

# Publications of Dénes Petz

## Books:

1. D. Petz, *An invitation to the algebra of the canonical commutation relation*: Leuven University Press, Leuven, 1990.
2. M. Ohya and D. Petz, *Quantum Entropy and Its Use*: Springer-Verlag, Heidelberg, 1993. Second edition 2004.
3. F. Hiai and D. Petz, *The semicircle law, free random variables and entropy*: American Mathematical Society, Providence, 2000
4. Petz Dénes, *Lineáris Analízis* (in Hungarian): Akadémiai Kiadó, Budapest, 2002.
5. D. Petz, *Quantum Information Theory and Quantum Statistics*: Springer-Verlag, Heidelberg, 2008.
6. F. Hiai and D. Petz, *Introduction to Matrix Analysis and Applications*: Hindustan Book Agency and Springer, 2014.

## Research Papers:

1. D. Petz, A characterization of the class of compact spaces: *Studia Sci. Math. Hungar.* **12**(1977), 407–408.
2. D. Petz, Compactness as E-pseudocompactness: *Commentationes Math. Univ. Carolinae* **19**(1978), 309–314.
3. D. Petz, On a problem of D. Newman: *Acta Math. Acad. Sci. Hungar.* **32**(1978), 161–162.
4. D. Petz, Direct integral of multifunctions into von Neumann algebras: *Studia Sci. Math. Hungar.* **18**(1978), 239–245.
5. D. Petz, On  $(E, k)$ -compact spaces: *Colloq. Math. Soc. J. Bolyai* **23**(1980), 945–955.
6. D. Petz, Generalized connectedness and disconnectedness in topology: *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **24**(1980), 247–252.
7. D. Petz, On box product of syntopogenous spaces: *Acta Math. Acad. Sci. Hungar.* **36**(1980), 91–97.

8. D. Petz, On the class of compact topological spaces:  
Mat. Lapok, **28**(1980), 91–97. (in Hungarian)
9. D. Petz, On center-valued states of von Neumann algebras:  
Acta Sci. Math. **43**(1981), 219–228.
10. D. Petz, A characterization of the canonical centre-valued trace in finite von Neumann algebras:  
J. London Math. Soc. **23**(1981), 329–331.
11. D. Petz, Locally compact topological groups: Group von Neumann algebra and duality  
Mat. Lapok, **29**(1981), 329–341. (in Hungarian)
12. D. Petz, On spectral and central states of Banach algebras:  
Acta Math. Hungar. **42**(1983), 19–24.
13. D. Petz, Direct integral of multifunctions into von Neumann algebras:  
Studia Sci. Math. Hungar. **18**(1983), 239–245.
14. D. Petz, On the finiteness of operator algebras with respect to an automorphism group:  
Rend. Math. **7**(1983), 483–489.
15. D. Petz, Fixed points and mean ergodic theorems:  
Colloq. Math. Soc. J. Bolyai, **35**(1983), 949–956.
16. D. Petz, Ergodic theorems in von Neumann algebras:  
Acta Sci. Math. **46**(1984), 329–344.
17. D. Petz, Quasi-uniform ergodic theorems in von Neumann algebras:  
Bull. London Math. Soc. **16**(1984), 151–156.
18. D. Petz, Ergodic theorems in von Neumann algebras:  
Functional Analysis: Surveys and Recent Results III, 189–196, Nort-Holland (1984).
19. D. Petz, Quantum ergodic theorems:  
Quantum Probability and Applications to the Quantum Theory of Irreversible Processes, Lecture Notes in Math. No. **1055**(1984), 289–300, Springer.
20. D. Petz, A dual in von Neumann algebras with weights:  
Quart. J. Math. Oxford, **35**(1984), 475–483.
21. D. Petz, A mean ergodic theorem with a look at martingales:  
Studia Sci. Math. Hungar. **19**(1984), 77–80.
22. D. Petz, The relative entropy of states of a von Neumann algebra:  
Proc. Second Int. Conf. on Operator Algebras, Ideals and their Appl. in Theoretical Phys., Teubner Texte zur Math. No. **67**(1984), 112–117.

23. D. Petz, Spectral scale of selfadjoint operators and trace inequalities:  
J. Math. Anal. Appl. **109**(1985), 74–82.
24. C. Cecchini, D. Petz, Norm convergence of generalized martingales in  $L^p$ -spaces  
over von Neumann algebras:  
Acta Sci. Math. **48**(1985), 55–63.
25. D. Petz, Properties of quantum entropy:  
Quantum Probability and Applications, Lecture Notes in Math. No.**1136**(1985),  
428–441, Springer.
26. D. Petz, Quasi-entropies for states of a von Neumann algebra:  
Publ. RIMS. Kyoto Univ. **21**(1985), 781–800.
27. D. Petz, On invariant conditional expectations in von Neumann algebras:  
Annales Univ. Sci. **29**(1986), 227–229.
28. D. Petz, The equality of generalized conditional expectations on von Neumann  
algebras:  
Semesterbericht Funktionalanalysis **85/86**(1986), 117–125, Tübingen Uni.
29. D. Petz, Sufficient subalgebras and the relative entropy of states of a von Neumann  
algebra:  
Commun. Math. Phys. **105**(1986), 123–131.
30. D. Petz, Almost uniform convergence on the predual of a von Neumann algebra  
and an ergodic theorem:  
Aspects of Positivity in Functional Analysis, 247–254, Elsevier (1986).
31. D. Petz, Properties of the relative entropy of states of von Neumann algebras:  
Acta Math. Hungar., **47**(1986), 65–72.
32. D. Petz, Quasi-entropies for finite quantum systems:  
Rep. Math. Phys., **23**(1986), 57–65.
33. D. Petz, On the equality in Jensen’s inequality for operator convex functions:  
Integral Equations Op. Theory, **5**(1986), 744–747.
34. D. Petz, Jensen’s inequality for contractions on operator algebras:  
Proc. Amer. Math. Soc., **99**(1987), 273–277.
35. D. Petz, A variational expression for the relative entropy:  
Commun. Math. Phys., **114**(1988), 345–348.
36. D. Petz, Sufficiency of channels over von Neumann algebras:  
Quart. J. Math. Oxford, **39**(1988), 907–1008.
37. D. Petz, Conditional expectation in quantum probability:  
Quantum Probability and Applications, Lecture Notes in Math., **1303**(1988), 251–  
260.

38. D. Petz, J. Zemánek, Characterizations of the trace:  
Linear Algebra and Appl., **111**(1988), 43–52.
39. D. Petz, Irreducible mappings of finite dimensional C\*-algebras:  
Semesterbericht Functionalanalysis, **14**(1988), 163–168.
40. C. Cecchini, D. Petz, On the Fixed Point Algebras for  $\varphi$ -conditional expectations  
in von Neumann Algebras:  
Studia Sci. Math. Hungar., **24**(1989), 133–137.
41. D. Petz, Characterization of sufficient observation channels:  
Mathematical Methods in Statistical Mechanics, 167–178, Leuven University Press  
(1989).
42. D. Petz, G. A. Raggio and A. Verbeure, Asymptotics of Varadhan-type and the  
Gibbs variational principle:  
Commun. Math. Phys., **121**(1989), 271–282.
43. D. Petz, Positive mappings of matrix algebras:  
Quantum Probability and Applications IV, Lecture Notes in Math., **1396**(1989),  
295–303.
44. C. Cecchini, D. Petz, State extensions and a Radon–Nikodym theorem for condi-  
tional expectations on von Neumann algebras:  
Pacific J. Math., **138**(1989), 9–24.
45. D. Petz, A de Finetti-type theorem with  $m$ -dependent states:  
Prob. Th. Rel. Fields, **85**(1990), 1–11.
46. C. Cecchini, D. Petz, Classes of conditional expectations over von Neumann alge-  
bras:  
J. Functional Anal., **92**(1990), 8–29.
47. D. Petz, First steps towards a Donsker and Varadhan theory in operator algebras:  
Quantum Probability and Applications IV, Lecture Notes in Math., **1442**(1990),  
311–319.
48. D. Petz, On certain property of the relative entropy of states of operator algebras:  
Math. Zeitschrift **206**(1991), 351–361.
49. C. Cecchini, D. Petz, A stochastic transition for von Neumann algebras:  
Bolletino U.M.I. **(7)5-A**(1991), 181–186.
50. F. Hiai, D. Petz, The proper formula for relative entropy and its asymptotics in  
quantum probability:  
Commun. Math. Phys. **143**(1991), 99–114.

51. D. Petz, Entropy, the central limit theorem and the algebra of the canonical commutation relation:  
Lett. Math. Phys. **24**(1992), 211–220.
52. D. Petz, Characterization of the relative entropy of states of matrix algebras:  
Acta Math. Hungar. **59**(1992), 449–455.
53. H. Muraki, M. Ohya, D. Petz, Entropies of general quantum states:  
Open Syst. Inf. Dynamics **1**(1992), 43–56.
54. D. Petz, Entropy in quantum probability I:  
in *Quantum Probability and Related Topics VII*, 275–297 (World Scientific, Singapore, 1992)
55. F. Hiai, D. Petz, The Golden-Thompson trace inequality is complemented:  
Linear Alg. Appl. **181**(1993), 153–185.
56. D. Petz, An application of a lemma of Riesz and Sz.-Nagy:  
Acta Sci. Math. **57**(1993), 221–228
57. C. Cecchini, D. Petz, Chain rules for canonical state extensions on von Neumann algebras:  
Colloq. Math. **64**(1993), 115–119.
58. D. Petz, G. Toth, The Bogoliubov inner product in quantum statistics:  
Lett. Math. Phys. **27**(1993), 205–216.
59. D. Petz, On entropy functionals of states of operator algebras:  
Acta Math. Hungar. **64**(1994), 279–286.
60. F. Hiai, D. Petz, Entropy densities for Gibbs states of quantum spin systems:  
Rev. Math. Phys. **5**, 693–712 (1994)
61. D. Petz, Geometry of canonical correlation on the state space of a quantum system:  
J. Math. Phys. **35**(1994), 780–795
62. D. Petz, Discrimination between states of a quantum system by observations:  
J. Functional Anal. **120**(1994), 82–97
63. D. Petz, Entropy of Markov states:  
Riv. di Math. Pura ed Appl. **14**(1994), pp. 33–42
64. D. Petz, A survey of trace inequalities:  
in *Functional Analysis and Operator Theory*, 287–298, Banach Center Publications, **30** (Warszawa 1994)
65. F. Hiai, D. Petz, Entropy density for algebraic states:  
J. Functional Anal. **125**(1994), 287–308

66. F. Hiai, M. Ohya, D. Petz, McMillan type convergence for quantum Gibbs states:  
Arch. der Math. **65**(1995), 154–158
67. M. Ohya, D. Petz, Notes on quantum entropy:  
Studia Sci. Math. Hungar. **31**(1996), 423–430
68. D. Petz, Monotone metrics on matrix spaces:  
Linear Algebra Appl. **244**(1996), 81–96
69. F. Hiai, D. Petz, G.Toth, Curvature in the geometry of canonical correlation:  
Studia Sci. Math. Hungar. **32**(1996), 235–249
70. D. Petz, Cs. Sudár, Geometries of quantum states:  
J. Math. Phys. **37**(1996), 2662–2673
71. D. Petz, H. Hasegawa, On the Riemannian metric of  $\alpha$ -entropies of density matrices:  
Lett. Math. Phys. **38**(1996), 221–225
72. D. Petz, Entropy density in quantum statistical mechanics and information theory:  
in *Contributions in Probability*, ed. C. Cecchini, 221–226, Forum, Udine, 1996,
73. F. Hiai, D. Petz, Quantum mechanics in AF  $C^*$ -systems:  
Rev. Math. Phys. **8**(1996), 819–859
74. F. Oravecz, D. Petz, On the eigenvalue distribution of some symmetric random matrices:  
Acta Sci. Math. **63**(1997), 483–495
75. H. Hasegawa, D. Petz, Non-commutative extension of information geometry II:  
in *Quantum Communication, Computing, and Measurement*, ed. O. Hirota et al, Plenum, 1997
76. M. Ohya, D. Petz, N. Watanabe, On capacities of quantum channels:  
Prob. Math. Stat. **17**(1997), 179–196
77. D. Petz, M.B. Ruskai, Contraction of generalized relative entropy under stochastic mappings on matrices:  
Infin. Dimens. Anal. Quantum Probab. Relat. Top. **1**(1998), 83–90
78. D. Petz and F. Hiai, Logarithmic energy as entropy functional:  
in *Advances in Differential Equations and Mathematical Physics* (eds: E. Carlen, E.M. Harrell, M. Loss), Contemporary Math. **217**(1998), 205–221
79. F. Hiai and D. Petz, Maximizing free entropy:  
Acta Math. Hungar., **80**(1998), 325–346
80. D. Petz, Information geometry of quantum states:  
in *Quantum Probability Communications*, vol. 10, ed. R.L. Hudson et al, World Scientific, 135–158, 1998

81. F. Hiai and D. Petz, Eigenvalue density of the Wishart matrix and large deviations: *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1**(1998), 633–646.
82. M. Ohya, D. Petz and N. Watanabe, Numerical computation of quantum capacity: *Int. J. Theor. Phys.* **37**(1998), 507–510
83. F. Hiai and D. Petz, Properties of free entropy related to polar decomposition: *Commun. Math. Phys.* **202**(1999), 421–444
84. D. Petz and Cs. Sudár, Extending the Fisher metric to density matrices: in *Geometry in Present Days Science*, eds. O.E. Barndorff-Nielsen and E.B. Vedel Jensen, 21–34, 1999.
85. D. Petz, Relative entropy in quantum information theory: in mini-proceedings of the conference *Stochastics and Quantum Physics*, MaPhy-Sto, University of Aarhus, Miscellanea, No. 16, 1999.
86. D. Petz and A. Jenčová, On quantum Fisher information: *J. Electrical Engineering*, 78–81, **50**, 1999
87. F. Hiai and D. Petz, A large deviation theorem for the empirical eigenvalue distribution of random unitary matrices: *Ann. Inst. Henri Poincaré, Probabilités et Statistiques* **36**(2000), 71–85
88. P.W. Michor, D. Petz and A. Andai, On the curvature of a certain Riemannian space of matrices: *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **3**(2000), 199–212
89. F. Hiai and D. Petz, Asymptotic freeness almost everywhere for random matrices: *Acta Sci. Math (Szeged)*, **66**(2000), 801–826
90. D. Petz and M. Mosonyi, Stationary quantum source coding: *J. Math. Phys.* **42**(2001), 4857–4864.
91. F. Hiai, M. Mizuo and D. Petz, Free relative entropy for measures and a corresponding perturbation theory: *J. Math. Soc. Japan*, **54**(2002), 679–718.
92. M. Fannes and D. Petz, On the function  $\text{Tr} \exp(A + itB)$ : *Int. J. Math. and Math. Sci.* **29**(2002), 389–394.
93. D. Petz, Covariance and Fisher information in quantum mechanics: *J. Phys. A: Math. Gen.* **35**(2002), 929–939
94. D. Petz, Monotonicity of quantum relative entropy revisited: *Rev. Math. Phys.* **15**(2003), 79–91.
95. M. Fannes and D. Petz, Perturbation of Wigner matrices and a conjecture: *Proc. Amer. Math. Soc.* **131**(2003), 1981–1988.

96. P. Hayden, R. Jozsa, D. Petz and A. Winter, Structure of states which satisfy strong subadditivity of quantum entropy with equality:  
Commun. Math. Phys. **246**(2004), 359–374
97. D. Petz and J. Réffy, On asymptotics of large Haar distributed unitary matrices:  
Period. Math. Hungar. **49**(2004), 103–117.
98. D. Petz and J. Réffy, Large deviation theorem for empirical eigenvalue density of truncated Haar unitary matrices:  
Prob. Theory Rel. Fields. **133**(2005), 175–189.
99. M. Mosonyi and D. Petz, Structure of sufficient quantum coarse-grainings:  
Lett. Math. Phys. **68**(2004), 19–30.
100. F. Hiai, D. Petz and Y. Ueda, Free transportation cost inequalities via random matrix approximation:  
Prob. Theory Rel. Fields. **130**(2004), 199–221.
101. D. Petz, Quantum source coding and data compression:  
in *Entropy, Search, Complexity*, eds. I. Csiszár, G.O.H. Katona and G. Tardos, Bolyai Society Mathematical Studies **16**, 159–178, 2007.
102. F. Hiai, D. Petz and Y. Ueda, A free logarithmic Sobolev inequality on the circle:  
Canad. Math. Bull. **49**(2006), 389–406.
103. M. A. Nielsen and D. Petz, A simple proof of the strong subadditivity inequality:  
Quantum Information & Computation, **5**(2005), 507–513.
104. N. Akiho, F. Hiai and D. Petz, Equilibrium states and entropy densities in gauge-invariant  $C^*$ -systems:  
Rev. Math. Phys. **17**(2005), 365–389.
105. A. Jenčova and D. Petz, Sufficiency in quantum statistical inference:  
Commun. Math. Phys. **263**(2006), 259–276.
106. D. Petz and R. Temesi, Means of positive numbers and matrices:  
SIAM Journal on Matrix Analysis and Applications, **27**(2006), 712–720.
107. F. Hiai and D. Petz, A free analogue of the transportation cost inequality on the circle:  
*Quantum Probability*, Banach Center Publications, vol bf 73, ed. M. Bozejko, W. Mlotkowski and J. Wysoczansky, pp. 199–206, Warszawa, 2006
108. F. Hiai and D. Petz, Large deviations for functions of two random projections:  
Acta Sci. Math. (Szeged) **72**(2006), 581–609.
109. D. Petz, Means of positive matrices: Geometry and a conjecture:  
Annales Mathematicae et Informaticae **32**(2005), 129–139.



110. Th. Baier, D. Petz, K. M. Hangos and A. Magyar, Comparison of some methods of quantum state estimation:  
*Quantum Probability and Infinite Dimensional Analysis, Proceedings of the 26th Conference*, eds. L. Accardi, W. Freudenberg, M. Schürmann, pp. 64–78, World Scientific, 2007.
111. D. Petz, Information Geometry and Statistical Inference:  
in *Proceedings of the conference IGAlA2*, Tokyo, 2005, pp. 162–169.
112. D. Petz, Bregman divergence as relative operator entropy:  
Acta Math. Hungar. 116(2007), 127–131.
113. A. Jenčova and D. Petz, Sufficiency in quantum statistical inference: A survey with examples:  
J. Infinite Dimensional Analysis and Quantum Probability, **9**(2006), 331–352.
114. D. Petz, Saturation of entropy bounds and quantum Markov states:  
in *Quantum Information and Computing*, eds. L. Accardi, M. Ohya and N. Watanabe, World Scientific, 2006. pp. 285–291.
115. D. Perez-Garcia, M.M. Wolf, D. Petz and M.B. Ruskai, Contractivity of positive and trace preserving maps under  $L^p$  norms:  
J. Math. Phys. **47**(2006), 083506.
116. A. Magyar, D. Petz and K.M. Hangos, Bayesian qubit state estimation:  
in *Proceedings of 14th IFAC Symposium on System Identification*, Newcastle, Australia, 2006, pp. 949–954.
117. K.M. Hangos, D. Petz, A. Szántó and F. Szöllősi, State tomography for two qubits using reduced densities:  
J. Phys. A: Math. Gen. **39**(2006), 10901–10907.
118. D. Petz and J. Kahn, Complementary reductions for two qubits:  
J. Math. Phys. **48**, 012107, 2007.
119. D. Petz, K.M. Hangos and A. Magyar, Point estimation of states of finite quantum systems:  
J. Phys. A: Math. Theor. **40**(2007), 7955–7969.
120. D. Petz, Complementarity in quantum systems:  
Rep. Math. Phys. **59**(2007), 209–224.
121. H. Ohno, D. Petz and A. Szántó, Quasi-orthogonal subalgebras of  $4 \times 4$  matrices:  
Linear Alg. Appl. **425**(2007), 109–118.
122. D. Petz, Hilbert space methods for quantum mechanics:  
in *Quantum Information, Computation and Cryptography*, eds: Benatti, F.; Fannes, M.; Floreanini, R.; Petritis, D. 1st Edition., 2010, Springer.

123. I. Csiszár, F. Hiai and D. Petz, A limit relation for entropy and channel capacity per unit cost:  
J. Math. Phys. **48**(2007), 092102.
124. F. Hiai and D. Petz, A new approach to mutual information:  
in *Noncommutative Harmonic Analysis with Applications to Probability*, Banach Center Publications, vol 78, eds. M. Bozejko, A. Krystek, W. Mlotkowsky and J. Wysoczansky, pp. 151–164, Warszawa, 2007.
125. D. Petz, K.M. Hangos and L. Ruppert, Quantum state tomography with finite sample size:  
in *Quantum Bio-Informatics*, eds. L. Accardi, W. Freudenberg, M. Ohya, World Scientific, 2008, pp. 247–257.
- 126 F. Hiai, M. Mosonyi, H. Ohno and D. Petz, Free energy density for mean field perturbation of states of a one-dimensional spin chain:  
Rev. Math. Phys. **20**(2008), 335 - 365.
- 127 P. Gibilisco, F. Hiai and D. Petz, Quantum covariance, quantum Fisher information and the uncertainty principle:  
IEEE Trans. Inform. Theory **55**(2009), 439–443.
- 128 D. Petz and V.E. S. Szabó, From quasi-entropy to skew information:  
Int. J. Math. **20**(2009), 1421–1430.
- 129 D. Petz, A. Szántó and M. Weiner, Complementarity and the algebraic structure of 4-level quantum systems:  
J. Infin. Dim. Analysis Quantum Prob. **12**(2009), 99–116.
- 130 T. Ando and D. Petz, Gaussian Markov triplets approached by block matrices:  
Acta Sci. Math. (Szeged) **75**(2009), 329–345.
- 131 D. Petz, Complementarity and the algebraic structure of finite quantum systems:  
J. of Physics: Conference Series **143**(2009), 012011.
132. H. Ohno and D. Petz, Generalizations of Pauli channels:  
Acta Math. Hungar. **124**(2009), 165–177.
133. F. Hiai and D. Petz, Riemannian geometry on positive definite matrices related to means:  
Lin. Alg. Appl. **430**(2009), 3105–3130.
134. A. Jenčova, D. Petz and J. Pitrik, Markov triplets on CCR-algebras:  
Acta Sci. Math. (Szeged), **76**(2010), 111–134.
135. T. Baier and D. Petz, Complementarity and state estimation:  
Rep. Math. Phys., **65**(2010), 203–214.

136. D. Petz: Complementary subalgebras. Problems to solve:  
Ann. Univ. Sci. Budapest. Eötvös Sect. Math. **51**(2008), 117–120.
137. D. Petz and J. Pitrik, Gaussian Markov triplets:  
Proceedings of the Quantum Bio-Informatics III, 291–303, eds. L. Accardi, W. Freidenberg and M. Ohya, World Scientific Publishing, 2010.
138. D. Petz, From  $f$ -divergence to quantum quasi-entropies and their use:  
Entropy **12**(2010), 304–325.
139. K. Audenaert, F. Hiai and D. Petz, Strongly subadditive functions:  
Acta Math. Hungar. **128**(2010), 386–394.
140. D. Petz and J. Pitrik, Markov property of Gaussian states of canonical commutation relation algebras:  
J. Math. Phys. **50**, 113517 (2009).
141. D. Petz, Algebraic complementarity in quantum theory:  
J. Math. Phys. **51**, 015215 (2010).
142. D. Petz and A. Szántó, Complementary subalgebras in finite quantum systems:  
*QP–PQ: Quantum Probab. White Noise Anal., vol. 27.* (Eds: R. Rebolledo and M. Ország), World Scientific, 2011, 282–287.
143. D. Petz and C. Ghinea, Introduction to quantum Fisher information:  
*QP–PQ: Quantum Probab. White Noise Anal., vol. 27.* (Eds: R. Rebolledo and M. Ország), World Scientific, 2011, 261–281.
144. F. Hiai, M. Mosonyi D. Petz and C. Beny, Quantum  $f$ -divergences and error correction:  
Rev. Math. Phys. **23**(2011), 691–747.
145. D. Petz, From quasi-entropy:  
Annales Univ. Sci. Budapest, **55**(2012), 81–93.
146. D. Petz and L. Ruppert, Efficient quantum tomography needs complementarity and symmetric measurement:  
Rep. Math. Phys. **69**(2012), 161–177.
147. Á. Besenyei and D. Petz, Completely positive mappings and mean matrices:  
Lin. Alg. Appl. **435**(2011), 984–997.
148. Á. Besenyei and D. Petz, Characterization of mean transformations:  
Linear and Multilinear Algebra **60**(2012), 255–265.
149. Á. Besenyei and D. Petz, Successive iterations and logarithmic means:  
Operators and Matrices **7**(2013), 205–218.

150. D. Petz and L. Ruppert, Optimal quantum state tomography with known parameters:  
Journal of Physics A: Math. Theor. **45**(2012), 085306.
151. D. Petz and L. Ruppert, Efficient quantum tomography needs complementary and symmetric measurements:  
Rep. Math. Phys. **69**(2012), 161–177.
152. G. Tóth and D. Petz, Extremal properties of the variance and quantum Fisher information:  
Phys. Rev. A **87**(2013), 032324.
153. F. Hiai and D. Petz, Riemannian metrics on positive definite matrices related to means. II:  
Lin. Alg. Appl. **436**(2012), 2117–2136.
154. F. Hiai and D. Petz, From quasi-entropy to various quantum information quantities:  
Publ. RIMS Kyoto Univ. **48**(2012), 525–542.
155. D. Petz, L. Ruppert and A. Szántó, Conditional SIC-POVMs:  
EEE Transactions on Information Theory, **60**(2014), 351–356. .
156. D. Petz and G. Tóth, Matrix variances with projections:  
Acta Sci. Math. (Szeged), **78**(2012), 683–688.
157. G. Balló, K.M. Hangos and D. Petz, Convex optimization-based parameter estimation and experiment design for Pauli channels:  
IEEE Trans. on Automatic Control **57**(2012), 2056–2061.
158. F. Hiai and D. Petz, Convexity of quasi-entropy type functions: Lieb’s and Ando’s convexity theorems revisited:  
J. Math. Phys. **54** (2013), 062201.
159. Z. Léka and D. Petz, Some decompositions of matrix variances:  
Probability and Mathematical Statistics, **33**(2013), 191–199.
160. H. Ohno and D. Petz, Some problems from state estimations:  
to be published.
161. Á. Besenyei and D. Petz, Partial inequalities of entropies:  
Lin. Alg. Appl. **439**(2013), 3297–3305.
162. F. Hiai, H. Kosaki, D. Petz and M. B. Ruskai, Families of completely positive maps associated with monotone metrics:  
Lin. Alg. Appl. **439**(2013), 1749–1791.
163. D. Petz and D. Viosztek, A characterization theorem for matrix variances:  
to appear in Acta Sci. Math. (Szeged).

164. D. Petz and D. Virosztek, Some inequalities for quantum Tsallis entropy related to the strong subadditivity:  
to appear in *Mathematical Inequalities Applications*.
165. M. Pálfia and D. Petz, Weighted multivariable operator means of positive definite operators:  
*Linear Algebra Appl.* **463**(2014), 134–153.

## Other publications

1. D. Petz, Quantum mechanics in view of information:  
*Kagaku*, 63, 569–574 (1993) (in Japanese).
2. D. Petz and M. Rédei, John von Neumann and the theory of operator algebras:  
in *The Neumann Compendium*, 163–185, eds. F. Bródi, T. Vámos, World Scientific Series in 20th Century Math. vol. 1, World Scientific, Singapore, 1995.
3. Petz D., Mérték és dimenzió:  
*Természet Világa*, 1997/3 (in Hungarian).
4. D. Petz and G.J. Székely, Die Entropie:  
in *Jenseits von Kunst*, Peter Weibel, Passagen Verlag, 1998.
5. D. Petz, Mathematical information theory:  
in *Enciclopedia Italiana*.
6. Petz D., A  $q$ -világa, avagy a matematika deformációja:  
*Polygon*, **VIII**(1999), 35–44 (in Hungarian).
7. D. Petz, Entropy, von Neumann and the von Neumann entropy:  
in *John von Neumann and the Foundations of Quantum Physics*, eds. M. Rédei and M. Stöltzner, Kluwer, 2001
8. Petz Dénes, A kvantumelmélet matematikája:  
*Tudomány a Duna két partján. Az akadémiai közös kutatások című konferencián elhangzott előadások*, Kalligram Könyvkiadó, 2002 (in Hungarian).
9. Petz D., Neumann János tudományos öröksége:  
*Természet Világa*, 2004. január (in Hungarian).
10. Petz D., Neumann János tudományos öröksége:  
*Debreceni Szemle*, 2005. január (in Hungarian)
11. Á. Császár and D. Petz, A panorama of Hungarian real and functional analysis in the 20th century:  
in *A panorama of Hungarian Mathematics in the Twentieth Century I*, ed. J. Horváth, pp. 211–244, Springer, 2005.

12. Petz Dénes, Lax Péter Abel-díjas:  
Népszabadság, 2005. március 19.
13. Petz Dénes, Mátrixok, nagy eltérések és egyenlőtlenségek:  
to be published.
14. Kovács Veronika és Petz Dénes, Számtani közép, mértani közép, meg ilyenek:  
Középiskolai Matematikai Lapok, 2006. március.
15. D. Petz, Quantum entropy:  
in *Encyclopedia of Mathematical Physics*, eds. J.-P. Francoise, G.L. Naber and Tsou  
S.T. Oxford: Elsevier, 2006, Vol. 3, pp. 177–182.
16. Pálfia Miklós és Petz Dénes, Tsuyoshi Ando professzorról. Unitér dilatációk és  
mátrixok közepei (in Hungarian): Polygon XVI (2007), 1–16.