific Reports, International Journal of Quantum Information, Axioms,

SELECTED PUBLICATIONS
- Michal Sedlak, Daniel Reitzner, Giulio Chiribella, Mário Ziman:
  Incompatible measurements on quantum causal networks
  Phys. Rev. A 93, 052323 (2016) [arXiv:1511.00976] , 2 citations
- Teiko Heinosaari, Takayuki Miyadera, Mário Ziman:
  An Invitation to Quantum Incompatibility
  Journal of Physics A 49, 123001 (2016) [arXiv:1511.07548], 6 citations
- Tomáš Rybár, Mário Ziman:
  Process estimation in presence of time-invariant memory effects
  Phys. Rev. A 92, 042315 (2015) [arXiv:1409.4268] , 1 citations
- Tomáš Rybár, Sergey N. Filippov, Mário Ziman, Vladimír Bužek:
  Simulation of indivisible qubit channels in collision models
  J. Phys. B: At. Mol. Opt. Phys. 45, 154006 (2012) [arXiv:1202.6315], 24 citations
- Teiko Heinosaari, Mário Ziman:
  The Mathematical Language of Quantum theory: From Uncertainty to Entanglement
  (Cambridge Univ. Press, 2012) ISBN:9780521195836 , 42 citations
- Lenka Moravčíková, Mário Ziman:
  Entanglement-annihilating and entanglement-breaking channels
  J.Phys.A 43, 275306 (2010) [arXiv:1006.2502] , 14 citations
- Mário Ziman:
  Incomplete quantum process tomography and principle of maximal entropy
  Phys.Rev.A 78, 032118 (2008) [arXiv:0802.3892] , 11 citations
- Mário Ziman:
  Process POVM: A mathematical framework for the description of process tomography experiments
  Phys.Rev.A 77, 062112 (2008) [arXiv:0802.3862] , 28 citations
- Mark Hillery, Mário Ziman, Vladimír Bužek, Martina Bielikova:
  Towards quantum-based privacy and voting
  Physics Letters A 349, Issues 1-4 , pp 75-81 (2006), [quant-ph/0505041] , 37 citations
- .Scarani,M.Ziman,P.Štelmachovič,N.Gisin,V.Bužek:
  Thermalizing Quantum Machines: Dissipation and Entanglement
  Phys.Rev.Lett. 88 , 97905-1 (2002), [quant-ph/0110088], 56 citations
- M.Hillery,V.Bužek,M.Ziman:
  Probabilitstic implementation of universal quantum processors ,
  Phys.Rev. A 65 , 022301 (2002), [quant-ph/0106088] , 58 citations

LIST OF PUBLICATIONS

1. Sergey N. Filippov, Jyrki Piilo, Sabrina Maniscalco, Mário Ziman:
   Divisibility of quantum dynamical maps and collision models
   Phys. Rev. A 96, 032111 (2017)
2. Michal Sedlak, Daniel Reitzner, Giulio Chiribella, Mário Ziman:
   Incompatible measurements on quantum causal networks
   Phys. Rev. A 93, 052323 (2016) [arXiv:1511.00976]
3. Teiko Heinosaari, Takayuki Miyadera, Mário Ziman:
   An Invitation to Quantum Incompatibility
   Journal of Physics A 49, 123001 (2016) [arXiv:1511.07548]
4. Tomáš Rybár, Mário Ziman:
   Process estimation in presence of time-invariant memory effects
   Phys. Rev. A 92, 042315 (2015) [arXiv:1409.4268]
5. Zbigniew Puchała, Anna Jencova, Michal Sedlák, Mário Ziman:
   Exploring boundaries of quantum convex structures: special role of unitary processes
   Phys. Rev. A 92, 012304 (2015) [arXiv:1504.00477]
6. Michal Sedlák, Mário Ziman:
   Optimal single shot strategies for discrimination of quantum measurements
   Phys. Rev. A 90, 052312 (2014) [arXiv:1408.0934]
7. Martina Miková, Michal Sedlák, Ivan Straka, Marek Mičuda, Mário Ziman, Miroslav Ježek, Miloslav Dušek, Jaromír Fiurášek:
   Optimal entanglement-assisted discrimination of quantum measurements
   Phys. Rev. A 90, 022317 (2014) [arXiv:1408.0940]
8. Sergey N. Filippov, Mário Ziman:
   Entanglement sensitivity to signal attenuation and amplification
   Phys. Rev. A 90, 010301(R) (2014) [arXiv:1405.1754]
9. Daniel Reitzner, Mário Ziman:
   Two notes on Grover's search: Programming and discriminating
   The European Physical Journal Plus 129, 128 (2014) [arXiv:1406.6391]
10. Erkka Haapasalo, Michal Sedlák, Mário Ziman:
    Boundariness and minimum-error discrimination
    Phys. Rev. A 89, 062303 (2014) [arXiv:1401.7460]
11. Teiko Heinosaari, Jussi Schultz, Alessandro Toigo, Mário Ziman:
    Maximally incompatible quantum observables
    Physics Letters A 378, 1695–1699 (2014) [arXiv:1312.3499]
12. Sergey N. Filippov, Alexey A. Melnikov, Mário Ziman:
    Dissociation and annihilation of multipartite entanglement structure in dissipative quantum dynamics
    Phys. Rev. A 88, 062328 (2013) [arXiv:1310.4790]
13. Sergey N. Filippov, Mário Ziman:
    Bipartite entanglement-annihilating maps: necessary and sufficient conditions
    Phys. Rev. A 88, 032316 (2013) [arXiv:1306.6525]
14. Vladimír Bužek, Peter Rapčan, Jochen Rau, Mário Ziman:
    Direct estimation of decoherence rates
    Phys. Rev. A 86, 052109 (2012) [arXiv:1207.3053]
15. Vladimír Bužek, Tomáš Rybár, Mário Ziman:
    Quantum Memory Channels in Quantum Optics
    chapter in Mathematical Optics: Classical, Quantum, and Computational Methods (edited by V. Lakshminarayanan, M. L. Calvo and T.Alieva, CRC Press Inc, 2012)
16. Tomáš Rybár, Sergey N. Filippov, Mário Ziman, Vladimír Bužek:
    Simulation of indivisible qubit channels in collision models
    J. Phys. B: At. Mol. Opt. Phys. 45, 154006 (2012) [arXiv:1202.6315]
17. Sergey N. Filippov, Mário Ziman:
    Probability-based comparison of quantum states
    Phys. Rev. A 85, 062301 (2012) [arXiv:1202.1015]
18. Sergey N. Filippov, Tomáš Rybár, Mário Ziman:
    Local two-qubit entanglement-annihilating channels
    Phys. Rev. A 85, 012303 (2012) [arXiv:1110.3757]

19. Teiko Heinosaari, Mário Ziman:
The Mathematical Language of Quantum theory: From Uncertainty to Entanglement
(Cambridge Univ. Press, 2012) ISBN:9780521195836
20. Marianna Bonanome, Vladimír Bužek, Mark Hillery, and Mário Ziman:
Toward protocols for quantum-ensured privacy and secure voting
Phys. Rev. A 84, 022331 (2011) [arXiv:1108.5090]
21. Mário Ziman, Vladimír Bužek:
Open system dynamics of simple collision models
Quantum Dynamics and Information (Proceedings of 46th Karpacz Winter School of Theoretical Physics),
ISBN-13 978-981-4317-43-6 (World Scientific Publishing, Singapore, 2011) [arXiv:1006.2794]
22. Teiko Heinosaari, Maria Anastasia Jivulescu, Daniel Reitzner, Mário Ziman:
Approximating incompatible von Neumann measurements simultaneously
Phys. Rev. A 82, 032328 (2010) [arXiv:1005.0472]
23. Lenka Moravčíková, Mário Ziman:
Entanglement-annihilating and entanglement-breaking channels
J.Phys.A 43, 275306 (2010) [arXiv:1006.2502]
24. Mário Ziman, Michal Sedlák:
Single shot discrimination of quantum unitary processes
J. Mod. Opt. 57, 253 - 259 (2010)
25. Mark Hillery, Vladimír Bužek, Mário Ziman:
Equivalent programmable quantum processors
Optics Communications 283, 822-826 (2010)
26. Mário Ziman, Teiko Heinosaari, Michal Sedlák:
Unambiguous comparison of quantum measurements
Phys. Rev. A 80, 052102 (2009) [arXiv:0905.4445]
27. Tomáš Rybár, Mário Ziman:
Quantum Finite-Depth Memory Channels: Case Study
Phys. Rev. A 80, 042306 (2009) [arXiv:0907.5521]
28. Teiko Heinosaari, Daniel Reitzner, Peter Stano, Mário Ziman:
Coexistence of quantum operations
J. Phys. A 42, 365302 (2009), [arXiv:0905.4953]
29. Michal Sedlák, Mário Ziman, Vladimír Bužek, Mark Hillery:
Unambiguous identification of coherent states II: Multiple resources
Phys.Rev.A 79, 062305 (2009) [arXiv:0901.3206]
30. Michal Sedlák, Mário Ziman:
Unambiguous comparison of unitary channels
Phys.Rev.A 79, 012303 (2009) [arXiv:0809.4401]
31. Teiko Heinosaari, Mário Ziman:
Guide to mathematical concepts of quantum theory
Acta Physica Slovaca 58, 487-674 (2008)
32. Tomáš Rybár, Mário Ziman:
Repeatable quantum memory channel
Phys. Rev. A 78, 052114 (2008) [arXiv:0808.3851]
33. Vladimír Bužek, Mário Ziman, Martin Plesch:
Optimal approximation of non-physical maps via Maximum Likelihood
in Advances in Information Optics and Photonics (SPIE Press, 2008, pp. 513-532).
34. Mário Ziman:
Incomplete quantum process tomography and principle of maximal entropy
Phys.Rev.A 78, 032118 (2008) [arXiv:0802.3892]
35. Mário Ziman:
Process POVM: A mathematical framework for the description of process tomography experiments
Phys.Rev.A 77, 062112 (2008) [arXiv:0802.3862]
36. Mário Ziman, Teiko Heinosaari:
Discrimination of quantum observables using limited resources
Phys. Rev. A 77, 042321 (2008) [arXiv:0712.3675]
37. Michal Sedlák, Mário Ziman, Vladimír Bužek and Mark Hillery:
Unambiguous comparison of ensembles of quantum states

Phys.Rev.A 77,042304 (2008) [arXiv:0712.1616]
38. Vladimír Bužek , Mark Hillery, Mário Ziman:
Towards Quantum-based Election Schem
Quantum Communication and Security (edited by M.Zukowski et al.), 215--223 (IOS Press, 2007)
39. Mário Ziman, Vladimír Bužek:
Entanglement measures: state ordering vs local operation
Quantum Communication and Security (edited by M.Zukowski et al.), 196--204 (IOS Press, 2007)
[arXiv:0707.4401]
40. Michal Sedlák, Mário Ziman, Ondrej Pribyla, Vladimír Bužek and Mark Hillery:
Unambiguous coherent state identification: Searching quantum databas
Phys.Rev.A 76, 022326 (2007) [arXiv:0706.1892]
41. Jan Bouda, Mário Ziman:
Optimality of quantum private channel
J. Phys. A: Math. Theor. 40 (2007) 5415-5426
42. Mário Ziman, Vladimír Bužek:
Universality and optimality of programmable quantum processor
Acta Phys.Hung.B 26, 277-291 (2006),
43. Derek McHugh, Vladimír Bužek, Mário Ziman:
When Non-Gaussian States are Gaussian: Generalization of Non-Separability Criterion for Continuous Variable
Phys.Rev.A 74, 050306(R) (2006) [quant-ph/0611028]
44. Martin Plesch, Mário Ziman, Vladimír Bužek, Peter Štelmachovič:
Estimation of potentially unphysical map
Open Systems and Information Dynamics 13, 255-262 (2006)
45. Derek McHugh, Mário Ziman, Vladimír Bužek:
Entanglement, purity and energy: Two qubits vs Two modes
Phys.Rev.A 74, 0423903 (2006) [quant-ph/0607012]
46. V.Bužek, M.Hillery, M.Ziman, and M.Roško:
Programmable quantum processor
Quantum Information Processing 5, Num.5, pp.313-420 (2006)
47. Mark Hillery, Mário Ziman, Vladimír Bužek, Martina Bielikova:
Towards quantum-based privacy and voting
Physics Letters A 349, Issues 1-4 , pp 75-81 (2006), [quant-ph/0505041]
48. Mark Hillery, Mário Ziman, Vladimír Bužek:
Approximate programmable quantum processor
Phys. Rev. A 73, 022345 (2006), [quant-ph/0510161]
49. Mário Ziman and Vladimír Bužek:
Entanglement-induced state ordering under local operation
Phys. Rev. A 73, 012312 (2006), LANL preprint archive quant-ph/0510017
50. Mário Ziman, Martin Plesch and Vladimír Bužek:
Reconstruction of superoperators from incomplete data
Foundations of Physics 36, 127-156 (2006), [quant-ph/0406088]
51. Mário Ziman and Vladimír Bužek:
Concurrence vs. purity: Influence of local channels on Bell states of two qubit
Phys.Rev.A 72, 053325 (2005), LANL preprint archive quant-ph/0508106
52. Mário Ziman, Vladimír Bužek:
All (qubit) decoherences: Complete characterization and physical implementation
Phys.Rev.A 72, 022110 (2005), LANL preprint archive quant-ph/0505040
53. Mário Ziman, Martin Plesch, Vladimír Bužek, Peter Štelmachovič:
Process reconstruction: From unphysical to physical maps via maximum likelihood
Phys.Rev.A 72, 022106 (2005), LANL preprint archive quant-ph/0501102
54. M. Ziman, M. Plesch, and V. Bužek:
Process reconstruction from incomplete and/or inconsistent dat
The European Physical Journal D 32, Vol.10,215 - 222 (2005), LANL preprint archive quant-ph/0412129
55. M.Ziman,V.Bužek:
Realization of POVMs using measurement-assisted programmable quantum processor
Phys.Rev.A 72, 022343 (2005), LANL preprint archive quant-ph/0411135

56. Mário Ziman, Peter Štelmachovič, Vladimír Bužek:
    Description of quantum dynamics of open systems based on collision-like models
    Open systems and information dynamics 12, No.1, pp. 81-91 (2005), LANL preprint archive quant-ph/0410161
57. V.Bužek, M.Ziman, M.Hillery:
    Probabilistic programmable quantum processors
    Fortschr.Phys. 52, No.11-12, 1056-1063 (2004)
58. Mark Hillery, Mário Ziman, Vladimír Bužek:
    Improving performance of probabilistic programmable quantum processors
    Phys.Rev.A 69, 042311 (2004), LANL preprint archive quant-ph/0311170
59. Mário Ziman and Vladimír Bužek:
    Realization of unitary maps via probabilistic programmable quantum processors
    International Journal of Quantum Information 1, Num.4,1-15 (2003),
60. V.Bužek and M.Ziman:
    Programmable quantum processors: probabilistic approach
    Squeezed states and uncertainty relations, Proc. of 8th Int. conf. , Rinton Press, 65-72 (2003)
61. Peter Štelmachovič, Mário Ziman and Vladimír Bužek:
    Quantum dynamics of open susytems from the point of information transfer
    Proceedings of the 6th Int. Conf. QCMC'02,MIT,U.S.A. , 197-200 (2003)
62. Peter Štelmachovič,Mário Ziman, Vladimír Bužek:
    Microscopic description of information transfer from a qudit to reservoir
    Fortschr.Phys. 51, 280-287 (2003)
63. M.Ziman,P.Štelmachovič,V.Bužek:
    Saturation of CKW inequalities via quantum homogenization
    J.Optics B 5, 439-441 (2003)
64. Mário Ziman and Vladimír Bužek:
    Correlation assisted quantum communication
    Phys.Rev.A 67, 042321 (2003), LANL preprint archivequant-ph/0205078
65. M.Hillery,M.Ziman,V.Bužek:
    Implementation of quantum maps by programmable quantum processor
    Phys.Rev. A 66 , 42302 (2002), LANL preprint archive quant-ph/0205050
66. V.Scarani,M.Ziman,P.Štelmachovič,N.Gisin,V.Bužek:
    Thermalizing Quantum Machines: Dissipation and Entanglement
    Phys.Rev.Lett. 88 , 97905-1 (2002), LANL preprint archive quant-ph/0110088
67. M.Ziman,P.Štelmachovič,V.Bužek,M.Hillery,V.Scarani,N.Gisin:
    Dilluting quantum information: An analysis of information transfer in system-reservoir interactions
    Phys.Rev. A 65 , 042105 (2002), LANL preprint archive quant-ph/0110164
68. M.Hillery,V.Bužek,M.Ziman:
    Probabilitstic implementation of universal quantum processors
    Phys.Rev. A 65 , 022301 (2002), LANL preprint archive quant-ph/0106088
69. M.Hillery, V.Bužek, M.Ziman:
    Programmable quantum gate arrays
    Fort. der Phys. 49 , 87-992 (2001)
70. M.Ziman, P.Štelmachovič, V.Bužek:
    On the local unitary equivalence of states of multi-partite systems
    Fort. der Phys. 49 , 123-1132 (2001), LANL preprint archive quant-ph/0107016
71. Mário Ziman and Vladimír Bužek:
    Equally distant, partially entangled alphabet states for quantum channels
    Phys. Rev. A 62 , 52301 (2000)

ArXiv only:

1. Thilo Hannemann, Christof Wunderlich, Martin Plesch, Mário Ziman, Vladimír Bužek:
   Scrutinizing single-qubit quantum channels: Theory and experiment with trapped ions
   [arXiv:0904.0923]
2. Mário Ziman:
   Quantum process tomography: the role of initial correlations

[quant-ph/0603166]
3. Mário Ziman:
   Notes on optimality of direct characterisation of quantum dynamics
   LANL preprint archive quant-ph/0603151
4. Jan Bouda and Mário Ziman:
   Limits and restrictions of private quantum channe
   [quant-ph/0506107]
5. Mário Ziman and Peter Štelmachovič:
   Quantum theory: kinematics, linearity and no-signaling condition
   unpublished (2003) LANL preprint archive quant-ph/0211149