List of published scientific achievements

1. List of scientific articles along with stating bibliographic data clearly identifying a given work

At the end of this list I provide reference to 3 preprints which are currently under review. All publications are listed in chronological order.

[1] **Ł. Rudnicki** and I. Bialynicki-Birula, *Dynamical Casimir effect in uniformly accelerated media*, Optics Communications **283**, 644 (2010).

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[7] **Ł. Rudnicki**, *Heisenberg position–momentum uncertainty relation beyond central potentials*, Phys. Rev. A **85**, 022012 (2012).

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[10] **Ł. Rudnicki**, Z. Puchała, P. Horodecki, and K. Życzkowski, *Collectibility for mixed quantum states*, Phys. Rev. A **86**, 062329 (2012).

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[13] Z. Puchała, **Ł. Rudnicki**, and K. Życzkowski, *Majorization entropic uncertainty relations*, J. Phys. A: Math. Theor. **46**, 272002 (2013).

[14] A. Gabriel, **Ł. Rudnicki**, and B. C. Hiesmayr, *Measurement-base-independent test for genuine multipartite entanglement*, New. J. Phys. **15**, 073033 (2013).

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[16] A. Verdeny, **Ł. Rudnicki**, C. A. Müller, and F. Mintert, *Optimal Control of Effective Hamiltonians*, Phys. Rev. Lett. **113**, 010501 (2014).

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[18] **Ł. Rudnicki**, *Majorization approach to entropic uncertainty relations for coarse-grained observables*, Phys. Rev. A **91**, 032123 (2015).

[19] Z. Puchała, **Ł. Rudnicki**, K. Chabuda, M. Paraniak, and K. Życzkowski, *Certainty relations, mutual entanglement, and nondisplaceable manifolds*, Phys. Rev. A **92**, 032109 (2015).

[20] K. von Prillwitz, **Ł. Rudnicki**, and F. Mintert, *Contrast in multipath interference and quantum coherence*, Phys. Rev. A **92**, 052114 (2015).

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[58] L. Céleri and **Ł. Rudnicki**, *Gauge invariant quantum thermodynamics: consequences for the first law*, arXiv:2104.10153

[59] **Ł. Rudnicki**, W. Kłobus, O. Molitor, and W. Laskowski, *Salient signatures of entanglement in the surrounding environment*, arXiv:2209.05197

2. List of scientific monographs along with stating bibliographic data clearly identifying a given work

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3. List of chapters in scientific monographs along with stating bibliographic data clearly identifying a given work

I. Bialynicki-Birula and **Ł. Rudnicki**, *Entropic uncertainty relations in quantum physics* in: "*Statistical Complexity: Applications in Electronic Structure*", K. D. Sen (ed.), Springer, p. 1-34 (2011).

4. List of scientific papers published in peer-reviewed conference materials along with stating bibliographic data clearly identifying a given work

Ł. Rudnicki, *Uncertainty related to position and momentum localization of a quantum state* in: "*Proceedings of New Perspectives in Quantum Statistics and Correlations*", M. Hiller, F. de Melo, P. Pickl, T. Wellens, S. Wimberger (Eds.), Universitatsverlag Winter, p. 49 (2012).

5. List of other scientific papers or scientific works along with stating bibliographic data clearly identifying a given work or presentations of these works

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