

Oliver Fabio Piattella

List of publications

Updated 6 September 2026

Journal articles

1. G. Bianchi, F. Re and O. F. Piattella, *Dark Coriolis Fields*, Eur. Phys. J. Plus **141** (2026), 275, doi:10.1140/epjp/s13360-026-07489-9, arXiv:2510.21470.
2. W. P. F. de Medeiros, D. Müller, O. F. Piattella, M. J. Lazo and D. A. Sales, *Tilt in quadratic gravity II*, Eur. Phys. J. C **85** (2025) no.11, 1333, arXiv:2502.03653.
3. E. Di Valentino *et al.* [CosmoVerse Network], *The CosmoVerse White Paper: Addressing observational tensions in cosmology with systematics and fundamental physics*, Phys. Dark Univ. **49** (2025), 101965, arXiv:2504.01669.
4. F. Re and O. F. Piattella, *Non-Zero Coriolis Field in Ehlers Frame Theory*, Galaxies **13** (2025) no.2, 38, arXiv:2504.08797.
5. L. Giani, R. Von Marttens and O. F. Piattella, *The matter with(in) CPL*, The Open Journal of Astrophysics **8** (2025), doi:10.33232/001c.142699, arXiv:2505.08467.
6. E. Frion, D. Camarena, L. Giani, T. Miranda, D. Bertacca, V. Marra and O. F. Piattella, *Bayesian analysis of a Unified Dark Matter model with transition: can it alleviate the H_0 tension?*, The Open Journal of Astrophysics **7** (2024), doi:10.21105/astro.2307.06320, arXiv:2307.06320.
7. F. Scali and O. F. Piattella, *Asymptotically Schwarzschild Solutions in $f(R)$ Extension of General Relativity*, Phys. Rev. D **110** (2024), 064042, arXiv:2406.04417.
8. J. C. Fabris, O. F. Piattella and D. C. Rodrigues, *On Rastall gravity formulation as a $f(R, \mathcal{L}_m)$ and a $f(R, T)$ theory*, Eur. Phys. J. Plus **138** (2023), 232, doi:10.1140/epjp/s13360-023-03845-1, arXiv:2011.10503.
9. L. Giani and O. F. Piattella, *Induced non-local cosmology*, Phys. Dark Univ. **40** (2023), 101219, arXiv:2302.06762.
10. J. S. Martins, O. F. Piattella, I. L. Shapiro and A. A. Starobinsky, *Inflation with sterile scalar coupled to massive fermions and to gravity*, Grav.Cosmol. **28** (2022) 3, 217-227, arXiv:2010.14639.
11. L. Giani, O. F. Piattella and A. Y. Kamenshchik, *Bianchi IX gravitational collapse of matter inhomogeneities*, JCAP **03** (2022) no.03, 028, arXiv:2112.01869.
12. P. Bessa and O. F. Piattella, *Gravitational Lensing in a Universe with matter and Cosmological Constant*, Phys. Rev. D **106** (2022) no.12, 123513, arXiv:2209.04063.
13. K. A. Bronnikov, J. C. Fabris, O. F. Piattella, D. C. Rodrigues and E. C. O. Santos, *Rastall's theory of gravity: Spherically symmetric solutions and the stability problem*, Gen. Rel. Grav. **53** (2021) 2, 20, arXiv:2007.01945.
14. L. Giani, E. Frion and O. F. Piattella, *Impact of inhomogeneities on slowly rolling quintessence: implications for the local variations of the fine-structure constant*, Class. Quant. Grav. **38** (2021) no.17, 175010, arXiv:2102.11735.
15. F. Sbisà, P. O. Baqui, T. Miranda, S. E. Jorás and O. F. Piattella, *Neutron star masses in R^2 -gravity*, Phys. Dark Univ. **27** (2020), 100411 arXiv:1907.08714.
16. I. Torres, J. C. Fabris and O. F. Piattella, *Bouncing and Cyclic Quantum Primordial Universes and the Ordering Problem*, Class. Quant. Grav. **37** (2020) no.10, 105005 arXiv:1911.01487.

17. I. Torres, J. C. Fabris, O. F. Piattella and A. B. Batista, *Quantum Cosmology of Fab Four John Theory with Conformable Fractional Derivative*, Universe **6** (2020) no.4, 50 arXiv:2001.07680.
18. M. Wittner, G. Laverda, O. F. Piattella and L. Amendola, *Transient weak gravity in scalar-tensor theories*, JCAP **07** (2020) 019, arXiv:2003.08950.
19. O. F. Piattella, *Does the cosmological constant stay hidden?*, Phys. Rev. D **102** (2020) 10, 104039, arXiv:2007.02637.
20. F. Sbisà, O. F. Piattella and S. E. Jorás, *Pressure effects in the weak-field limit of $f(R) = R + \alpha R^2$ gravity*, Phys. Rev. D **99** (2019), 104046, arXiv:1811.01322.
21. T. Miranda, C. Escamilla-Rivera, O. F. Piattella and J. C. Fabris, *Generic slow-roll and non-gaussianity parameters in $f(R)$ theories*, JCAP **1905** (2019) 028, arXiv:1812.01287.
22. I. Torres, J. C. Fabris and O. F. Piattella, *Classical and quantum cosmology of Fab Four John theories*, Phys. Lett. B **798**, 135003 (2019) arXiv:1811.08852.
23. L. Giani, T. Miranda and O. F. Piattella, *Cosmology and Newtonian limit in a model of gravity with nonlocally interacting metrics*, Phys. Dark Univ. **26** (2019), 100357 arXiv:1905.02720.
24. L. Giani and O. F. Piattella, *Late-times asymptotic equation of state for a class of nonlocal theories of gravity*, Phys. Rev. D **100** (2019) no.12, 123508 arXiv:1906.10480.
25. S. Profumo, L. Giani and O. F. Piattella, *An Introduction to Particle Dark Matter*, Universe **5** (2019) no.10, 213 arXiv:1910.05610.
26. E. G. C. Isidro, R. M. Barbosa, O. F. Piattella and W. Zimdahl, *Averaged Lemaître-Tolman-Bondi dynamics*, Class. Quant. Grav. **34** (2017) no.3, 035001, arXiv:1608.00452.
27. K. A. Bronnikov, J. C. Fabris, O. F. Piattella, D. C. Rodrigues and E. C. Santos, *Duality between k -essence and Rastall gravity*, Eur. Phys. J. C **77** (2017) no.6, 409, arXiv:1701.06662.
28. O. F. Piattella and L. Giani, *Redshift drift of gravitational lensing*, Phys. Rev. D **95** (2017) no.10, 101301, arXiv:1703.05142.
29. T. Miranda, J. C. Fabris and O. F. Piattella, *Reconstructing a $f(R)$ theory from the α -Attractors*, JCAP **1709** (2017) no.09, 041, arXiv:1707.06457.
30. L. Rizzi, O. F. Piattella, S. L. Cacciatori and V. Gorini, *Scattering and delay time for 1D asymmetric potentials: The step-linear and the step-exponential case*, Revista Brasileira de Ensino de Física, vol. 38, no 2, e2302 (2016), arXiv:1102.2994.
31. O. F. Piattella, L. Casarini, J. C. Fabris and J. A. d. F. Pacheco, *Dark matter velocity dispersion effects on CMB and matter power spectra*, JCAP **1602** (2016) no.02, 024, arXiv:1507.00982.
32. O. F. Piattella, *Lensing in the McVittie metric*, Phys. Rev. D **93** (2016) no.2, 024020, arXiv:1508.04763.
33. R. M. Barbosa, E. G. Chirinos Isidro, W. Zimdahl and O. F. Piattella, *Cosmic bulk viscosity through backreaction*, Gen. Rel. Grav. **48** (2016) no.4, 51, arXiv:1512.07835.
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37. K. A. Bronnikov, J. C. Fabris, O. F. Piattella and E. C. Santos, *Static, spherically symmetric solutions with a scalar field in Rastall gravity*, Gen. Rel. Grav. **48** (2016) no.12, 162, arXiv:1606.06242.
38. O. F. Piattella, *On the effect of the cosmological expansion on the gravitational lensing by a point mass*, Universe 2016, 2(4), 25, arXiv:1609.00270.
39. L. Casarini, O. F. Piattella, S. Bonometto and M. Mezzetti, *Sample variance in N -body simulations and impact on tomographic shear predictions*, Astrophys.J. 812 (2015) no.1, 16, arXiv:1406.5374.
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45. M. J. S. Houndjo, C. E. M. Batista, J. P. Campos and O. F. Piattella, *Finite-time singularities in $f(R, T)$ gravity and the effect of conformal anomaly*, Can. J. Phys. 91 (7), 548-553 (2013), arXiv:1203.6084.
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47. G. F. Silva, O. F. Piattella, J. C. Fabris, L. Casarini and T. O. Barbosa, *Bouncing solutions in Rastall's theory with a barotropic fluid*, Grav. Cosmol. 19 (2013) 156-162, arXiv:1212.6954.
48. J. P. Campos, J. C. Fabris, R. Perez, O. F. Piattella and H. Velten, *Does Chaplygin gas have salvation?*, Eur. Phys. J. C **73** (2013) 2357, arXiv:1212.4136.
49. O. F. Piattella, D. C. Rodrigues, J. C. Fabris, J. A. de Freitas Pacheco, *Evolution of the phase-space density and the Jeans scale for dark matter derived from the Vlasov-Einstein equation*, JCAP 1311 (2013) 002, arXiv:1306.3578.
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52. M. J. S. Houndjo and O. F. Piattella, *Reconstructing $f(R, T)$ gravity from holographic dark energy*, International Journal of Modern Physics D, **21** (2012) 1250024, arXiv:1111.4275.
53. C. E. M. Batista, M. H. Daouda, J. C. Fabris, O. F. Piattella and D. C. Rodrigues, *Rastall Cosmology and the Λ CDM Model*, Phys. Rev. **D85** (2012) 084008, arXiv:1112.4141.
54. A. A. Grib, Yu. V. Pavlov and O. F. Piattella, *On collisions with unlimited energies in the vicinity of Kerr and Schwarzschild black hole horizons*, Grav. Cosmol. **18** (2012), 70-75, arXiv:1203.4952.
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59. Oliver F. Piattella and Daniele Bertacca, *Gravitational potential evolution in Unified Dark Matter Scalar Field Cosmologies: an analytical approach*, Modern Physics Letters A **26** (2011) 2277–2286, arXiv:1103.0234.
60. J. C. Fabris, T. C. C. Guio, M. Hamani Daouda, O. F. Piattella, *Scalar models for the generalized Chaplygin gas and the structure formation constraints*, Gravitation and Cosmology **17** 3 (2011) 259–271, arXiv:1011.0286.
61. A. A. Grib, Y. V. Pavlov, O. F. Piattella, *High energy processes in the vicinity of the Kerr's black hole horizon*, International Journal of Modern Physics A, **26** (2011), 3856–3867, arXiv:1105.1540.
62. O. F. Piattella, *The extreme limit of the generalised Chaplygin gas*, JCAP **1003** (2010) 012, arXiv:0906.4430.
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65. L. Rizzi, O. F. Piattella, S. L. Cacciatori and V. Gorini, *The Step-Harmonic potential*, Am. J. Phys. **78** (2010), 842–850, arXiv:0912.3198.
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Preprints

1. A. Ghazale and O. F. Piattella, *More on the relativistic images produced in gravitational lensing*, arXiv:2512.00139.

Conference proceedings

1. J. C. Fabris, T. Miranda and O. F. Piattella, *Variations on the Starobinsky Inflationary Model*, J. Phys. Conf. Ser. **798** (2017) no.1, 012092, doi:10.1088/1742-6596/798/1/012092.
2. J. C. Fabris, O. F. Piattella, D. C. Rodrigues, B. Chauvineau and M. H. Daouda, *Introducing quantum effects in classical theories*, Int. J. Mod. Phys. A **31** (2016) no.02n03, 1641008, arXiv:1509.06806.
3. J. C. Fabris, T. Miranda and O. F. Piattella, *An exponential correction to Starobinsky's inflationary model*, 2nd International Conference on Particle Physics and Astrophysics (ICPPA 2016), 10-14 Oct 2016. Moscow, Russia, arXiv:1611.05326.

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8. D. C. Rodrigues, O. F. Piattella, J. C. Fabris and I. L. Shapiro, *Renormalization Group approach to Gravity: the running of G and L inside galaxies and additional details on the elliptical NGC 4494*, PoS DSU 2012 021, [arXiv:1301.4148](#).
9. D. C. Rodrigues, O. F. Piattella, J. C. Fabris and I. L. Shapiro, *Elliptical galaxies kinematics within general relativity with renormalization group effects*, Proceedings of VIII International Workshop on the Dark Side of the Universe (DSU 2012). June 10-15, 2012. Búzios, Rio de Janeiro, Brazil. Published online at <http://pos.sissa.it/cgi-bin/reader/conf.cgi?confid=161>.
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Books, edited volumes and chapters

1. O. F. Piattella, *Lecture Notes in Cosmology*, UNITEXT for Physics, Springer International Publishing (2018), ISBN 978-3-319-95569-8, [arXiv:1803.00070](#).
2. D. Wands, O. F. Piattella and L. Casarini, *Physics of the Cosmic Microwave Background Radiation*, Astrophys. Space Sci. Proc. **45** (2016) 3, [arXiv:1504.06335](#).
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5. Oliver F. Piattella, *Cosmology and Unified dark Matter: the Chaplygin gas and beyond*, ISBN 978-3-8443-8842-8, LAP Lambert Academic Publishing GmbH & Co, 2011.

Forthcoming books

1. O. F. Piattella, *Lecture Notes in Cosmology*, 2nd edition, UNITEXT for Physics, Springer, forthcoming. Hardcover ISBN 978-3-032-37902-3. Publisher catalogue.