

Curriculum Vitae

Marco Regis

Personal information

Current Position: Associate Professor
Institution: Università degli Studi di Torino
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Date and place of birth: 8th May 1980, Ivrea (Turin, Italy)
Nationality: Italian

Education

- *Ph.D. in Astroparticle Physics*, October 2008
Advisor: Prof. P. Ullio
Opponent: Prof. M. Drees
Dissertation: Aspects of WIMP dark matter
S.I.S.S.A.-I.S.A.S., Trieste, Italy
- *M.Sc. in Theoretical Physics*, 110/110 cum laude, July 2004
Advisor: Prof. N. Fornengo
Dissertation: Kaluza-Klein dark matter
University of Turin, Italy
- *B.Sc. in Physics*, 110/110 cum laude, July 2002
University of Turin, Italy

Fellowships awarded

- *Research contract*
Università degli Studi di Torino,
1st November 2012-30th September 2020
- *Research fellowship*
by Istituto Nazionale di Fisica Nucleare,
Sezione di Torino,
1st December 2011-30th November 2013 (Interrupted on 31/10/2012)
- *Research fellowship*
by Università degli Studi di Torino,
1st December 2010-30th November 2011
- *Free-standing postdoctoral fellowship*
by South-African National Research Foundation,
at University of Cape Town,
1st January 2010-31st December 2010
- *Postdoctoral Research Fellowship*
by Astronomy and Cosmology Consortium in South Africa,
at University of Cape Town,
1st November 2008-31st October 2010
- *Ph.D. studentship*
by S.I.S.S.A. (Astroparticle curriculum),
1st November 2004-31st October 2008

Grants/Awards

- Excellent Young PI (Call 01) - Progetto di Ricerca di Ateneo, Università degli Studi di Torino e Compagnia di San Paolo (External Peer Review by European Science Foundation): “The particle dark-matter quest in the extragalactic sky”, 49.918,00 Euro, 2015-2017.
- Principal Investigator of the Research grant funded by the agreement ASI-INAF n.2017-14-H.0, project “Deciphering the high-energysky via cross correlation”, 25.000,00 + 8.000,00 Euro, 2017-2021.
- Co-Investigator of the project “From Darklight to Dark Matter: understanding the galaxy/matter connection to measure the Universe” No. 20179P3PKJ funded by MIUR (PRIN, Progetti di ricerca di rilevante interesse nazionale), 157.000,00 Euro (to my research unit), 2019-2022.

- Participant of the project “Departments of Excellence 2018 - 2022”, Grant of 8 MEuro awarded by MIUR (L. 232/2016) at the Physics Department of the University of Torino.

Teaching experience

- Lectures on Quantum Mechanics, B.Sc. in Physics, Università degli Studi di Torino, 2020.
- Lectures on Bayesian statistics, M.Sc. in Physics of Complex Systems, Università degli Studi di Torino, 2013-2020.
- Lectures on Electromagnetism, B.Sc. in Geology, Università degli Studi di Torino, 2016-2020.
- Lectures on Physics (1st year), B.Sc. in Chemistry, Università degli Studi di Torino, 2012-2020.
- Tutoring and Demonstrating for Physics (1st year), B.Sc. in Mathematics, Università degli Studi di Torino, 2012-2016.
- Lectures on “Multi-wavelength and multi-messenger dark matter searches” at International School on AstroParticle Physics, 2014.
- Lectures on “Cosmic-rays and dark-matter indirect searches” at International Doctorate on AstroParticle Physics, 2012.
- Tutoring and Demonstrating for Electronics course (150 hours), B.Sc. in Physics, Università degli Studi di Torino, 2004

Supervision of students: Supervisor of two Ph.D. students (Astroparticle Physics), University of Turin, since 2015. Supervisor of three Master students (Theoretical Physics), University of Turin, since 2015. Supervisor of one Honours student (Astrophysics), University of Cape Town, 2010. Supervisor of two Bachelor students (Astrophysics), University of Turin, since 2015. Opponent of sixteen Master students (Theoretical Physics and Complex Systems), University of Turin, since 2012, and two Ph.D. students (Astroparticle Physics and Statistics), since 2015.

Reviewer: Astronomy and Astrophysics Journal, General Relativity and Gravitation, Journal of Cosmology and Astroparticle Physics, Physics Letters B, Physical Review D, Physical Review Letters.

Review Editor: Frontiers in High-Energy and Astroparticle Physics.

Editor: Proceedings of the XIV International Conference on Topics in Astroparticle and Underground Physics, Editors: N. Fornengo, M. Regis, H.-S. Zechlin, Journal of Physics: Conference Series 718 (2016).

Skills

Languages: Italian, maternal language. Good knowledge of English. Basic knowledge of French.

Computer programming: Good experience with C++, Fortran and Mathematica.

Science communication: Chapter on Cosmology in “Universo scienze” book (Flaccavento/Romano, Editor RCS), several outreach talks at public events and in schools.

Organisation of scientific meetings

- *International School on AstroParticle Physics* (ISAPP) July 2014, Belgirate (Italy), LOC, 50 students.
- *Topics in Astroparticle and Underground Physics* (TAUP) September 2015, Turin (Italy), LOC, 490 participants.
- *Barolo Astroparticle Meeting* (BAM), September 2017, 2018, 2021, Barolo (Italy), Chair of the Organizing Committee, 30 participants.

Visiting Scientist

- University of California, Santa Cruz (UCSC), United States, April 2010.
- Galileo Galilei Institute for Theoretical Physics, Dark Matter: Its Origin, Nature and Prospects for Detection, Arcetri, Italy, May 2010.
- Laboratoire de Physique Subatomique et de Cosmologie (LPSC), Grenoble, France, 2011-2013 (regular visitor).
- Instituto de Física Teórica UAM-CSIC, “Identification of Dark Matter with a Cross-Disciplinary Approach”, Madrid, May 2015.

Large scale collaborations

- *Dark Matter in dSph*
Principal Investigator for the project “Radio Dark Matter Searches in Local Group Dwarf Spheroidal Galaxies”, which had been involving 9 researchers of 12 institutes, and obtained (from competitive calls) 123 (July 2011) + 30 (July 2016) observing hours with the Australian Telescope Compact Array, and 20 observing hours with the South-African telescope KAT-7 (December 2015), leading to 5 publications in international peer-reviewed journals. Co-Investigator of an on-going follow-up search with the Indian telescope Giant Metrewave Radio Telescope (GMRT), 25 observing hours.

- *Evolutionary Map of the Universe*
Member of the team (non-thermal emission working groups) of the project Evolutionary Map of the Universe (P.I.: Ray Norris, 1.5 years of telescope-time allocated) employing the Australian radio telescope ASKAP. The project is currently in the early-science phase.
- *PRIN Projects*
Participant of the project “Theoretical Astroparticle Physics” funded by MIUR within the program “Programmi di Ricerca Scientifica di Rilevante Interesse Nazionale” (PRIN, call 2012). Participant of the project “Theoretical Astroparticle Physics” funded by MIUR within the program “Programmi di Ricerca Scientifica di Rilevante Interesse Nazionale” (PRIN, call 2015). Co-Investigator of the project “From Darklight to Dark Matter: understanding the galaxy/matter connection to measure the Universe” funded by MIUR within the program “Programmi di Ricerca Scientifica di Rilevante Interesse Nazionale” (PRIN, call 2017).
- *INFN initiative*
Participant of the “Theoretical Astroparticle Physics” (TAsP) initiative of the Istituto Nazionale di Fisica Nucleare (INFN), 2013-2020.

Scientific talks

- DESY theory workshop ”The dark side of the Universe”, Hamburg, September 2006
A dark matter candidate from extra-dimensions
- SIGRAV school, Como, May 2007
Indirect signals from a dark matter candidate in non-universal extra-dimensions
- SciNeGHE 2007 workshop, Frascati, June 2007
Multi-wavelength signals from non-universal KK dark matter
- Cargese Summer School, Cargese, August 2007
Multi-wavelength signals from dark matter annihilation at the Galactic Center
- I.C.T.P., weekly seminar, Trieste, May 2008
Multi-wavelength signals of dark matter annihilation at the Galactic Center
- “Identification of Dark Matter 2008” conference (**invited**), Stockholm, August 2008
Multi-wavelength signals of dark matter annihilation at the Galactic Center
- SKA conference, Stellenbosch, December 2008
Observable radio signals from dark matter annihilation
- University of Cape Town, weekly seminar, January 2009
Signals of dark matter annihilation in the Galaxy
- University of Turin, weekly seminar, June 2009
Testing the dark matter interpretation of the PAMELA excess in the Galactic diffuse emission

- CERN, cosmo-coffe seminar, June 2009
Testing the dark matter interpretation of the PAMELA excess in the Galactic diffuse emission
- “TeV Particle Astrophysics 2009” conference (**invited**), SLAC Stanford, July 2009
Multi-wavelength signals from dark matter annihilation in the Galaxy
- SALT/MeerKAT workshop, Cape Town, November 2009
Cosmic-ray and dark matter physics with synchrotron signals in MeerKAT
- JEDI4 workshop, African Institute for Mathematical Sciences, Muizenberg, January 2010
Particle Dark Matter excesses
- BEYOND 2010 conference, Cape Town, February 2010
Testing the dark matter interpretation of the PAMELA excess with the FERMI telescope
- University of Cape Town, weekly seminar, March 2010
Particle Dark Matter: an overview
- University of California, Santa Cruz, weekly seminar, May 2010
Dark energy and Lithium problem: can large scale curvature solve them both?
- Frontier Objects in Astrophysics and Particle Physics 2010 (**invited**), Vulcano, May 2010
Particle Dark Matter: the state of the art
- LPSC, Grenoble, weekly seminar, May 2011
Radio signals from Particle Dark Matter
- Multifrequency Behaviour of High Energy Cosmic Sources - IX (**invited**), Vulcano, May 2011
The Cosmic Microwave Background in an Inhomogeneous Universe
- MPI-AEI, Potsdam, weekly seminar, June 2011
Radio signals of Particle Dark Matter
- HEP 2011 conference, Grenoble, July 2011
Radio signals of Particle Dark Matter
- EMU workshop 2011, Bologna, September 2011
Local group dwarf spheroidal galaxies
- University of Turin, weekly seminar, September 2011
The quest for particle dark matter
- IFIC, Valencia, weekly seminar, December 2011
Do we live in an inhomogeneous universe?
- Lecture at International Doctorate on AstroParticle Physics, Ferrara, October 2012
Cosmic-rays and dark-matter indirect searches
- Multifrequency Behaviour of High Energy Cosmic Sources - X (**invited**), Palermo, May 2013
A novel approach in the WIMP quest: Cross-correlation of gamma-rays and cosmic shear

- Anisotropic Universe Workshop, GRAPPA Institute, Amsterdam, September 2013
A novel approach in the WIMP quest: Cross-correlation of gamma-rays and cosmic shear
- Workshop on the Future of Dark Matter Astro-Particle Physics, ICTP, Trieste, October 2013
A novel approach in the WIMP quest: Cross-correlation of gamma-rays and cosmic shear
- SPARCS workshop, Catania, June 2014
Fundamental physics with EMU and MIGHTEE
- Astroparticle Physics 2014 (**invited**), Joint TeVPA/IDM conference, Amsterdam, June 2014
Status and perspectives of particle dark matter searches with radio observations
- Lectures at International School on AstroParticle Physics, Belgirate, July 2014
Multi-wavelength and multi-messenger dark matter searches
- Identification of Dark Matter with a Cross-Disciplinary Approach workshop (**invited**), IFT, Madrid, May 2015
Angular cross correlation of non-gravitational and gravitational DM probes
- Multifrequency Behaviour of High Energy Cosmic Sources - XI (**invited**), Palermo, May 2015
Dwarf Spheroidal Galaxies: Searching for diffuse emission in the darkest structures
- Fermi Open Day (**invited**), Turin, September 2015
Dark Matter Indirect Searches
- Gamma Rays and Dark Matter workshop (**invited**), Obergurgl, December 2015
Angular cross-correlation of gravitational and non-gravitational DM probes
- XV Incontri di Fisica delle Alte Energie (**invited**), Genova, March 2016
Particle Dark Matter: a Multimessenger Endeavour
- Unveiling the Anisotropic Universe workshop (**invited**), Amsterdam, April 2016
Correlations in the radio background
- Ricap16 6th Roma International Conference on Astroparticle Physics (**invited**), Frascati, June 2016
Particle dark matter signals in the anisotropic sky: a cross-correlation approach
- TeV Particle Astrophysics 2016, CERN, September 2016
Particle dark matter signals in the anisotropic sky: a cross-correlations approach
- Multifrequency Behaviour of High Energy Cosmic Sources - XII (**invited**), Palermo, June 2017
Angular correlations between the gamma-ray sky and catalogs of galaxies and galaxy clusters
- European Physical Society Conference on High Energy Physics 2017 (**invited**), Venice, July 2017
Interpreting extragalactic backgrounds via angular cross-correlations
- Radio Synchrotron Background Conference (**invited**), Richmond, July 2017
The Diffuse radio emission and Dark Matter

- Barolo Astroparticle Meeting, Barolo, Italy September 2017
Multi-wavelength signals of particle dark matter in dwarf spheroidal galaxies
- Accelerating the Search for Dark Matter with Machine Learning (**invited**), Leiden, January 2018
Introduction into direct and indirect Dark Matter searches and their challenges
- Dark Side of the Universe (**invited**), Annecy, June 2018
Multi-messenger dark matter searches
- S.I.S.A., Trieste, weekly Astroparticle seminar, March 2018
Particle dark matter searches in the anisotropic sky
- SKA Office, Cape Town, weekly seminar, April 2018
Particle dark matter searches in the anisotropic sky
- University of the Witwatersrand, Johannesburg, weekly seminar, April 2018
Particle dark matter searches in the anisotropic sky
- SKA Cosmology workshop (**invited**), Turin, September 2018
Particle dark matter searches with the SKA
- Multifrequency Behaviour of High Energy Cosmic Sources - XIII (**invited**), Palermo, June 2019
The local Universe at gamma-ray frequencies via angular correlations
- EMU international meeting, Catania, October 2019
The Unresolved Radio Background
- Cosmic Controversies Conference, Chicago, October 2019
Particle dark matter searches via cross-correlation between gravitational lensing and gamma rays

Scientific papers

h-index = 23 [source: INSPIRE]

1. M. Regis, M. Serone and P. Ullio
A dark matter candidate from an extra (non-universal) dimension
JHEP **0703** (2007) 084 [arXiv:hep-ph/0612286].
2. M. Regis
Multi-wavelength signals from dark matter annihilation at the galactic center
Proceeding of Science, CARGESE2007 (2007) 020.
3. M. Regis and P. Ullio
Multi-wavelength signals of dark matter annihilations at the Galactic center
Phys. Rev. D **78** (2008) 043505 [arXiv:0802.0234 [hep-ph]].
4. M. Regis
Photons from Kaluza-Klein Dark Matter
Phys. Lett. B **663** (2008) 250 [arXiv:0803.0631 [hep-ph]].
5. M. Regis and P. Ullio
Testing the Dark Matter Interpretation of the PAMELA Excess through Measurements of the Galactic Diffuse Emission
Phys. Rev. D **80** (2009) 043525 [arXiv:0904.4645 [astro-ph.GA]].
6. M. Regis and P. Ullio
The contribution to the antimatter flux from individual dark matter substructures
arXiv:0907.5093 [astro-ph.GA].
7. M. Regis and C. Clarkson
Do primordial Lithium abundances imply there's no Dark Energy?
Gen. Rel. Grav. **44** (2012) 567 [arXiv:1003.1043 [astro-ph.CO]].
8. M. Regis
A test for the Dark Matter interpretation of the PAMELA positron excess with the FERMI telescope
Proceedings of the Fifth International Conference - Beyond 2010, World Scientific Book.
9. C. Clarkson and M. Regis
The Cosmic Microwave Background in an Inhomogeneous Universe
JCAP **1110** (2011) 013 [arXiv:1007.3443 [astro-ph.CO]].
10. M. Regis
Particle Dark Matter: the state of the art
Invited review contribution in Frontier Objects in Astrophysics and Particle Physics, F. Giovannelli and G. Mannocchi (eds.), Italian Physical Society, Editrice Compositori, [arXiv:1008.0506 [hep-ph]].

11. M. Regis
Galactic Magnetic Turbulence from Radio data
Astroparticle Physics **35** (2011) 170176 [arXiv:1101.5524 [astro-ph.HE]].
12. M. Regis
The Cosmic Microwave Background in an Inhomogeneous Universe
Invited contribution in “Multifrequency Behaviour of High Energy Cosmic Sources - IX”,
F. Giovannelli & L. Sabau-Graziati (eds.), Mem. Soc. Ast. It. **83** (2012) 67.
13. N. Fornengo, R. Lineros, M. Regis and M. Taoso
Possibility of a Dark Matter Interpretation for the Excess in Isotropic Radio Emission Reported by ARCADE
Phys. Rev. Lett. **107** (2011) 271302 [arXiv:1108.0569 [hep-ph]].
14. N. Fornengo, P. Panci and M. Regis
Long-Range Forces in Direct Dark Matter Searches
Phys. Rev. D **84** (2011) 115002 [arXiv:1108.4661 [hep-ph]].
15. M. Regis
Radio signals of particle dark matter
Proceedings of Science, EPS-HEP2011 062, Contribution to the 2011 Europhysics Conference on High Energy Physics (EPS-HEP 2011), Grenoble, July 21-27, 2011 [arXiv:1112.1881 [hep-ph]].
16. N. Fornengo, R. Lineros, M. Regis and M. Taoso
Galactic synchrotron emission from WIMPs at radio frequencies
JCAP **1201** (2012) 005 [arXiv:1110.4337 [astro-ph.GA]].
17. N. Fornengo, R. Lineros, M. Regis and M. Taoso
Cosmological Radio Emission induced by WIMP Dark Matter
JCAP **1203** (2012) 033 [arXiv:1112.4517 [astro-ph.CO]].
18. S. Camera, M. Fornasa, N. Fornengo and M. Regis
A Novel Approach in the Weakly Interacting Massive Particle Quest: Cross-correlation of Gamma-Ray Anisotropies and Cosmic Shear
Astrophys. J. **771** (2013) L5 [arXiv:1212.5018 [astro-ph.CO]].
19. M. Regis
A novel approach in the WIMP quest: Cross-correlation of gamma-rays and cosmic shear
Invited contribution in “Multifrequency Behaviour of High Energy Cosmic Sources - X”,
2014, Acta Polytechnica CTU Proceedings, Vol.1, No. 1 , F. Giovannelli & L. Sabau-Graziati (eds.).
20. W. C. Lim, M. Regis and C. Clarkson
Spherically symmetric cosmological spacetimes with dust and radiation - numerical implementation
JCAP **1310** (2013) 010 [arXiv:1308.0902 [astro-ph.CO]].

21. N. Fornengo and M. Regis
Particle dark matter searches in the anisotropic sky
Front. Physics **2** (2014) 6 [arXiv:1312.4835 [astro-ph.CO]].
22. N. Fornengo, R. A. Lineros, M. Regis and M. Taoso,
The isotropic radio background revisited
JCAP **1404** (2014) 008 [arXiv:1402.2218 [astro-ph.CO]].
23. M. Regis, L. Richter, S. Colafrancesco, M. Massardi, W. J. G. de Blok, S. Profumo and N. Orford,
Local Group dSph radio survey with ATCA (I): Observations and background sources
Mon. Not. Roy. Astron. Soc. **448** (2015) 4, 3731 [arXiv:1407.5479 [astro-ph.GA]].
24. M. Regis, L. Richter, S. Colafrancesco, S. Profumo, W. J. G. de Blok and M. Massardi,
Local Group dSph radio survey with ATCA (II): Non-thermal diffuse emission
Mon. Not. Roy. Astron. Soc. **448** (2015) 4, 3747 [arXiv:1407.5482 [astro-ph.GA]].
25. M. Regis, S. Colafrancesco, S. Profumo, W. J. G. de Blok, M. Massardi and L. Richter,
Local Group dSph radio survey with ATCA (III): Constraints on Particle Dark Matter
JCAP **1410** (2014) 016 [arXiv:1407.4948 [astro-ph.CO]].
26. N. Fornengo, L. Perotto, M. Regis and S. Camera,
Evidence of cross-correlation between the CMB lensing and the gamma-ray sky
Astrophys. J. **802** (2015) L1 [arXiv:1410.4997 [astro-ph.CO]].
27. S. Camera, M. Fornasa, N. Fornengo and M. Regis,
Tomographic-spectral approach for dark matter detection in the cross-correlation between cosmic shear and diffuse gamma-ray emission
JCAP **1506** (2015) 06, 029 [arXiv:1411.4651 [astro-ph.CO]].
28. S. Colafrancesco, M. Regis, P. Marchegiani, G. Beck, R. Beck, H. Zechlin, A. Lobanov and D. Horns,
Probing the nature of Dark Matter with the SKA
PoS AASKA **14** (2015) 100 [arXiv:1502.03738 [astro-ph.HE]].
29. M. Regis, J. Q. Xia, A. Cuoco, E. Branchini, N. Fornengo and M. Viel,
Particle dark matter searches outside the Local Group
Phys. Rev. Lett. **114** (2015) 24, 241301 [arXiv:1503.05922 [astro-ph.CO]].
30. M. Regis
Dwarf Spheroidal Galaxies: Searching for Diffuse Emission in the Darkest Structures
Invited contribution in “Multifrequency Behaviour of High Energy Cosmic Sources - XI”,
F. Giovannelli & L. Sabau-Graziati (eds.), Proceedings of Science MULTIF15 (2015) 011.
31. A. Cuoco, J. Q. Xia, M. Regis, E. Branchini, N. Fornengo and M. Viel,
Dark matter searches in the gamma-ray extragalactic background via cross-correlations with galaxy catalogues
Astrophys. J. Suppl. **221** (2015) no.2, 29, [arXiv:1506.01030 [astro-ph.HE]].

32. S. Camera, M. Fornasa, N. Fornengo and M. Regis,
Detecting particle dark matter signatures by cross-correlating γ -ray anisotropies with weak lensing
J. Phys. Conf. Ser. **718** (2016) no.3, 032003.
33. H. S. Zechlin, A. Cuoco, F. Donato, N. Fornengo and M. Regis,
Statistical Measurement of the Gamma-ray Source-count Distribution as a Function of Energy
Astrophys. J. **826** (2016) no.2, L31 [arXiv:1605.04256 [astro-ph.HE]].
34. E. Branchini, S. Camera, A. Cuoco, N. Fornengo, M. Regis, M. Viel and J. Q. Xia,
Cross-correlating the gamma-ray sky with catalogs of galaxy clusters
Astrophys. J. Suppl. **228** (2017) no.1, 8 [arXiv:1612.05788 [astro-ph.CO]].
35. H. S. Zechlin, A. Cuoco, F. Donato, N. Fornengo and M. Regis,
Statistical measurement of the gamma-ray source-count distribution as a function of energy
AIP Conf. Proc. **1792** (2017) no.1, 070020.
36. M. Regis,
Particle dark matter: A multimessenger endeavour
Il Nuovo Cimento della Societ Italiana di Fisica 40 C (2017) no.1, 50.
37. T. Troster, S. Camera, M. Fornasa, M. Regis *et al.*,
Cross-correlation of weak lensing and gamma rays: implications for the nature of dark matter
Mon. Not. Roy. Astron. Soc. **467** (2017) 2706 [arXiv:1611.03554 [astro-ph.CO]].
38. S. Ando, M. Fornasa, N. Fornengo, M. Regis and H. S. Zechlin,
Astrophysical interpretation of the anisotropies in the unresolved gamma-ray background
Phys. Rev. D **95** (2017) no.12, 123006 [arXiv:1701.06988 [astro-ph.HE]].
39. M. Regis, L. Richter and S. Colafrancesco,
Dark matter in the Reticulum II dSph: a radio search
JCAP **1707** (2017) no.07, 025 [arXiv:1703.09921 [astro-ph.HE]].
40. M. Regis
Correlation between Gamma-ray Sky and Catalogs of Galaxies and Galaxy Clusters
Invited contribution in “Multifrequency Behaviour of High Energy Cosmic Sources - XII”,
F. Giovannelli & L. Sabau-Graziati (eds.), Proceedings of Science MULTIF17 (2017) 015.
41. M. Regis
Intepreting extragalactic backgrounds via angular cross-correlations
Proceedings of ‘The European Physical Society Conference on High Energy Physics’,
Proceedings of Science EPS-HEP2017 (2017) 023.
42. A. De Angelis *et al.* [e-ASTROGAM Collaboration],
Science with e-ASTROGAM (A space mission for MeV-GeV gamma-ray astrophysics)
JHEAp **19** (2018) 1, White Book, [arXiv:1711.01265 [astro-ph.HE]].

43. J. Singal *et al.*,
The Radio Synchrotron Background: Conference Summary and Report
Publ. Astron. Soc. Pac. **130** (2018) 985 [arXiv:1711.09979 [astro-ph.HE]].
44. S. Ammazzalorso, N. Fornengo, S. Horiuchi and M. Regis,
Characterizing the local gamma-ray Universe via angular cross-correlations
Phys. Rev. D **98** (2018) no.10, 103007 [arXiv:1808.09225 [astro-ph.CO]].
45. M. Ackermann *et al.* [Fermi-LAT Collaboration], S. Ammazzalorso, N. Fornengo, and M. Regis,
Unresolved Gamma-Ray Sky through its Angular Power Spectrum
Phys. Rev. Lett. **121** (2018) no.24, 241101 [arXiv:1812.02079 [astro-ph.HE]].
46. A. Weltman *et al.*,
Fundamental Physics with the Square Kilometer Array
Publications of the Astronomical Society of Australia, 37, E002 [arXiv:1810.02680 [astro-ph.CO]].
47. A. Caputo, M. Regis, M. Taoso and S. J. Witte,
Detecting the Stimulated Decay of Axions at Radio Frequencies
JCAP **1903** (2019) 027 [arXiv:1811.08436 [hep-ph]].
48. M. Colavincenzo, X. Tan, S. Ammazzalorso, S. Camera, M. Regis, J. Q. Xia and N. Fornengo,
Searching for gamma-ray emission from galaxy clusters at low redshift
Mon. Not. Roy. Astron. Soc. **491** (2020) no.3, 3225 [arXiv:1907.05264 [astro-ph.CO]].
49. S. Ammazzalorso, D. Gruen, M. Regis *et al.*,
Detection of cross-correlation between gravitational lensing and gamma rays
Phys. Rev. Lett. **124** (2020) no.10, 101102 [arXiv:1907.13484 [astro-ph.CO]].
50. E. Pinetti, S. Camera, N. Fornengo and M. Regis,
Synergies across the spectrum for particle dark matter indirect detection: how HI intensity mapping meets gamma rays
JCAP **2007** (2020) 044 [arXiv:1911.04989 [astro-ph.CO]].
51. A. Caputo, M. Regis and M. Taoso,
Searching for Sterile Neutrino with X-ray Intensity Mapping
JCAP **2003** (2020) 03 [arXiv:1911.09120 [astro-ph.CO]].
52. S. Manconi, M. Korsmeier, F. Donato, N. Fornengo, M. Regis and H. Zechlin,
Testing gamma-ray models of blazars in the extragalactic sky
Phys. Rev. D **101** (2020) no.10, 103026 [arXiv:1912.01622 [astro-ph.HE]].
53. G. Heald *et al.*,
Magnetism Science with the Square Kilometre Array
Galaxies **8** (2020) 3 [arXiv:2006.03172 [astro-ph.GA]].
54. S. Manconi, F. Donato, N. Fornengo, M. Korsmeier and M. Regis,
Probing the gamma-ray source populations with photon count statistics and anisotropies
PoS **ICRC2019** (2020), 581.

55. M. Regis, M. Taoso, D. Vaz, J. Brinchmann, S. L. Zoutendijk, N. Bouché and M. Steinmetz, *Searching for Light in the Darkness: Bounds on ALP Dark Matter with the optical MUSE-Faint survey* Phys. Lett. B in press, [arXiv:2009.01310 [astro-ph.CO]].