

Vincenzo Vitagliano

Curriculum Vitae

✉ vincenzo.vitagliano@unige.it

Personal information

Full Name Vincenzo Vitagliano
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Education

- 2007–2011 **Ph.D. in Physics**, SISSA, Trieste, Italy, Thesis Title: *Gravity beyond General Relativity* ([link](#)).
Supervisor: Prof. Stefano Liberati
- 2000–2007 **Master in Physics**, “Federico II” University of Naples, Italy, Monograph Title: *Soluzioni a simmetria sferica in teorie estese della gravitazione*.
First Class Honours. Supervisor: Prof. Salvatore Capozziello

Work Experience

- Jun 2025 – Associate Professor in Mathematical Physics - University of Genova, Italy
ongoing
- Jun 2022 – Tenure Track Associate Professor in Mathematical Physics (RTDb) - University
May 2025 of Genova, Italy
- Jul 2021 – Assistant Professor in Mathematical Physics (RTDa) - University of Genova,
May 2022 Italy
- Dec 2020 – Lecturer in Applied Mathematics - University of Hull, UK
Jun 2021
- Dec 2019 – Marie Skłodowska-Curie Fellow – MSCA Cofund “Beatriu de Pinos” program
Nov 2020 at UAB - Universitat Autònoma de Barcelona, Spain
- Nov 2017 – Japan Society for the Promotion of Science – JSPS fellow at Keio University,
Oct 2019 Tokyo, Japan
- Jan 2016 – Professor Auxiliar Convocado at CENTRA - Centro de Astrofísica Relativística,
Oct 2017 Instituto Superior Técnico, Lisbon, Portugal
- Jan 2012 – Fundação para a Ciência e a Tecnologia – FCT fellow at CENTRA - Centro de
Oct 2017 Astrofísica Relativística, Instituto Superior Técnico, Lisbon, Portugal

List of Grants and Fellowships

Total amount of awarded grants: ~490k euro

- Nov 2022 – Curiosity Driven – NextGenerationEU, 70k euro, Italy ([link](#))
Oct 2024
- Dec 2019 – Marie Skłodowska-Curie Cofund – Beatriu de Pinos, 145k euro, Spain ([link](#))
Nov 2022 [*TERMINATED ON 01 DEC 2020*]
- Nov 2019 – Polish National Agency for Academic Exchange (NAWA) – Ulam grant, 305k
Oct 2021 PLN (~ 70k euro), Poland ([link](#)) [*DECLINED*]

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Nov 2017 – Japan Society for the Promotion of Science – JSPS grant No. P17763, 9M yen
Oct 2019 (~ 75k euro), Japan ([link](#))
Nov 2017 – KAKENHI project grant No. 17F17763, 2.2M yen (~ 20k euro), Japan ([link](#))
Oct 2019
Sep 2014 – Research Grant from Fondo Nacional de Desarrollo Científico y Tecnológico
Sep 2017 (FONDECYT) No. 3150639, Chile, 75M CLP (~ 100k euro) ([link](#)) [*DECLINED*]
Jan 2015 – Research Grant No. SFRH/BPD/77678/2011R from Fundação para a Ciência e
Dec 2017 a Tecnologia (FCT), Portugal (55k euro) [*TERMINATED ON 01 NOV 2017*]
Jan 2012 – Research Grant No. SFRH/BPD/77678/2011 from Fundação para a Ciência e a
Dec 2014 Tecnologia (FCT), Portugal (55k euro)

PhD Supervision

Feb 2023 – Cesar Garcia Perez
ongoing

Postdoctoral Supervision

Aug 2024 – Dr Sebastián Franchino-Viñas
Jul 2025
Jun 2023 – Dr Yafet Erasmo Sanchez Sanchez [then Assistant Professor at Troy Univ
Sep 2024 (Alabama, USA)]
Jun 2023 – Dr Sebastián Franchino-Viñas (1-month STSM funded by the COST Action
Jul 2023 CA18108)
Mar 2023 – Dr Luca Fabbri [then Assistant Professor (RTDa) at the Univ of Genova (Italy)]
Dec 2023

PhD Referee

May 2025 Marco Pasini – University of Udine
May 2024 Fabrizio Esposito – University of Genova

Honours & Prizes

2024 Contribution as PI for the Visiting Position of Prof A. Flachi (Keio U, Tokyo),
5k euro (from UniGe)
2022 Contribution as PI for the Organization of the workshop *Avenues of QFT in
CS - Genova*, 5.9k euro (3k from GNFM - INDAM + 2.9k from UniGe)
2020 Second Prize to the Outreach Award of the Barcelona Council for Science and
Technology, Spain
2020 Habilitation as Associate Professor in Mathematical Physics, MIUR – Italian
Ministry for the University and Research
2020 Habilitation as Associate Professor in Theoretical Physics, MIUR – Italian
Ministry for the University and Research
2019 Reviewer for the American Mathematical Society (ongoing)

- 2018 Finalist for the Falling Walls Lab (Science communication), Japan
- 2007 First class honours, laurea *Summa cum Laude*, Univ “*Federico II*”, Naples, Italy
- 2007 Second Prize COINOR – Univ of Naples award for Science Communication
- 2006 Honourable mention COINOR – Univ of Naples award for Science Communication

Teaching Experience

- since 2023 **Mathematical Physics for Civil Engineering (MSc module, leader)**,
since 1st semester – 2023-24, University of Genova, 50 hours (5h/week).
- since 2021 **Mathematical modelling for Energy Systems (MSc module, leader)**,
since 1st semester – 2021-22, University of Genova, 50 hours (5h/week).
- since 2023 **Quantum Field Theory in Curved Spacetime (PhD module, leader)**,
since 2nd semester – 2022-23, University of Genova, 32 hours, every two years.
- 2023 **Mathematical Physics for Strategic Engineering (MSc module, leader)**,
1st semester – 2023-24, University of Genova, 50 hours (5h/week).
- 2022 **Mathematical Physics for Strategic Engineering [MSc module, Teaching Assistant]**,
1st semester – 2022-23, University of Genova, 15 hours.
- 2022 **Mathematical Physics for Civil Engineering [MSc module, Teaching Assistant]**,
1st semester – 2022-23, University of Genova, 15 hours.
- 2021 **Group and Ring Theory (BSc module, leader)**, *2nd Semester – 2020-21*,
University of Hull, 60 hours (6h/week).
- 2021 **Vector and Linear Algebra (BSc module, leader)**, *2nd Semester – 2020-21*,
University of Hull, 60 hours (6h/week).
- 2020 **Physics 1 [BSc module, Teaching Assistant]**, *1st Semester – 2020-21*,
University Autonoma of Barcelona, 20 hours (2h/week).
- 2018 **Science of Cooking [BSc module, Teaching Assistant]**, *2nd Semester – 2017-18*,
Keio University, 10 hours (2h/week).
- 2017 **Advanced Methods in General Relativity and Cosmology (MSc/PhD module, leader)**,
2nd Semester – 2016-17, IST, 50 hours (5h/week).
- 2017 **General Relativity and Cosmology (MSc module, leader)**, *1st Semester – 2016-17*,
IST, 50 hours (5h/week).
- 2016 **Advanced Methods in General Relativity and Cosmology (MSc/PhD module, leader)**,
2nd Semester – 2015-16, IST, 50 hours (5h/week).

Further Teaching

- May 2015 **Lecturer 4th Amazonian Workshop in Analogue Gravity and Black Holes**,
Belem do Para, Brazil.
- Sep 2014 **Lecturer 7th Summer School in Astrophysics and Gravitation**, IST,
Lisbon, Portugal.
- Jul 2013 **Lecturer PandA School in Strong Gravity**, University of Mons, Belgium.

Sep 2012 **Lecturer 6th Summer School in Astrophysics and Gravitation**, IST, Lisbon, Portugal.

Undergraduate Theses

- 2021 **Benjamin Amegah**, *Categories* - MSc.
- 2021 **Harrison Park**, *The Disease To End All Diseases: The Initial Conditions Necessary To Result In The Extinction Of The Human Population* - MSc.
- 2021 **Andreas Ntisis**, *Hawking radiation and black holes evaporation* - MSc.
- 2021 **Pavan Tilagaraj**, *Mathematical Modelling of Sand Dunes* - MSc.
- 2020 **Robert Oldham**, *Special and General Relativity* - BSc.
- 2020 **Leah Ponsonby**, *The Mathematical Legacy of Hull* - BSc.
- 2020 **Jessica Jablonski**, *The Chinese Remainder Theorem and its Applications* - BSc.
- 2020 **Benjamin Armitage**, *A Mathematical Model of Dendrites* - BSc.
- 2018 **Antonio Carvalho**, *Cosmological Black Holes* - MSc, (co-supervisor).

Institutional Responsibilities

- Feb 2025 – **Department Committee for the Institutional Website and Communication**, *DIME – UniGe*.
- Mar 2023 **Editor in chief for the volume “Avenues of Quantum Field Theory in Curved Spacetime”**, *Journal of Physics: Conference Series*.
- Oct 2022 – **Referee for “Fundamental and Applied Research Projects”**, *Latvian Research Council*.
- Aug 2022 – **Local Coordinator of the “QGSKY” Genova node**, *INFN*, (funding management of 12k/year).
- Jan 2021 – **Editorial Board**, *Topic Editor of MDPI journal Symmetry* (IF:2.645).
- Oct 2019 – **Member WG1 - Core Member Committee for outreach and gender activities**, *COST action QG-MM*.
- Apr 2017 – **Member WG3**, *COST action GWverse*.
- Oct 2021
- Aug 2014 – **Organiser of the Seminars Activities for CENTRA – Center for Astrophysics and Gravitation**, *Istituto Superior Tecnico (IST)*, Lisbon, Portugal.
- Aug 2016
- Oct 2010 – **Referee (more than 70 papers) for:**, *Nature Communications, Physical Review Letters, Physical Review D, Classical and Quantum Gravity, Symmetry, Mathematics, Journal of Cosmology and Astroparticle Physics, General Relativity and Gravitation, International Journal of Modern Physics D, European Physical Journal C, Foundations of Physics, European Journal of Control, Biology Methods & Protocols*.

Computer skills

Programming Python (Anaconda Open Distribution)
O.S. Linux, Windows
Scientific SW Mathematica

Languages

Italian Native
English Fluent
Portuguese Fluent
Spanish Fluent

Organization of Scientific Meetings

- 22-24 Jan '25 **Avenues of Quantum Field Theory in Curved Spacetime**, *Member of the Organising and Scientific Committees*, Tours, France.
- 5-6 Oct '23 **QGSKY – the Quantum Universe**, *Main organiser, Member of the Local Organising and Scientific Committees*, Genova, Italy.
- 14-16 Sep '22 **Avenues of Quantum Field Theory in Curved Spacetime**, *Main organiser, Member of the Local Organising and Scientific Committees*, Genova, Italy.
- 21-22 Dec '15 **Black Holes Workshop VIII**, *Member of the Local Organising Committee*. Lisbon, Portugal
- 18-19 Dec '15 **GR 100**, *Member of the Local Organising Committee*, Lisbon, Portugal.
- 24-25 Nov '11 **X Convegno Nazionale sulla Comunicazione della Scienza**, *Scientific and Organising Coordinator*, Trieste, Italy.
- 24 Nov '10 **Workshop on Science Journalism and Power in 21st Century**, *Member of the Local Organising Committee*, Trieste, Italy.

Other Work Experiences

- 2009-11 **Collaboration with the Master in Science Communication**, SISSA, Trieste, Italy.
- 2007-08 **Part-time Librarian**, SISSA, Trieste, Italy.

Conferences, Workshops and Seminars

Selected Participations

- Oct 2024 [T49] **2024 GNFM meeting**, [Invited speaker].
Montecatini, Italy
- Jul 2024 [T48] **EREP 2024**, [Plenary speaker].
Coimbra, Portugal
- Mar 2024 [T47] **University of Pisa**, [Invited seminar].
Pisa, Italy
- May 2022 [T46] **University of Genova**, [Invited seminar].
Genova, Italy
- Sep 2021 [T45] **SIGRAV meeting**.
Urbino, Italy
- May 2021 [T44] **Atlantic General Relativity Conference**.
Sherbrooke, Canada
- Feb 2021 [T43] **University Autonoma Madrid**, [Invited seminar].
Madrid, Spain
- Apr 2020 [T42] **University Autonoma Barcelona**, [Invited seminar].
Barcelona, Spain
- Mar 2020 [T41] **VI Cosmology and the Quantum Vacuum**.
Barcelona, Spain
- Jul 2019 [T40] **University of Oviedo**, [Invited seminar].
Oviedo, Spain
- May 2019 [T39] **Northumbria University**.
Newcastle, UK
- Apr 2019 [T38] **University Autonoma Madrid**, [Invited seminar].
Madrid, Spain
- Apr 2019 [T37] **University of Tours**, [Invited seminar].
Tours, France
- Sep 2018 [T36] **DICE 2018**.
Castiglioncello, Italy
- Sep 2018 [T35] **ICMM**.
Madrid, Spain
- Sep 2018 [T34] **EREP 2018**.
Palencia, Spain
- Aug 2018 [T33] **OIST**, [Invited seminar].
Okinawa, Japan
- Jul 2018 [T32] **Avenues of QFT in Curved Spacetime**, [Plenary speaker].
Tokyo, Japan

Jan 2018 [T31] **Trento University.**
 Trento, Italy
 Nov 2017 [T30] **JGRG 2017.**
 Hiroshima, Japan
 Sep 2017 [T29] **EREP 2017.**
 Malaga, Spain
 Sep 2017 [T28] **IV Cosmology and the Quantum Vacuum.**
 Segovia, Spain
 Jan 2017 [T27] **FCUL**, [Invited seminar].
 Lisbon, Portugal
 Jun 2016 [T26] **ESA-ESAC**, [Invited Colloquium].
 Madrid, Spain
 Dec 2015 [T25] **VIII Black Holes Workshop.**
 Lisbon, Portugal
 Dec 2015 [T24] **GR 100.**
 Lisbon Portugal
 Sep 2015 [T23] **ERE 2015**, [Plenary speaker].
 Palma de Mallorca, Spain
 Jul 2015 [T22] **MG14**, [Invited speaker].
 Rome, Italy
 May 2015 [T21] **UFABC**, [Invited seminar].
 Sao Paulo, Brazil
 May 2015 [T20] **Amazonian workshop on GR**, [Invited speaker].
 Belem do Para, Brazil
 Feb 2015 [T19] **GR Meeting of Beira Interior**, [Invited speaker].
 Covilha, Portugal
 Oct 2014 [T18] **FCUL**, [Invited seminar].
 Lisbon, Portugal
 Sep 2014 [T17] **ERE 2014.**
 Valencia, Spain
 Aug 2014 [T16] **Charles University**, [Invited seminar].
 Prague, Czech Republic
 May 2014 [T15] **Statistical Challenges in 21st Century Cosmology.**
 Lisboa, Portugal
 Apr 2014 [T14] **IberiCos2014.**
 Aveiro, Portugal
 Dec 2013 [T13] **VI Black Holes Workshop.**
 Braga, Portugal
 Jul 2013 [T12] **PandA school in Strong Gravity**, [Invited speaker].
 Mons, Belgium

- Dec 2012 [T11] **STAR - Bishop's University**, [Invited seminar].
Lennoxville, Canada
- Jul 2012 [T10] **MG13**, [talk 2].
Stockholm, Sweden
- Jul 2012 [T9] **MG13**, [talk 1].
Stockholm, Sweden
- Apr 2012 [T8] **IberiCos2012**.
Lisboa, Portugal
- Dec 2011 [T7] **IV Black Holes Workshop**.
Aveiro, Portugal
- Dec 2011 [T6] **IST**.
Lisboa, Portugal
- May 2011 [T5] **DESY**, [Invited seminar].
Hamburg, Germany
- Apr 2011 [T4] **IberiCos2011**.
Salamanca, Spain
- Dec 2010 [T3] **Winter School in Cosmology**.
Passo del Tonale, Italy
- Jul 2010 [T2] **GR19**.
Mexico City, Mexico
- Sep 2009 [T1] **DAMTP**.
Cambridge, UK

Schools

- 6-17 Jun 2011 **Summer School on Particle Physics**.
ICTP, Trieste, Italy
- 6-10 Dec 2010 **4th TRR33 Winter School on Cosmology**.
Passo del Tonale, Italy
- 19-30 Jul 2010 **Summer School in Cosmology**.
ICTP, Trieste, Italy
- 15-26 Jun 2009 **Summer School on Particle Physics in the LHC ERA**.
ICTP, Trieste, Italy
- 26-29 Jan 2009 **SIGRAV School in Cosmology and INFN Formation School**.
GGI, Florence, Italy
- 21 Jul-1 Aug 2008 **Summer School in Cosmology**.
ICTP, Trieste, Italy

Academic References

1) Prof. Antonino Flachi

Keio University
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Kanagawa 223-8521, Japan
✉ flachi@keio.jp
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2) Prof. José P. S. Lemos

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3) Prof. Stefano Liberati

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Trieste, Italy 34136
✉ liberati@sissa.it
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4) Prof. Valerio Faraoni

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Sherbrooke, Québec
Canada J1M 1Z7
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5) Prof. Thomas P. Sotiriou

University of Nottingham
University Park
Nottingham, NG7 2RD, UK
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Complete List of Publications

Note: Quartiles in parentheses refer to Scimago Journal Rank (SJR) data for the year of publication. For papers published in 2024, the most recent available quartile (2023) is used.

- [32] M. Bosman, Y. Cordon, et al, and V. Vitagliano, “An Agent Based Simulation of COVID-19 History in Catalonia Using Extensive Real Datasets,” **Sci. Rep.** 14, 31858 (2024).
(Q1 - Multidisciplinary)
- [31] S. Franchino-Viñas, et al, and V. Vitagliano, “Resummed heat kernel and effective action for Yukawa and QED,” **Phys. Lett. B** 854, 138684 (2024).
(Q1 - Nuclear and High Energy Physics)
- [30] S. Carloni, et al, and V. Vitagliano, “Avenues of quantum field theory in curved spacetime,” **J. Phys. Conf. Ser.** 2531 no.1, 011001 (2023).
- [29] M. Bosman, A. Esteve, et al, and V. Vitagliano, “Stochastic simulation of successive waves of COVID-19 in the province of Barcelona,” **Infectious Dis. Modell.**, 8 no.1 (2023).
(Q1 - Applied Mathematics)

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- [28]S. Hensh, S. Liberati and V. Vitagliano, “Tidal heating in a Riemann-Cartan spacetime,” **Phys. Rev. D** 107 no.6, 064020 (2023).
(Q1 - Physics and Astronomy)
- [27]A. Addazi et al, (including V. Vitagliano), “Quantum gravity phenomenology at the dawn of the multi-messenger era,” **Prog. in Part. and Nucl. Phys.** 125, 103948 (2022).
(Q1 - Nuclear and High Energy Physics)
- [26]A. Flachi and V. Vitagliano, “Interacting quantum field theories and topological defects” **15th MG Meeting** 1473–1477 (2022).
- [25]O. Corradini, A. Flachi, G. Marmorini, M. Muratori and V. Vitagliano, “Bosons on a rotating ring with free boundary conditions,” **J. Phys. A** 54 no.40, 405401 (2021).
(Q1 - Physics and Astronomy)
- [24]A. Flachi and V. Vitagliano, “The Casimir effect for nonlinear sigma models and the Mermin-Wagner- Hohenberg-Coleman theorem,” **J. Phys. A** 54 no.26, 265401 (2021).
(Q1 - Physics and Astronomy)
- [23]A. Flachi and V. Vitagliano, “Symmetry breaking and lattice kirigami: finite temperature effects,” **Phys. Rev. D** 99 no.12, 125010 (2019).
(Q1 - Physics and Astronomy)
- [22]L. Barack et al, (including V. Vitagliano), “Black holes, gravitational waves and fundamental physics: a roadmap,” **Class. Quant. Grav.** 36, no. 14, 143001 (2019).
(Q1 - Physics and Astronomy)
- [21]A. Flachi and V. Vitagliano, “Cosmic strings, deformed lattices and spontaneous symmetry breaking,”**J. Phys. Conf. Ser.** 1275 no.1, 012030 (2019).
- [20]E. V. Castro, A. Flachi, P. Ribeiro and V. Vitagliano, “Symmetry Breaking and Lattice Kirigami ,” **Phys. Rev. Lett.** 121, no. 22, 221601 (2018).
(Q1 - Physics and Astronomy)
- [19]V. Vitagliano, “Covariantly quantum field theory,” **Proceedings of the 27th JGRG**, 1, 304-312 (2017).
- [18]P. Luz and V. Vitagliano, “Raychaudhuri equation in spacetimes with torsion,” **Phys.Rev. D** 96 no.2, 024021 (2017).
(Q1 - Physics and Astronomy)
- [17]I. Saltas and V. Vitagliano, “Quantum corrections for the cubic Galileon in the covariant language ,” **JCAP** 1705 no.05, 020 (2017).
(Q2 - Astronomy and Astrophysics)

- [16] I. Saltas and V. Vitagliano, “Covariantly Quantum Galileon,”
Phys.Rev. D 95 no.10, 105002 (2017).
(Q1 - Physics and Astronomy)
- [15] A. Prain, V. Vitagliano, V. Faraoni and M. Lapiere-Leonard, “Hawking-Hayward quasi-local energy under conformal transformations,” **Class. Quant. Grav.** 33, no. 14, 145008 (2016).
(Q1 - Physics and Astronomy)
- [14] V. Faraoni, V. Vitagliano, “Thermodynamics of apparent horizons under conformal and Kerr–Schild maps,” **Can. J. Phys.** 93, 999 (2015).
- [13] V. Vitagliano, “On the dynamical content of MAGs,”
J. Phys. Conf. Ser. 600, no.1, 012043 (2015).
- [12] A. Flachi, K. Fukushima and V. Vitagliano, “Geometrically induced magnetic catalysis and critical dimensions,” **Phys. Rev. Lett.** 114, no. 18, 181601 (2015).
(Q1 - Physics and Astronomy)
- [11] V. Faraoni and V. Vitagliano, “Horizon thermodynamics and spacetime mappings,”
Phys. Rev. D 89, no. 6, 064015 (2014).
(Q1 - Physics and Astronomy)
- [10] V. Vitagliano, Cosmography with high-redshift probes
International Astronomical Union 10, (S306), 210 (2014).
- [9] V. Vitagliano, “The role of nonmetricity in metric-affine theories of gravity,”
Class. Quant. Grav. 31, no. 4, 045006 (2014).
(Q1 - Physics and Astronomy)
- [8] V. Vitagliano, et al., “High-z cosmography at a glance”
13th MG Meeting 1574–1576 (2013).
- [7] V. Vitagliano, et al., “Apparent horizons in Clifton-Mota-Barrow inhomogeneous universe”
13th MG Meeting, 1237–1240 (2013).
- [6] V. Faraoni, V. Vitagliano, T. P. Sotiriou and S. Liberati, “Dynamical Apparent Horizons in Inhomogeneous Brans-Dicke Universes,” **Phys. Rev. D** 86, 064040 (2012).
(Q1 - Physics and Astronomy)
- [5] J. Q. Xia, V. Vitagliano, S. Liberati and M. Viel, “Cosmography beyond standard candles and rulers,” **Phys. Rev. D** 85, 043520 (2012).
(Q1 - Physics and Astronomy)
- [4] V. Vitagliano, T. P. Sotiriou and S. Liberati, “The dynamics of metric-affine gravity,”
Annals Phys. 326, 1259 (2011) [**Annals Phys.** 329, 186 (2013)].
(Q1 - Physics and Astronomy)

- [3] V. Vitagliano, T. P. Sotiriou and S. Liberati, “The dynamics of generalized Palatini Theories of Gravity,” **Phys. Rev. D** **82**, 084007 (2010).
(Q1 - Physics and Astronomy)
- [2] V. Vitagliano, J. Q. Xia, S. Liberati and M. Viel, “High-Redshift Cosmography,” **JCAP** **1003**, 005 (2010).
(Q2 - Astronomy and Astrophysics)
- [1] V. Vitagliano, S. Liberati and V. Faraoni, “Averaging inhomogeneities in scalar-tensor cosmology,” **Class. Quant. Grav.** **26**, 215005 (2009).
(Q1 - Physics and Astronomy)