## Marcos Carvalho Brum de Oliveira

## Scientific Production

## **Publications**

- 2020 Braz. J. of Physics (2021) 51:244-262. DOI:10.1007/s13538-020-00808-0, arXiv:1909.06232, J. C. A. Barata and M. Brum and V. Chabu and R. Correa da Silva
  - Pure and Mixed States
- 2019 Symmetry, Integrability and Geometry: Methods and Applications 15 (2019), 060, arXiv:1708.00538, João C. A. Barata and Marcos Brum Wavepackets on de Sitter spacetime
- 2015 Class. Quantum Grav 32 (2015) 015013, arXiv:1405.7916, Marcos Brum and Sergio E. Jorás
  Hadamard state in Schwarzschild-de Sitter spacetime
- 2014 Class. Quantum Grav 31 (2014) 025024, arXiv:1307.0482, Marcos Brum and Klaus Fredenhagen
  - 'Vacuum-like' Hadamard states for quantum fields on curved spacetimes
- 2013 Class. Quantum Grav 30 (2013) 235035, arXiv:1302.3174, Kolja Them and Marcos Brum
  - States of low energy in homogeneous and inhomogeneous expanding spacetimes

## Mini-courses lectured

- 2016 Hadamard States in Quantum Field Theory on Curved Spacetimes, Institute of Physics, University of São Paulo
  Brazil
- 2015 Introduction to Algebraic Quantum Field Theory on Curved Spacetimes, Brazilian Center for Research in Physics, The Ministry of Science, Technology, Innovation and Communications
  Brazil

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♦ https://github.com/MarcosBrum