

Publications

1. J. R. Mureika, “Extended Uncertainty Principle Black Holes”, *to appear in Phys. Lett. B* [arXiv:1812.01999 [gr-qc]].
2. A. Tzikas, P. Nicolini, J. Mureika, B. Carr, “Primordial black holes in a lower dimensional universe”, arXiv:1811.09518 [gr-qc], *to appear in JCAP*.
3. R. Casadio, A. Giusti, J. Mureika, “Lower dimensional corpuscular gravity and the end of black hole evaporation”, arXiv:1805.10444 [gr-qc], *under review*.
4. L. Manfredi, J. Mureika, J. Moffat, “Quasinormal Modes of Modified Gravity (MOG) Black Holes”, *Phys. Lett. B* **779** 492-497 (2018).
5. G. 't Hooft, S. B. Giddings, C. Rovelli, P. Nicolini, J. Mureika, M. Kaminski and M. Bleicher, “The Good, the Bad, and the Ugly of Gravity and Information,” *Springer Proc. Phys.* **208**, 13–38 (2018).
6. S. Köppel, M. Knipfer, M. Isi, J. Mureika, P. Nicolini, “Generalized uncertainty principle and extra dimensions”, *Springer Proc. Phys.* **208**, 141–148 (2018)
7. L. Manfredi, J. Mureika, J. Moffat, “Quasinormal Modes of Static Modified Gravity Black Holes”, *J. Phys. Conf. Ser.* **942**:012014 (2017).
8. J. Mureika and G. Varieschi, “Black Hole Shadows in Fourth Order Conformal Weyl Gravity”, *Can. J. Phys.* **95**, 1299-1306 (2017).
9. J. R. Mureika, J. W. Moffat, M. Faizal, “Black Hole Thermodynamics in Modified Gravity (MOG)”, *Phys. Lett. B* **757**, 528 (2016).
10. R. Casadio, R. T. Cavalcanti, A. Giugno and J. Mureika, “Horizon of quantum black holes in various dimensions,” *Phys. Lett. B* **760**, 36 (2016).
11. L. Manfredi and J. Mureika, “Horizon Wavefunction of Generalized Uncertainty Principle Black Holes”, *AHEP* **2016**::1543741 (2016).
12. A. M. Frassino, R. B. Mann, J. R. Mureika, “Lower dimensional black hole chemistry,” *Phys. Rev. D* **92** 124069 (2015).
13. B. Carr, J. Mureika, and P. Nicolini, “Sub-Planckian black holes and the generalized uncertainty principle,” *JHEP* **1507**:052 (2015).
14. M. Isi, J. Mureika, and P. Nicolini, “Self-completeness and the generalized uncertainty principle,” *JHEP* **1311**:139 (2013).
15. J. Mureika and P. Nicolini, “Self-completeness and spontaneous dimensional reduction,” *Eur. J. Phys. Plus* **128**, 78 (2013).
16. J. R. Mureika and R. P. Taylor, “The Abstract Expressionists and Les Automatistes: a Shared Multifractal Depth?” *Signal Proc.* **93**, 573-578 (2013)
17. J. R. Mureika, “Primordial Black Hole Evaporation and Spontaneous Dimensional Reduction,” *Phys. Lett. B* **716**, 171-175 (2012).
18. J. Mureika, P. Nicolini, E. Spallucci, “Could Any Black Holes be Produced at the LHC?”, *Phys. Rev. D* **85**, 106007 (2012).
19. J. R. Mureika, “Constraints on vector unparticle physics from cosmic censorship,” *Int. J. Theor. Phys.* **51**, 1259-1267 (2012).

20. T. Souaiaia and J. Mureika, "A Mathematical Model of the Environmental Effects on Long Jump Performance of World Class Athletes," *Int. J. Comp. Sci. Sport* **11(2)**, 16-28 (2012)
21. J. Mureika and D. Stojkovic, "Detecting Vanishing Dimensions Via Gravitational Wave Astronomy", *Phys. Rev. Lett.* **106**, 101101 (2011).
22. J. Mureika and D. Stojkovic, "Reply to the 'Comment on: Detecting Vanishing Dimensions Via Primordial Gravitational Wave Astronomy'," *Phys. Rev. Lett.* **107**, 169002 (2011).
23. J. Mureika and P. Nicolini, "Aspects of noncommutative $(1 + 1)$ -dimensional black holes", *Phys. Rev. D* **84**, 044020 (2011).
24. R. B. Mann and J. R. Mureika, " $(1+1)$ -Dimensional Entropic Gravity", *Phys. Lett. B* **703**, 167-171 (2011).
25. J. R. Mureika and R. B. Mann, "Does Entropic Gravity Bound the Masses of the Photon and Graviton?", *Mod. Phys. Lett. A* **26**, 171-181 (2011).
26. J. Mureika and E. Spallucci, "Vector unparticle enhanced black holes: exact solutions and thermodynamics," *Phys. Lett. B* **693**, 129-133 (2010).
27. J. R. Mureika, "Differentiating unparticles from extra dimensions via mini-black hole thermodynamics," *Phys. Rev. D* **79**, 056003 (2009).
28. J. R. Mureika, "Unparticle-Enhanced Black Holes at the LHC," *Phys. Lett. B* **660**, 561-566 (2008).
29. J. R. Mureika, "Fractal Holography: A geometric re-interpretation of cosmological large scale structure," *JCAP* **05:021** (2007).
30. J. R. Mureika, "Implications for Cognitive Quantum Computation and Decoherence Limits in the Presence of Large Extra Dimensions," *Int. J. Theor. Phys.* **46**, 139-142 (2007).
31. J. R. Mureika, "Gravitationally-Induced Quantum Superposition Reduction with Large Extra Dimensions," *Phys. Rev. D* **73**, 064012 (2006).
32. J. R. Mureika, "The Effects of Temperature, Humidity and Barometric Pressure on Short Sprint Race Times," *Can. J. Phys.* **84**, 311-324 (2006).
33. J. R. Mureika, "Fractal Dimensions in Perceptual Color Space: A Comparison Study Using Jackson Pollock's Art," *Chaos* **15**, 043702 (2005).
34. J. R. Mureika, C. C. Dyer, G. C. Cupchik, "On Multifractal Structure in Non-Representational Art," *Phys. Rev. E* **72**, 046101 (2005).
35. J. R. Mureika and C. C. Dyer, "Multifractal Analysis of Packed Swiss Cheese Cosmologies," *Gen. Rel. Grav.* **36**, 151-184 (2004).
36. J. R. Mureika, G. C. Cupchik, C. C. Dyer, "Multifractal Fingerprints in the Visual Arts," *Leonardo* **37**, 53-56 (2004).
37. J. R. Mureika, "Wind and Altitude Effects in the 200 Meter Sprint," *Can. J. Phys.* **81**, 895-910 (2003).
38. J. Spiegel and J. Mureika, "A Model of Wind and Altitude Effects on 110-m Hurdles," *Sportsci.* **7**, 034703 (2003).
39. J. R. Mureika, "A Realistic Quasi-Physical Model of the 100 Metre Dash," *Can. J. Phys.* **79**, 697-713 (2001).
40. J. R. Mureika, "The Legality of Wind and Altitude Assisted Performances in the Sprints," *New Stud. Athl.* **15**, 53-60 (2000).

41. J. R. Mureika, "A Simple Model for Predicting Sprint Race Times Accounting for Energy Loss on the Curve," *Can. J. Phys.* **75**, 837-851 (1997).
42. J. R. Mureika, "Investigation of equivalence principle violations using solar neutrino oscillations in a constant gravitational potential," *Phys. Rev. D* **56**, 2408-2418 (1997).
43. J. R. Mureika and R. B. Mann, "Gravitationally-Induced Three-Flavor Neutrino Oscillations as a Possible Solution to the Solar Neutrino Problem," *Fields Inst. Comm.* **15**, 303-306 (1997).
44. J. R. Mureika and R. B. Mann, "Three-Flavor Gravitationally-Induced Neutrino Oscillations and the Solar Neutrino Problem," *Phys. Rev. D* **54**, 2761-2778 (1996).
45. J. R. Mureika and R. B. Mann, "Mass or Gravitationally Induced Neutrino Oscillations? - A Comparison of ^8B Neutrino Flux Spectra in a Three-Generation Framework," *Phys. Lett. B* **368**, 112-118 (1996).
46. B. Holdom, M. Sutherland, J. Mureika, "Comparison of $1/m_Q^2$ Corrections in Mesons and Baryons," *Phys. Rev. D* **49**, 2359-2362 (1994).

Submitted or In Preparation

- J. Mureika, "Extended Uncertainty Principle Black Holes", submitted.
- R. Casadio, A. Giusti, J. Mureika, "Lower dimensional corpuscular gravity and the end of black hole evaporation", submitted.
- A. M. Frassino, R. B. Mann, J. R. Mureika, "Exotic BTZ Black Hole Chemistry", in preparation.
- A. Tzikas, P. Nicolini, J. Mureika, B. Carr, "Probability for primordial black holes in a lower dimensional universe", in preparation.
- B. Carr, J. Mureika, P. Nicolini, H. Mentzer "Self-completeness and duality between particles and spinning charged black holes", in preparation.

Edited Volumes

- P. Nicolini, J. Mureika, M. Kaminski, M. Bleicher (eds), *Proceedings of the 3rd Karl Schwarzschild Meeting: Gravity and the Gauge/Gravity Correspondence*, *Journal of Physics: Conference Series* **942**, Institute of Physics (2017).
- P. Nicolini, J. Mureika, M. Kaminski, M. Bleicher (eds), *Proceedings of the 2nd Karl Schwarzschild Meeting on Gravitational Physics*, Springer Proceedings in Physics **208** (2018).
- P. Nicolini, J. Mureika, M. Kaminski, M. Bleicher (eds), *Proceedings of the 1st Karl Schwarzschild Meeting on Gravitational Physics*, Springer Proceedings in Physics (2016).

Invited Colloquia and Seminars (since 2010)

- "Deciphering Quantum Information from Classical Black Holes", The London Relativity and Cosmology Seminar, Queen Mary, University of London, UK (21 Mar 2018)
- "Deciphering Quantum Information from Classical Black Holes", Main Colloquium, Max Planck Institute for Radio Astronomy and Argelander Institute for Astronomy, University of Bonn, Germany (16 Mar 2018)
- "Observational Hopes for Black Holes Beyond General Relativity", Black Holes and Alternatives 2018, Max Planck Institute for Theoretical Physics, Bonn, Germany (14 Mar 2018)

- “Sub-Planckian Black Holes”, Perimeter Institute for Theoretical Physics, Waterloo, ON, Canada (09 Mar 2017)
- “Lower Dimensional Black Hole Chemistry”, *Mann Fest: A 60th Birthday Celebration for Robert B. Mann*, Department of Physics and Astronomy, University of Waterloo, Waterloo, Canada (05-06 Dec 2015)
- “Dualities, Dimensions, and Uncertainties: A New Perspective on Quantum Black Holes”, *Theory in Undergraduate Institutions 3*, Kavli Institute for Theoretical Physics, Santa Barbara, CA (22 Jun 2015)
- “The Large, the Small, and Things in Between: Generalized Uncertainty Principle Black Holes”, Department of Physics, California State University, Fresno, CA (06 Feb 2015)
- “Self-Completeness and Thermodynamics of Generalized Uncertainty Principle Black Holes”, Department of Physics and Astronomy, University of Sussex, Falmer, UK (15 May 2014)
- “Generalized Uncertainty Principle Black Holes,” The London Relativity and Cosmology Seminar, Queen Mary University of London, UK (14 May 2014)
- “The Physics of Running,” Department of Physics and Astronomy, Pomona College, Claremont, CA (25 Apr 2014)
- “Self-Completeness and the Generalized Uncertainty Principle,” Perimeter Institute for Theoretical Physics, Waterloo, Canada (6 Mar 2014)
- “Black Hole Remnants: Why are these cold objects such a hot topic?” Department of Physics and Astronomy, University of Waterloo, Canada (5 Mar 2014)
- “Primordial Black Holes and Spontaneous Dimensional Reduction,” Department of Mathematics and Statistics, UNB, Canada (17 Apr 2014)
- “Exact Thermodynamics of GUP Black Holes,” Department of Mathematics and Statistics, University of New Brunswick, Canada (16 Apr 2014)
- “Spontaneous Dimensional Reduction: The route to quantum gravity?” Department of Physics, California State University Dominguez Hills, Carson, CA (09 May 2013)
- “Lower Dimensional Primordial Black Holes Remnants and Dark Matter,” Perimeter Institute for Theoretical Physics, Waterloo, ON, Canada (06 June 2012)
- “Ungravity: Theory and Phenomenology,” FIAS and Institute for Theoretical Physics, Goëthe University, Frankfurt am Main, Germany (10 May 2012)
- “The Phenomenology of Vanishing Dimensions,” Department of Physics, Brown University, Providence, RI (27 April 2011)
- “The Dimensions of Art,” Art Center College of Design, Pasadena, CA (03 March 2011)
- “Vanishing Dimensions: The return of lower-dimensional gravity,” *2010 West Coast Anacapa Society Workshop*, California State Polytechnic University, Pomona, CA (11 December 2010)
- “Self-Similar Clustering Analysis in Physics: From the Canvas to the Cosmos,” Department of Applied Mathematics, Michigan State University, East Lansing, MI (21 October 2010)
- “Fractal Aesthetics: The mathematics of beauty and the beauty of mathematics,” Department of Mathematics, Michigan State University, East Lansing, MI (21 October 2010)
- “The Phenomenology of Ungravity,” Department of Physics and Astronomy, University of Southern California, Los Angeles, CA (27 September 2010)

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- “Ungravity: New physics from TeV to Mpc,” Department of Physics, SUNY Buffalo, Buffalo, NY (21 Sep 2010)
 - “Fractal Aesthetics: Design Concepts from Art to Zuma,” Art Center College of Design, Pasadena, CA (07 July 2010)
 - “New Directions in Entropic Gravity,” Department of Physics and Astronomy, University of Waterloo, Waterloo, ON, Canada (31 Mar 2010)

Contributed Talks at International Conferences (since 2010)

- “Sub-Planckian Black Holes and the Generalized Uncertainty Principle”, *International Conference on Black Holes*, Fields Institute, Toronto, ON, Canada (03 Jun 2015)
- “Sub-Planckian Black Holes and the Generalized Uncertainty Principle”, *Atlantic Gravity Meeting*, University of New Brunswick, Fredericton, NB, Canada (06 May 2015)
- “Sub-Planckian Black Holes and the Generalized Uncertainty Principle”, *31st Pacific Coast Gravity Meeting*, University of Oregon, Eugene, OR (13 Mar 2015)
- “Black Hole Production and Spontaneous Dimensional Reduction,” *16th Eastern Gravity Meeting*, University of Toronto, ON, Canada (07 June 2013)
- “No Black Holes at the LHC,” *Congress of the Canadian Association of Physicists*, Université de Montréal, QC, Canada (30 May 2013)
- “Gravitational Self-Completeness and/or Spontaneous Dimensional Reduction,” *Black Holes IX: Theory and Mathematical Aspects*, University of Saskatchewan, Saskatoon, SK, Canada (13 May 2013)
- “Primordial Black Holes in the Evolving Dimensions Framework,” *Black Holes VIII: Theory and Mathematical Aspects*, Niagara Falls, ON, Canada (11 May 2011)
- “Gravitational Wave Horizons in the Vanishing Dimensions Framework,” *27th Pacific Coast Gravity Meeting*, Caltech, Pasadena, CA (19 Mar 2011)
- “No Massless Particles in Entropic Gravity,” *CAP 2010: Congress of the Canadian Association of Physicists*, University of Toronto, Toronto, ON, Canada (07 Jun 2010)