List of publications, as of January 2021

a) monographs and textbooks:


b) inventions:


c) lecture notes:

d) edited volumes:


e) reviews, book chapters:


f) research papers:


**g) contributions to conference proceedings and other edited volumes:**

They cover mostly the same problems as the above listed articles. If a contribution appeared with a substantial time gap before the corresponding research paper(s) it is marked by an asterisk. In some cases (indicated by **) there is no journal presentation.


3. P. Exner: *Description of unstable systems and the problem of repeated measure-
ments* (in Czech), Proceedings of the 4th Conference of Czechoslovak Physicists
(Liberec 1975), pp. 269–270.

4. M. Havlíček, P. Exner: *Matrix canonical realizations of the Lie algebra o(m, n)*
(in Czech), Proceedings of the 4th Conference of Czechoslovak Physicists
(Liberec 1975), pp. 271–272.

Proceedings of the 5th Conference of Czechoslovak Physicists (Košice 1977),
pp. 187–189.

6. P. Exner, M. Havlíček, W. Lassner: *Boson representations of classical Lie alge-
bras* (in Czech), Proceedings of the 5th Conference of Czechoslovak Physicists

7. P. Exner, M. Havlíček, W. Lassner: *Boson representations of classical Lie alge-
bras*, Proc. of the International Conference on Operator Algebras, Ideals and
Applications in Theoretical Physics (Leipzig 1977), Teubner Verlag; pp. 277–
278.

program for commutators of polynomials in creation and annihilation opera-
tors* (in Czech), Proceedings of the 5th Conference of Czechoslovak Physicists

algebras sl(n + 1, C) constructed by canonical realizations* (in Russian), Pro-
ceedings of the International Seminar on Group–Theoretical Methods and their
Applications (Zvenigorod 1979), pp. 52–56.

10. P. Exner, G.I. Kolerov: *Propagator of a quantum–mechanical damped oscilla-
tor* (in Czech), Proceedings of the 7th Conference of Czechoslovak Physicists
(Prague 1981), contribution 01–05.

11. P. Exner, G.I. Kolerov: *Dynamics of open quantum systems and rigorous Feyn-
man integrals* (in Czech), Proceedings of the 7th Conference of Czechoslovak
Physicists (Prague 1981), contribution 01–06.

12. P. Exner, G.I. Kolerov: *Polygonal–path approximations in functional inte-
grals* (in Czech), Proceedings of the 7th Conference of Czechoslovak Physicists
(Prague 1981), contribution 01–07.

13. Č. Burdík, P. Exner, M. Havlíček: *A complete set of irreducible highest–weight
representations for sl(3, C)* (in Czech), Proceedings of the 7th Conference of
Czechoslovak Physicists (Prague 1981), contribution 01–08.

14. J. Blank, P. Exner, M. Havlíček: *Boson–fermion representations of Lie super-
algebras osp(1, 2) and osp(1, 4)* (in Czech), Proceedings of the 7th Conference
of Czechoslovak Physicists (Prague 1981), contribution 01–09.

15. P. Exner, G.I. Kolerov: *Description of an open–system dynamics using rig-
gorous Feynman integrals*, Proceedings of the 6th International Conference on


54. P. Exner: *Unstable system dynamics: do we understand it fully?*, Proceedings of the 21th Max Born Symposium on Theoretical Physics (Wroclaw 2006) – see the the review paper [7]


60. P. Exner: *Solvable models of resonances and decays*, Proceedings of the Conference “Mathematical Physics, Spectral Theory and Stochastic Analysis” (Goslar 2011; M. Demuth, W. Kirsch, eds.) – see the the review paper [9]


70. P. Exner: *Schrödinger operators with a switching effect*, in proceedings of the “International Conference in conjunction with 14th Biennial Conference of SIAM” (Amritsar 2018) – see the review paper [12]


73. P. Exner: *Dirac operators with a δ-shell interaction*, Proceedings of the International Bogolyubov Conference “Problem of Theoretical and Mathematical Physics” (Moscow and Dubna 2019) – see the review paper [15]


h) theses and other unpublished works:


i) conference talks and minicourses:

Here I list mostly invited talks at conferences, workshops, and large colloquia, together with several invited minicourses and contributed talks at major congresses. Other conference addresses, as well as seminar talks given at different places, even if typically invited, are not included.

1. Quantum waveguides modelled by graphs, at the “24th Winter School on Stochastic Methods in Mathematics and Physics” (Karpacz, February 11–23, 1988 – see the proceedings contribution [20])

2. Bound states in classical and quantum waveguides, at the conference “Partial Differential Equations” (Holzhau, April 23–28, 1988 – see the proceedings contribution [21])

3. Bound states and resonances in quantum wires, at the summer school “Recent Developments in Quantum Mechanics” (Poiana Brasov, August 27 – September 12, 1989 – see the proceedings contribution [24])

4. Geometrically induced spectral properties: example of quantum waveguides, at the conference “Stochastic Processes, Physics, and Geometry” (Locarno, June 24–29, 1991 – see the proceedings contribution [29])

5. A solvable model of two-channel scattering, a contributed talk at the Xth International Congress of Math. Physics (Leipzig, July 29–August 8, 1991)


7. Contact interaction models of decays and resonances, at the workshop “Contact Interactions” (Trieste, December 20–22, 1992)

8. Resonance coupling of one-dimensional Schrödinger operators, at the workshop “Schrödinger operators” (Vienna, December 8–12, 1993)

9. Irregular spectra of point interaction systems, at the conference “Chaos, Time and Resonance” (Les Treilles, June 18–July 3, 1994)

10. Wannier–ladder slopes and hills have no absolutely continuous spectrum, a contributed talk at the XIth International Congress of Mathematical Physics (Paris, July 18–23, 1994)

12. Wannier–Stark systems with singular interactions, at the workshop “Point Interactions” (Trieste, September 29 – October 1, 1994 – see the proceedings contribution [31])


16. Discrete and continuous Schrödinger operators on graphs, at the workshop “Discrete Geometry” (Vienna, October 23–27, 1995)

17. Laterally coupled waveguides, at the conference “Partial Differential Equations and Mathematical Physics” (Atlanta, March 23–28, 1997 – see the proceedings contribution [35])


19. Spectra of quantum mechanical superlattices, at the conference “Frontiers in Quantum Physics” (Kuala Lumpur, July 8–11, 1997 – see the proceedings contribution [35])

20. Spectral and scattering properties of quantum wires and dots with a lateral coupling or an inhomogeneous boundary, a contributed talk at the XIIth International Congress of Mathematical Physics (Brisbane, July 13–19, 1997)

21. Point interactions, small scatterers and probability current singularities, at the “Workshop on Schrödinger Operators” (Bonn, September 21–25, 1998)

22. Schrödinger operators on graphs, at the conference “Problems in spectral geometry” (Okayama, February 4–6, 1999)

23. Magnetoresonances in open quantum dots, at the conference “Days on Diffraction 99” (Sankt Petersburg, June 1–3, 1999 – see the proc. paper [40])

24. Wannier–Stark systems with singular interactions, at the “13th Conference of Slovak and Czech Physicists” (Zvolen, August 23–28, 1999 – see the proceedings contribution [39])

25. Magnetic transport along one-dimensional perturbations in the plane, at the “Bogoliubov 90” conference (Moscow, Dubna, and Kiev, September 27 – October 7, 1999 – see the proceedings contribution [41])


27. Bound states of Pauli operator with anomalous magnetic moment, a contributed talk at the XIIIth International Congress of Mathematical Physics (London, July 17–22, 2000 – see the proceedings contribution [42])

30. *Magnetic quantum transport without a classical analog*, at the conference “Days on Diffraction 01” (Sankt Petersburg, May 29–31, 2001)
31. *Curvature-induced discrete spectrum of quantum layers*, at the conference “Geometry, Integrability, and Quantization” (Varna, June 14–23, 2001)
33. *Wannier, Stark, and inverse Klauder*, at the conference “Operator Algebras and Mathematical Physics” (Constanta, July 2–7, 2001)
34. *Generalized Schrödinger operators of the graph type*, at the conference “Mathematical Analysis of Quantum Systems” (Dublin, September 19–22, 2001)
35. *Generalized Schrödinger operators of the graph type*, at the “International Conference on Differential Equations and Mathematical Physics” (Birmingham, Alabama, March 26–30, 2002)
36. *Two strongly singular point-interaction problems*, at the “Conference on Operator Theory and its Applications in Mathematical Physics” (Będlewo, Poland, May 11–17, 2002)
37. *Magnetic transport in presence of perturbations*, at the conference “Waves in Periodic and Random Media” (Mt. Holyoke, Mass., June 23–27, 2002 – see the proceedings contribution [43])
38. *Transport in two-dimensional magnetic systems*, at the workshop “Quantum Hamiltonians with magnetic fields” (Bucharest, September 8–14, 2002)
40. *Semiclassical behaviour of the discrete spectrum for Schrödinger operators with interaction supported by manifolds of a lower dimension*, at the Conference “Semiclassical Meeting” (Nantes, January 8–10, 2003)
41. *Schrödinger operators with a graph-type singular interaction*, at the conference “Operator Algebras and Mathematical Physics 2” (Sinaia, June 26–July 4, 2003)
43. *Schrödinger operators with graph-type interactions*, an invited talk in the session “Quantum Mechanics and Spectral Theory” at the XIVth International Congress of Mathematical Physics (Lisbon, July 28–August 1, 2003 – see the proceedings contribution [44])
44. *Resonance effects in leaky nanostructures*, at the conference “Mathematical Analysis of Quantum Systems III” (Dublin, October 2–4, 2003)
45. von Neumann way to treat quantum systems of a mixed dimensionality, at the “von Neumann Centennial Conference” (Budapest, October 15–20, 2003 – see the review paper [6])
46. Resonance effects for Schrödinger operators with infinitely extended singular perturbations, at the conference “Differential Equations and Mathematical Physics”, in honor of Professor Kuroda 70th birthday (Tokyo, October 22–24, 2003)
47. Spectral properties of Schrödinger operators with strongly attractive graph-type singular perturbations, at the workshop “Spectral and Scattering Theory and Related Topics” (Kyoto, October 27–29, 2003 – see the proceedings contribution [46])
51. Quantum waveguides: mathematical problems, at the conference “Mathematical Results in Quantum Mechanics” (QMath9) (Presque’Ile de Giens, France, September 12–16, 2004 – see the proceedings contribution [48])
52. On the meaning of quantum graph models, at the conference “Mathematical Analysis of Quantum Systems IV” (Dublin, September 29–October 1, 2004)
53. Approximations for and by quantum graph Hamiltonians, at the conference “Quantum Graphs and Their Applications” (Snowbird, Utah, June 18–24, 2005 – see the proceedings contribution [53])
54. Isoperimetric problems for δ interactions and mean-chord inequalities, at the workshop “Spectral Properties of Schrödinger Operators” (Sankt Petersburg, June 30, 2005)
55. Scattering and resonances in leaky quantum wires, at the conference “Days on Diffraction 05” (Sankt Petersburg, June 28–July 1, 2005)
57. Inequalities for means of chords, with applications to isoperimetric problems, at the conference “Dynamics of Complex Quantum Systems” (Rehovot & Haifa, December 18–22, 2005)
58. Quantum graphs: local and global approximation, at the workshop “Operators, Spectra, and Mathematical Physics” (Chernivtsi, May 12, 2006)
60. *Unstable system dynamics: do we understand it fully?*, at the XXI Max Born Symposium “Mathematical Problems in Nonrelativistic Quantum Dynamics” (Wroclaw, June 16–28, 2006)

61. *There are many ways to decay*, at the “International Workshop on Analysis and Probability in Quantum Physics” (Santiago de Chile, July 25 – August 4, 2006)

62. *Approximation results for quantum graphs*, at the conference “Transport and Spectral Problems in Quantum Mechanics Physics”, in honor of Jean-Michel Combes (Cergy–Pontoise, September 3–6, 2006 – see the proceedings contribution [55])


64. *Lectures on quantum graphs, ideal, leaky, and generalized*, a series of three lectures in the “New Zealand Institute of Mathematics” (University of Auckland, November 3–8, 2006)

65. *Quantum graphs and their applications*, a two-lecture part of a minicourse given, together with P. Kuchment, at the LMS short course, a satellite meeting of the INI “Analysis on Graphs and its Applications” Programme (Gregynog Hall, Wales, January 14–15, 2007)

66. *Quantum networks modelled by graphs*, at the workshop “Quantum Few-Body System” (Aarhus University, March 19–20, 2007)

67. *Inequalities for means of chords and related isoperimetric problems*, at “6th Congress of Romanian Mathematicians” (Bucharest, June 28 – July 4, 2007)


69. *Isoperimetric problems solved using inequalities for means of chords*, at “LUMS 2nd International Conference on Mathematics and its Applications in Information Technology” (Lahore, March 10–12, 2008)

70. *On quantum particles which change dimension*, at “Mathematical Physics and Spectral Theory, a Workshop in Memory of Vladimir Geyler” (Berlin, April 24–26, 2008)

71. *Quantum graphs modelling networks*, at “8ème Journée Equations aux Derivées Partielles” (Monastir, May 14, 2008)


73. *Nontrivial coupling from squeezing of Dirichlet networks: a bent tube example*, at ESF Research Conference “Operator Theory, Analysis and Mathematical Physics” (Bedlewo, Poland, June 15–22, 2008)

74. *Quantum graphs and their vertex couplings*, at XXVII International Colloquium on Group Theoretical Methods in Physics (Yerevan, Armenia, August 13–19, 2008)
75. *Lectures on quantum graph models*, a minicourse given at the Student Colloquium and School on Mathematical Physics (Stará Lesná, August 23–29, 2008)

76. *On the spectrum coming from “bending” a chain quantum graph*, at the conference “A Canonical Realization”, in honor of M. Havlíček’s 70th birthday (Villa Lanna, Prague, October 21, 2008)

77. *Approximation of nontrivial quantum graphs by Schrödinger operators on Neumann networks*, at the workshop “Mathematical Aspects of Transport in Mesoscopic Systems” (Dublin, December 4–7, 2008)

78. *Approximation of quantum graphs by Schrödinger operators on Neumann networks*, at the conference “Disorder Effects on Quantum Dynamics: Some Recent Results” – in honor of Michael Aizenman (Université Cergy–Pontoise, January 26–27, 2009)

79. *Approximations by Schrödinger operators on networks collapsing to graphs*, at the “Fifth Wales Analysis Workshop” (University of Cardiff, February 11, 2009)

80. *Approximations of graph vertex coupling by scaled Schrödinger operators on manifolds*, at the conference “Quantization day 2”, in honor of J. Tolar’s 70th birthday (Masarykova kolej, Prague, March 24, 2009)

81. *Quantum graphs with general vertex coupling: approximation by scaled Schrödinger operators on manifolds*, at the Bogoliubov centenary conference (JINR Dubna, August 21–28, 2009)

81. *Quantum graphs with general vertex coupling: approximation by scaled Schrödinger operators on manifolds*, at the conference “Probabilistic and Analytical Methods in Mathematical Physics”, (Tsaghkadzor, Armenia, September 7–14, 2009)

82. *On the meaning of quantum graph Hamiltonians: approximations by Schrödinger operators on manifolds*, at the conference “Spectral Problems and Related Topics” (Moscow State University, November 18–21, 2009)

83. *Schrödinger operators on network manifolds approximating quantum graphs*, at the conference “Spectral and Dynamical Properties of Quantum Hamiltonians”, a conference dedicated to Arne Jensen’s 60th birthday (EPFL Lausanne, February 22–26, 2010)

84. *Lectures on quantum graphs, standard, leaky, and generalized*, a minicourse given at Université de Monastir (June 8–11, 2010)


86. *Quantum graphs: geometric perturbations, resonances, and Weyl asymptotics*, at the “Fifth International Conference on Operator Theory Analysis and Mathematical Physics” (Będlewo, August 5–12, 2010)
87. Vertex coupling in quantum graphs: approximation by Schrödinger operators on manifolds, at the conference “Mathematics in Science and Technology” (Delhi, August 15–17, 2010 – see the proceedings contribution [59])

88. Geometric perturbations and unusual spectral behavior of quantum graphs, at the symposium dedicated to Takashi Ichinose 70th birthday (Kanazawa University, September 17, 2010)

89. On the physical contents of quantum graph models, at “Perspectives in Physics: a JPhysA showcase meeting” (Chongqing University, October 18–22, 2010)


92. Periodic quantum graphs and their local perturbations, at the workshop “Spectral and Scattering Theory and Related Topics” (RIMS Kyoto, February 16–18, 2011)

93. On approximations of vertex coupling of quantum graphs, at the workshop “Analysis on Graphs in Sendai 2011” (Tohoku University, February 21, 2011)


95. Quantum graphs and their generalizations, a minicourse given at the summer school “Mathematical Theory of Quantum Networks” (Les Diablerets, June 6–10, 2011)

96. Approximations of vertex couplings in quantum graph models, at the minisymposium “Differential Operators on Graphs and their Applications” within the ICIAM Congress (Vancouver, July 18–22, 2011)

97. New thoughts on an old topic: unstable system dynamics, at the conference “Mathematical Physics, Spectral Theory and Stochastic Analysis” (Goslar, September 11–16, 2011)

98. Resonances in quantum graphs and their semiclassical behaviour, at the conference “Bogoliubov Readings” (Dubna, October 12–15, 2011)


100. Resonances in quantum graphs and their generalizations, at the conference “Spectral Analysis of Non-selfadjoint Operators” (CIRM, Luminy, December 12–16, 2011)

101. Geometric properties of point-interaction Hamiltonians ground state, at the workshop “Boundary Value Problems and Spectral Geometry” (Oberwolfach, January 1–7, 2012)

102. Resonances in quantum graphs, their behavior and generalizations, at the workshop “Mathematical Approach to Emerging Topics in Material Science 2012” (Tohoku University, February 18, 2012)
103. *There is more in quantum mechanics*, at the WPI-AIMR Annual Workshop “Cutting-edge Functional Materials for Green Innovation” (Tohoku University, February 21–23, 2012)

104. *Resonances in quantum graphs, their generalizations and magnetic field effects*, at the Leverulme Conference “Dissipative Spectral Theory: Operator Theory, PDEs and Numerics” (Cardiff University, May 8–11, 2012)

105. *Geometric properties of the ground state for Hamiltonians with singular interactions*, at the conference “Operator Theory, Analysis and Mathematical Physics” (OTAMP2012) (Barcelona, June 11–14, 2012)


108. *Control of vertex coupling in quantum graphs*, at the conference “Mathematical Challenge of Quantum Transport in Nanosystems” (Sankt Petersburg, March 12–15, 2013)


110. *The intriguing δ′*, at the conference “Quantum Spectra and Transport” (AvronFest, Hebrew University of Jerusalem, June 30 – July 4, 2013)

111. *Resonances in quantum graphs*, at the conference “Equadiff 13” (Prague, August 26–30, 2013)

112. *Resonances in quantum networks and their generalizations*, at a conference in honor of M. Havlíček’s 75th birthday (Villa Lanna, Prague, November 2, 2013)

113. *Strong coupling asymptotics in leaky graphs*, at the conference “Mathematical Technology of Networks – QGraphs 2013” (Bielefeld, December 4–7, 2013)

114. *Understanding quantum graph vertices through network approximations*, at the workshop “Analysis on Graphs and Applications” (Royal Holloway, January 9–10, 2014)


116. *Spectral asymptotics of singular Schrödinger operators with strong attractive coupling*, at the workshop “Spectral Problems on Shrinking Domains” (Gregar-nog Hall, Wales, May 26–30, 2014)

117. *Narrowing channels, or Schrödinger operators mixing different dimensions*, at the conference “Mathematical Aspects of Solid State Physics, Quantum Transport and Spectral Analysis”, in honor of Gheorghe Nenciu’s 70th birthday (Bucharest, July 1–3, 2014)
118. *Spectral properties of Schrödinger operators with narrowing channels*, at the conference “Operator Theory, Analysis and Mathematical Physics” (Stockholm, July 7–11, 2014)

119. *Strong coupling asymptotics for singular Schrödinger operators and Robin billiards*, at the conference “Mathematical Challenge of Quantum Transport in Nanosystems” (Sankt Petersburg, September 23–26, 2013)

120. *Strong coupling in leaky graphs and Robin billiards*, at the workshop “Spectral Theory and Weyl Functions” (Oberwolfach, January 4–10, 2015)


122. *Strongly singular Schrödinger operators: geometry, spectra, time evolution*, at the conference “Topics in Analysis and Mathematical Physics” (Aalborg, May 29–30, 2015)

123. *Approximating quantum graphs by Schrödinger operators on thin networks*, at “8th Congress of Romanian Mathematicians” (Iași, June 26 – July 1, 2015)

124. *Spectral transitions of Schrödinger operators with below unbounded potential*, at the “7th St. Petersburg Conference in Spectral Theory”, dedicated to the memory of M.Sh. Birman (Euler Institute, St. Petersburg, July 3–6, 2015)

125. *Schrödinger operators exhibiting spectral transition*, a contributed talk at the XVIIIth International Congress of Mathematical Physics (Santiago de Chile, July 27–August 1, 2015)


127. *Quantum systems exhibiting parameter-dependent spectral transitions*, at “Kochi Quantum Week” (Tosa Yamada, October 12–14, 2015)

128. *Quantum systems changing abruptly their spectral properties*, at the winter school “Mathematical Challenges in Quantum Mechanics” (Bressanone, February 8–13, 2016)

129. *Asymptotic expansions for singular Schrödinger operators*, at the Nordic Mathematical Congress session “Spectral Theory and Applications” (Stockholm, March 16–20, 2016)

130. *Singular Schrödinger operators and Robin billiards: geometry, spectra and asymptotic expansions*, at the conference “Operators, Operator Families and Asymptotics” (Bath, May 16–19, 2016)


132. *A small step for the coupling constant but a giant leap for the spectrum*, at the conference “Analytic and Algebraic Methods in Physics XIII”, in honor of Miloslav Znojil 70th birthday (Prague, June 6–9, 2016)
133. *Schrödinger operators with singular interactions on hypersurfaces*, at the conference “Non-linear PDEs, mathematical physics, and stochastic analysis”, in honor of Helge Holden 60th birthday (Trondheim, July 4–7, 2016)

134. *Singular Schrödinger operators and Robin billiards: spectral properties and strong coupling expansions*, at the workshop “New Methods in Extension Theory applied to Quantum Mechanics” (Berlin, July 14–15, 2016)

135. *Schrödinger operators with singular interactions on sets of codimension one*, at the conference “Operator Theory, Analysis and Mathematical Physics” (Sankt Petersburg, August 2–7, 2016)

136. *Spectral properties of Schrödinger operators with singular interactions on hypersurfaces*, at the conference “Stochastic and Analytic Methods in Mathematical Physics” (Yerevan, September 4–11, 2016)

137. *Reflections on Smilansky model*, at the conference “From Quantum Chaos to Graphs and Spectral Patterns”, in honor of Prof. Uzy Smilansky’s 75th Anniversary (Rehovot, September 11–15, 2016)

138. *Singular Schrödinger operators with interactions supported by sets of codimension one*, at the QMath13 conference “Mathematical Results in Quantum Physics” (Atlanta, October 8–11, 2016)

139. *Singular Schrödinger operators with interactions supported by sets of codimension one*, at the workshop “Nonlinear and Geometric Partial Differential Equations” (Canberra and Kioloa, December 9–13, 2016)


141. *Leaky graphs and Robin billiards: some open problems*, at the workshop “Schrödinger Operators and Boundary Value Problems” (Graz, April 24–28, 2017)

142. *Some unusual spectra of periodic quantum graphs*, at the conference “Chaos, and what it can reveal”, in honor of Petr Šeba 60th birthday (Hradec Králové, May 9–11, 2017)


144. *Unusual bandgap spectra of periodic quantum graphs*, at the workshop “Non-linear Partial Differential Equations on Graphs” (Oberwolfach, June 18–24, 2017)


146. *Schrödinger operators changing abruptly their spectral character*, at the “Second Caucasian Mathematical Conference” (Van, August 22–24, 2017)

149. Schrödinger operators with a switching effect, at the “International Conference in conjunction with 14th Biennial Conference of ISIAM” (Amritsar, February 1–4, 2018)
150. Uncommon spectra of periodic quantum graphs, at the “International Symposium on Computational Mathematics and its Applications” (Sharda University, New Delhi, February 5–6, 2018)
152. Schrödinger operators exhibiting a sudden change of the spectral character, at the IML workshop “Eigenvalues and Inequalities” (Djursholm, May 14–18, 2018)
153. Uncommon spectra of periodic quantum graphs: three simple examples, a contributed talk at the XIXth International Congress of Mathematical Physics (Montréal, July 23–28, 2018)
154. Sometimes the graphs are not what they seem, at the workshop “Nonlinear PDEs on Metric Graphs and Branched Networks” (Leiden, August 27–31, 2018)
155. Quantum Hamiltonians exhibiting a spectral transition, at the Third International Conference “Modern Problems in Applied Mathematics” (Tbilisi, September 19–21, 2018)
156. Schrödinger operators exhibiting an abrupt spectral transition, at the conference “Spectral Theory and Related Questions” (Ufa, October 1–4, 2018)
157. On loops, cones and stars: striving for the optimal shape, at the conference “Results in Contemporary Mathematical Physics”, in honor of Rafel Benguria (Santiago de Chile, December 17–21, 2018)
158. Leaky quantum graphs: asymptotic expansions, magnetic effects, and spectral optimization, at the kick-off conference of the programme “Spectral Methods in Mathematical Physics” (Djursholm, January 14–18, 2019)
159. Schrödinger operators exhibiting an abrupt change of spectral character, at the 90. GAMM Jahrestagung, section “Applied Operator Theory” (Vienna, February 18–22, 2019)
160. Spectra of periodic quantum graphs: more than one would expect, at the conference “Differential Operators on Graphs and Waveguides” (Graz, February 25–March 1, 2019)
161. Optimization of the principal eigenvalue in various geometries, at the conference “Complex Analysis and Mathematical Physics”, in honor of Armen Sergeev (Moscow, March 18–22, 2019)
162. On Schrödinger operators exhibiting a parameter-dependent spectral transition, at the “International Conference on Mathematical Methods in Physics” (Marrakech, April 1–5, 2019)
163. **Topologically induced spectral behavior: the example of quantum graphs**, a distinguished lecture at the “8th International Congress of Chinese Mathematicians” (Beijing, June 9–14, 2019)

164. **Leaky quantum structures**, a lecture at the workshop “Small Scales and Homogenisation (SmaSH)” (Cardiff, June 24–26, 2019)

165. **Leaky quantum structures: asymptotic expansions and magnetic effects**, at the “Ninth Congress of Romanian Mathematicians” (Gaiați, June 28 – July 3, 2019)

166. **Spectra of periodic quantum graphs**, at the colloquium ‘Sibe Mardešić’ (Zagreb, July 10, 2019)

167. **Dirac operators with electrostatic δ-shell interactions: spectral and scattering properties**, at the minisymposium “Dirac operators with critical singularities” within the “9th International Congress of Industrial and Applied Mathematics” (Valencia, July 15–19, 2019)

168. **Spectral optimization for singular Schrödinger operators**, at the QMath14 conference “Mathematical Results in Quantum Physics” (Aarhus, August 12–16, 2019)


170. **Topology makes the spectral picture richer: quantum graph examples**, at the conference “Stochastic and Analytic Methods in Mathematical Physics” (Yerevan, September 2–7, 2019)

171. **Dirac operators with δ-shell interactions: spectral and scattering properties**, at the conference “Problems of Theoretical and Mathematical Physics”, on the occasion of N.N. Bogoliubov’s 110th anniversary (Moscow & Dubna, September 9–14, 2019)

172. **Isoperimetric type inequalities for singular Schrödinger operators**, at the memorial seminar “Search for beauty: from condensed matter to integrable systems”, dedicated to V.B. Priezhehev (Dubna, September 10, 2019)


176. **Spectral optimization for singular Schrödinger operators**, at the workshop “Quantum Mechanics of Artificial Material Structures” (Sochi, February 17-21, 2020)

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177. *Discrete spectrum of soft quantum waveguides*, at the zoom workshop “Mathematical Challenge of Quantum Transport in Nanosystems” (Sankt Petersburg, September 14–16, 2020)

178. *On the discrete spectrum of soft quantum waveguides*, at the zoom communicated “International Conference on Mathematical Physics in Memory of Academician V.S. Vladimirov” (Moscow, November 23–27, 2020)

j) preprint versions of the above listed papers, hardcopy and electronic:

ad 2: the same title, MFF/TF/69/3, Prague 1969.
ad 5: the same title, JINR E2–8089, Dubna 1974.
ad 9: the same title in Russian, two parts, JINR P2–10263,10264, Dubna 1977.
ad 14: the same title, JINR E2–8700, Dubna 1975.
ad 15: the same title, JINR E2–12826, Dubna 1979.
ad 17: the same title, JINR E2–13022, Dubna 1980.
ad 27: the same title in two parts, *I. The propagator, II. The one-dimensional case*, JINR E2–81–608,609; Dubna 1981.
ad 29: the same title, JINR E2–83–1, Dubna 1983.
ad 33: the same title, JINR E2–84–244, Dubna 1984.
ad 34: the same title in two parts, *I. The main results, II. An example: V(x) = gx−2*, JINR E2–84–352,353, Dubna 1984.
ad 40,41: under the same general title, the material was published in two parts, *I. Formulation of the problem, II. Galilean invariance revisited*, JINR E2–86–209,709; Dubna 1986.
ad 51: the same title, BiBoS 298/87, Bielefeld 1987.
ad 54: the same title in two parts, I. Construction of the extensions, II. The splitters, JINR.
ad 57: The edges can bind electrons, SFB 237, Bochum 1987.
ad 61: the same title, JINR E2–90–531, Dubna 1990.
ad 64: the same title, Technion, Haifa 1994; mp_arc 94–12.
ad 70: the same title, mp_arc 94–323.
ad 72: the same title, ESI 208, Vienna 1995; mp_arc 95–408.
ad 73: the same title, mp_arc 95–417.
ad 74: the same title, mp_arc 95–415; funct–an/9509001.
ad 75: the same title, ESI 265, Vienna 1995; mp_arc 95–398; cond–mat/9509027.
ad 76: the same title, mp_arc 95–527; cond–mat/9512088.
ad 77: the same title, mp_arc 95–522; funct–an/9512001.
ad 78: the same title, mp_arc 96–29; funct–an/9602001.
ad 79: the same title, mp_arc 96–320; cond–mat/96007017.
ad 80: the same title, cond–mat/9607016.
ad 81: the same title, mp_arc 96–15; funct–an/9601002.
ad 82: the same title, mp_arc 97–7; quant–ph/9701007.
ad 83: the same title, quant–ph/9702022.
ad 84: the same title, ESI 249, Vienna 1995; mp_arc 95–414; funct–an/9509002.
ad 85: the same title, mp_arc 97–523; funct–an/9709003.
ad 86: the same title, cond–mat/9709281.
ad 87: the same title, cond–mat/9710051.
ad 88: the same title, mp_arc 97–482; funct–an/9709001.
ad 89: the same title, cond–mat/9709280.
ad 90: the same title, mp_arc 98–191; cond–mat/9803166.
ad 91: the same title, quant–ph/9710030.
ad 92: the same title, mp_arc 98–539; math–ph/9807025.
ad proc 35: the same title, mp_arc 98–729; math–ph/9810016.
ad proc 36: the same title, mp_arc 99–32; math–ph/9901022.
ad 93: the same title, mp_arc 99–56; math–ph/9903030.
ad 94: the same title, mp_arc 99–124; cond–mat/9904379.
ad 95: the same title, mp_arc 98–8; math.FA/9801021.
ad proc 37: the same title, mp_arc 99–301; math–ph/9908017.
ad 96: the same title, mp_arc 99–299; cond–mat/9908248.
ad 97: the same title, mp_arc 99–67; math–ph/9909011.
ad 98: the same title, mp_arc 99–376; quant–ph/9910035.
ad 99: the same title, mp_arc 99–399; cond–mat/9910301.
ad 100: the same title, mp_arc 99–431; quant–ph/99111060.
ad 101: the same title, quant–ph/0004058.
ad proc 51: the same title, mp, arc 05-299; math-ph/0508061.
ad proc 53: the same title, mp, arc 05-284; math-ph/0508046.
ad 152: the same title, mp, arc 05-300; math-ph/0508060.
ad 154: the same title, mp, arc 06-177; math-ph/0606022.
ad 156: the same title, mp, arc 06-73; math-ph/0411036.
ad proc 55: the same title, mp, arc 06-302; math-ph/0610065.
ad 157: the same title, mp, arc 05-290; math.SP/0508525.
ad 158: the same title, mp, arc 06-371; math-ph/0612087.
ad 159: the same title, mp, arc 07-46; math-ph/0702075.
ad 160: the same title, mp, arc 07-53; math-ph/0703020.
ad 161: the same title, mp, arc 07-62; math-ph/0703051.
ad 162: the same title, mp, arc 07-96; arXiv: 0704.2770 [quant-ph].
ad 163: the same title, mp, arc 07-99; arXiv: 0704.2912 [math-ph].
ad 164: the same title, mp, arc 07-117; arXiv: 0705.1407 [math-ph].
ad 165: the same title, mp, arc 07-121; arXiv: 0705.2487 [math-ph].
ad proc 57: the same title, mp, arc 07-261; arXiv: 0710.5903 [math-ph].
ad 167: the same title, mp, arc 07-297; arXiv: 0711.4247 [math-ph].
ad 168: the same title, mp, arc 07-301; arXiv: 0712.0313 [math-ph].
ad proc 58: the same title, mp, arc 08-19; arXiv: 0801.4306 [math-ph].
ad 169: the same title, mp, arc 08-136; arXiv: 0807.1419 [math-ph].
ad 170: the same title, mp, arc 08-220; arXiv: 0811.3707 [math-ph].
ad 171: the same title, mp, arc 09-5; arXiv: 0901.0765 [physics.soc-ph].
ad 172: the same title, mp, arc 09-7; arXiv: 0901.1148 [math-ph].
ad 174: the same title, mp, arc 09-142; arXiv: 0908.2679 [quant-ph].
ad 175: the same title, mp, arc 09-216; arXiv: 0912.3936 [math-ph].
ad 176: the same title, mp, arc 10-58; arXiv: 1004.0856 [math-ph].
ad 177: the same title, mp, arc 10-82; arXiv: 1006.0137 [math-ph].
ad 178: the same title, mp, arc 10-83; arXiv: 1006.1446 [math-ph].
ad 179: the same title, mp, arc 10-86; arXiv: 1006.3001 [math-ph].
ad 182: the same title, mp, arc 10-158; arXiv: 1009.5252 [math-ph].
ad 183: the same title, mp, arc 09-107; arXiv: 0907.1199 [math-ph].
ad 185: the same title, mp, arc 10-190; arXiv: 1011.5761 [math-ph].
ad 187: the same title, mp, arc 11-124; arXiv: 1109.0168 [math-ph].
ad 188: the same title, mp, arc 11-145; arXiv: 1110.1800 [math-ph].
ad 190: the same title, mp, arc 12-32; arXiv: 1203.2098 [math-ph].
ad proc 60: the same title, mp, arc 12-46; arXiv: 1205.0512 [math-ph].
ad 191: the same title, mp, arc 12-63; arXiv: 1205.5129 [math-ph].
ad proc 61: the same title, mp, arc 12-64; arXiv: 1205.5941 [math-ph].
ad 192: the same title, mp, arc 12-106; arXiv: 1210.0449 [math-ph].
ad 194: the same title, mp, arc 13-37; arXiv: 1304.7696 [math-ph].

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ad 197: the same title, mp_arXiv: 1211.0401 [math-ph].
ad 201: the same title, mp_arXiv: 1308.4249 [math-ph].
ad 203: the same title, mp_arXiv: 1312.7293 [math-ph].
ad 204: the same title, mp_arXiv: 1402.6117 [math-ph].
ad 205: the same title, mp_arXiv: 1404.1764 [math.SP].
ad 209: the same title, mp_arXiv: 1405.1367 [math.SP].
ad 210: the same title, mp_arXiv: 1412.6089 [math-ph].
ad 211: the same title, mp_arXiv: 1506.07309 [math-ph].
ad 212: the same title, mp_arXiv: 1507.02123 [math-ph].
ad 218: the same title, mp_arXiv: 1607.00540 [math-ph].
ad 219: the same title, mp_arXiv: 1507.00608 [math-ph].
ad 221: the same title, mp_arXiv: 1512.08658 [math.SP].
ad 224: the same title, mp_arXiv: 1609.03008 [math-ph].
ad 225: the same title, mp_arXiv: 1610.02868 [math-ph].
ad 226: the same title, mp_arXiv: 1611.04559 [math-ph].
ad 227: the same title, mp_arXiv: 1705.04363 [quant-ph].
ad 228: the same title, mp_arXiv: 1705.07306 [math-ph].
ad 229: the same title, mp_arXiv: 1708.07375 [math.SP].
ad 230: the same title, mp_arXiv: 1703.10854 [math.SP].
ad 231: the same title, mp_arXiv: 1710.02664 [math-ph].
ad 233: the same title, mp_arXiv: 1701.05714 [math-ph].
ad 235: the same title, mp_arXiv: 1705.01831 [math-ph].
ad 236: the same title, mp_arXiv: 1708.08068 [math.SP].
ad 237: the same title, mp_arXiv: 1712.04897 [math.SP].
ad 238: the same title, mp_arXiv: 1801.08304 [math-ph].
ad 239: the same title, mp_arXiv: 1802.07522 [math.SP].
ad 240: the same title, mp_arXiv: 1804.01414 [math-ph].
ad 241: the same title, mp_arXiv: 1901.11323 [math.SP].
ad 242: the same title, mp_arXiv: 1906.01229 [math.SP].
ad 243: the same title, mp_arXiv: 1906.09091 [math.SP].
ad 244: the same title, mp_arXiv: 1805.12448 [math.SP].
ad 245: the same title, mp.arc 18–118; arXiv: 1812.09145 [math.SP].
ad 246: the same title, mp.arc 19–17; arXiv: 1902.03038 [math.SP].
ad 248: the same title, mp.arc 19–61; arXiv: 1912.03667 [math.SP].
ad 252: the same title, mp.arc 18–100; arXiv: 1810.08824 [math.SP].
ad 254: the first version was titled Spectral optimization for Robin Laplacian in domains without cut loci, mp.arc 20–2; arXiv: 2001.02718 [math.SP].

k) preprints unpublished in journals:


l) occasional and popular articles, interviews, etc.:

34. P. Exner: *Editorial: Approaching a High Point in the Life of the EMS*, Newsletter of the EMS 100 (July 2016), 3.
m) book reviews:


n) translations:


Some statistics

a) Coauthors: 331 coauthors in 258 research papers, which means the average 1.28 coauthor per paper

b) Journals: the 242 research papers, together with 6 reviews and 3 proceedings contributions published in journals are distributed as follows:

- Journal of Physics A: Mathematical and Theoretical 52
- Journal of Mathematical Physics 35
- Czechoslovak Journal of Physics 29
- Physics Letters A 26
- Letters in Mathematical Physics 18
- Reports on Mathematical Physics 14
- Annales Henri Poincaré 9
- Reviews in Mathematical Physics 9
- Annales d’Institut Henri Poincaré: Physique Théorique 5
- Communications in Mathematical Physics 5
- Integral Equations and Operator Theory 5
- Physical Review Letters 4
- Physical Review B 4
- Annals of Physics 3
- Elementary Particles and Atomic Nuclei 3
- Journal of Geometry and Physics 3
- Acta Polytechnica 2
- Acta Universitatis Carolinae 2
- Helvetica Physica Acta 2
- Journal of Mathematical Analysis and Applications 2
- Journal of Physical Society of Japan 2
- Mathematische Nachrichten 2
- Nanosystems: Physics, Chemistry, Mathematics 2
- Operators and Matrices 2
- Physica A 2
- Physical Review D 2
- and a single paper in each of the following: