

Adriano B. Barreto, Ph.D.

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Employment History

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| 2024 – Currently | 📖 Postdoc , AG Braun – Institut für Theoretische Physik, Eberhard Karls Universität Tübingen, Germany . |
| 2022 – 2023 | 📖 Postdoc , Southern Quantum Information Group (GIQSul), Physics Department, Universidade Federal de Santa Catarina, Brazil . |
| 2020 – 2021 | 📖 Postdoc , Physics Department, Universidade Federal do Paraná, Brazil . |
| 2017 – Currently on leave | 📖 Lecturer (<i>permanent faculty position</i>), Instituto Federal do Rio Grande do Sul, <i>Campus Caxias do Sul</i> , Brazil . |

Education

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| 2012 – 2016 | 📖 Ph.D. , <i>Physics</i> – Federal University of Paraíba, Brazil .
Thesis title: <i>Cosmological Singularities in Integrable Weyl Spacetime: Classical and Quantum Aspects</i> . (Link) |
| 2010 – 2012 | 📖 M.Sc. , <i>Physics and Applied Mathematics</i> – Federal University of Itajubá, Brazil .
Thesis title: <i>Cosmological Model of FLRW with Cosmological Constant and Dominated by a Yang-Mills Fluid</i> . (Link) |
| 2005 – 2009 | 📖 B.Sc. , <i>Physics</i> – Federal Institute of Education, Science, and Technology of Ceará, Brazil . |

Research Publications

Journal Articles

- 1 R. C. S. Pimenta, G. H. d. Santos, A. B. Barreto, L. C. Celeri, and P. H. S. Ribeiro, “Photonic entanglement with accelerated light,” *Quantum*, vol. 8, p. 1317, Apr. 2024, ISSN: 2521-327X. [DOI: 10.22331/q-2024-04-30-1317](#).
- 2 F. A. P. Alves-Junior, A. B. Barreto, and F. Moraes, “Metamaterial branes,” *Nuclear Physics B*, vol. 998, 2023, ISSN: 0550-3213. [DOI: 10.1016/j.nuclphysb.2023.116407](#). [arXiv: 2302.13998 \[hep-th\]](#).
- 3 F. A. P. Alves-Júnior, A. B. Barreto, and F. Moraes, “Implications of kleinian relativity,” *Physical Review D*, vol. 103, no. 4, Feb. 2021. [DOI: 10.1103/physrevd.103.044023](#).
- 4 A. B. Barreto and G. M. Kremer, “Cosmological solutions for the geometrical scalar-tensor with the potential determined by the noether symmetry approach,” *Symmetry*, vol. 12, no. 7, p. 1110, Jul. 2020. [DOI: 10.3390/sym12071110](#).
- 5 F. A. P. Alves-Jr, M. L. Pucheu, A. B. Barreto, and C. Romero, “Quantum cosmology in an anisotropic n-dimensional universe,” *Physical Review D*, vol. 97, no. 4, 2018, ISSN: 2470-0029. [DOI: 10.1103/physrevd.97.044007](#).
- 6 A. B. Barreto, M. L. Pucheu, and C. Romero, “A brief note on weyl frames and canonical transformations in geometrical scalar-tensor theories of gravity,” *Classical and Quantum Gravity*, vol. 35, no. 4, p. 047 001, 2018, ISSN: 1361-6382. [DOI: 10.1088/1361-6382/aaa53c](#).

- 7 M. L. Pucheu, F. A. P. Alves Junior, A. B. Barreto, and C. Romero, “Cosmological models in weyl geometrical scalar-tensor theory,” *Physical Review D*, vol. 94, no. 6, 2016, ISSN: 2470-0029. [DOI](#): 10.1103/physrevd.94.064010.
- 8 A. B. Barreto, T. S. Almeida, and C. Romero, “Extending the adm formalism to weyl geometry,” 2015. [DOI](#): 10.1063/1.4913344.
- 9 I. P. Lobo, A. B. Barreto, and C. Romero, “Space-time singularities in weyl manifolds,” *The European Physical Journal C*, vol. 75, no. 9, 2015, ISSN: 1434-6052. [DOI](#): 10.1140/epjc/s10052-015-3671-7.

Skills

Languages  Strong reading, writing and speaking competencies for **English** and **Portuguese**.
Coding  Python, Wolfram Mathematica, Maple, $\LaTeX$

References

Prof. Dr. Daniel Braun

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Head of Theoretical Quantum Optics group
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Prof. Dr. P. H. Souto Ribeiro

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