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Decreto Rettore Università di Roma “La Sapienza” n **796/2023 del 04.04.2023**

Eleonora Di Valentino
Curriculum Vitae

Manchester, 16/05/2023

Part I – General Information

Full Name Eleonora Di Valentino
Spoken Languages Italian, French, English

Part II – Education

- 2010/2014: PhD research in Physics at the University of Rome ‘La Sapienza’. Thesis: 'Constraining Fundamental Physics with Current Cosmological Data' (https://inspirehep.net/record/1330045). Advisor Prof. Alessandro Melchiorri. PhD viva 27th January 2015.
- 2008/2010: Master degree in Theoretical Physics at The University ‘La Sapienza’ of Rome, with final mark 110/110 and laude. Thesis: 'The gravitational waves and the anisotropy of the cosmic microwave background'. Supervisor Prof. Alessandro Melchiorri. Main Arguments: Inflation, tensor perturbations, forecasts with Planck.
- 2004/2007: 3 year degree in Physics and Astrophysics at the University ‘La Sapienza’ of Rome, with final mark 110/110 and laude. Thesis: ‘The curvature of the universe’, supervisor Prof. Paolo de Bernardis. Main Arguments: Standard Cosmological model, CMB.

Part III – Academic Appointments

- Royal Society Dorothy Hodgkin Research Fellow, School of Mathematics and Statistics, University of Sheffield, Sheffield, UK (Oct 2021, current).
- Addison-Wheeler fellow, Institute of Advanced Study, Department of Physics, Durham University, UK (Dec 2020, Sept 2021).
- Postdoctoral Research associate at the JBCA, School of Physics & Astronomy, The University of Manchester, UK (Aug 2017, Nov 2020).
- Lagrange fellow postdoctoral position at Institut d’Astrophysique de Paris, Paris, France (Mar 2015, Jul 2017).
- Engineer of studies at Institut d’Astrophysique de Paris, Paris, France (Nov 2014, Feb 2015).

Part IV – Teaching experience

- PhD Co-Supervisor – Yuejia Zhai from Dec 2022
- PhD Supervisor – Enrico Specogna from Oct 2022

- 08/2022 Lecture at the SLAC Summer Institute 2022 (annual two-week-long Summer School) about the solutions to the Hubble Tension.
- Master degree Co-Advisor – Matteo Forconi 110/110 cum laude, Thesis Title: “Constraining Inflationary Models through Primordial Gravitational Waves”, March 2021 in the University of Rome ‘La Sapienza’.
- Undergraduate Co-Advisor - Rafif Rabbani, Institut Teknologi Bandung (ITB) in Indonesia, July 2020, Thesis Title: “Interaction in the Dark Sector”.
- Master degree Co-Advisor - Federica Guidi 110/110 cum laude, Thesis Title: “Expected constraints on cosmological parameters from the Euclid satellite”, July 2017 in the University of Rome ‘La Sapienza’.
- Masters project Supervisor 2017/2018 – Oliver Long and Cameron Brown, University of Manchester
- 2019/2020: Physics Tutor for the 2nd year tutorials at the University of Manchester.

Part V - Society memberberships, Awards and Honors

- 2022 “Outstanding Referee” for the Physical Review journals of the American Physical Society.
- 2021 Alfredo Di Braccio Prize for a researcher in Physics awarded by the Accademia dei Lincei.
- 2019 Giuseppe and Vanna Cocconi EPS Prize as a member of the Planck collaboration
- 2018 Gruber Cosmology Prize as a member of the Planck collaboration
- 2017 Premio Minerva alla Ricerca (Minerva 2017 Research Award) of the Fondazione Roma Sapienza, for the achievements reached at the first stages of the career.

Part VI - Funding Information [grants as PI-principal investigator or I-investigator]

- 2022 eCOST CosmoVerse [CA21136] co-proposer and vice-chair.
- 2021 Enhanced Research Expenses funding Royal Society, UK - £149k
- 2021 Royal Society Dorothy Hodgkin Research Fellowship, UK - £467k+£5k+£6k

Part VII – Research Activities

- PLANCK (HFI)
- DES (Modified Gravity and extensions)
- CMB-S4 (member of the EDI committee and publication board)
- EUCLID, LSST.
- CORE, PICO, PRISM, LISTZ.
- Member of the CANTATA eCOST project.
- Vice-chair of the CosmoVerse eCOST project.
- Leader of the SNOWMASS Cosmology Intertwined (CF7) working Group, and coordinator of its meetings, telecons and workshops.

Part VIII - Conferences

- “International Conference Dark Matter and Stars”, IST, Lisbon, 3rd to 5th May 2023, colloquium for the conference and physics department.
- “CERN Neutrino Platform Pheno Week 2023", online participation, CERN, 13th to 17th March 2023, invited speaker.
- “Mini-Workshop Cosmology Talks”, online, 1st Feb 2023, invited expert.
- “Probing the quantum origin of spacetime”, The Royal Society meeting, Northampton, 23rd to 24th January 2023, invited speaker.
- “32nd meeting of Indian Association for General Relativity and Gravitation (IAGRG32)”, online, Kolkata, India, 19th to 21st December 2022, invited speaker.
- “UK HEP Forum 2022: Neutrinos: What? Where from? Where to?”, Abingdon, UK, 22nd-23rd November 2022, invited speaker.
- "QFC2022- Quantum gases, fundamental interactions and cosmology”, Pisa, Italy, 26th to 28th October 2022, keynote speaker.
- “Seattle Snowmass Summer Meeting 2022”, online, Seattle, USA, 16th to 27th July 2022, invited parallel speaker.
- “Invisible’ 22”, Paris, France, 20th to 24th June 2022, invited plenary speaker.
- “IFPU 2022”, Trieste, Italy, 13th to 16th June 2022, invited speaker.
- “Planck 2022”, Paris, France, 30th May to 3rd June 2022, invited plenary speaker.
- “IberiCOS 2022”, Barcelona, Spain, 4th to 6th May 2022, invited speaker.
- “Meeting XXX, Division of Gravitation and Mathematical Physics”, Institute of Nuclear Sciences UNAM, Mexico, 7th to 8th April 2022, invited speaker.
- “@FlipPhysics”, IFIC Valencia, Spain, 20th to 25th March 2022, invited speaker.
- “International Workshop on Emerging Trends in Gravitation and Cosmology”, online workshop Presidency University of Kolkata, India, 16th to 19th December 2021, invited speaker.
- “27th International Conference of International Academy of Physical Sciences on Advances in Relativity and Cosmology (PARC-2021)”, online workshop BITS Pilani, 26th to 28th October 2021, invited plenary talk.
- “Cosmology Frontier in Particle Physics: Astroparticle Physics and Early Universe”, online workshop NTU & NTHU, 12th to 13th October 2021, invited talk.
- “AAPPS-DACG Workshop 2021 on Astrophysics, Cosmology and Gravitation”, online Workshop, 4th to 8th October 2021, invited plenary talk.
- “Bright Ideas for a Dark Universe”, DESY Hamburg, 21st to 24th September 2021, invited parallel talk.
- “Alternative Gravities and Fundamental Cosmology – ALTECOSMOFUN’21”, online event, 6th to 10th September, invited plenary talk.
- “Sixteenth Marcel Grossmann Meeting”, online event, 5th to 10th July 2021, invited parallel talk.
- “A (Hubble) Tension Headache”, University of Southampton, online event, 1st to 3rd March

2021, invited talk.

- “Tehran Meeting on Cosmology at the Crossroads”, online event, 22nd to 25th February 2021, invited talk.
- “Progress on Old and New Themes in cosmology (PONT) 2020”, online event, 7th to 11th December 2020, invited talk
- “7th Korea-Japan Workshop on Dark Energy”, online event, 7th to 10th December 2020, invited talk.
- “Snowmass Community Planning Meeting – Virtual”, online event, 5th to 8th October 2020, invited parallel talk.
- “Virtual UK Cosmo Meeting”, online event, 22nd September 2020, invited talk.
- “5th CANTATA Meeting (CANTATA FINALE) online event”, 17th to 18th September 2020, invited plenary talk.
- “Third workshop: Quantum gravity meets dark energy”, online event, 22nd to 24th June 2020, invited talk.
- “Cortona Young”, online event, 27th to 29th May 2020, plenary talk.
- “NuPhys 2019: Prospects in Neutrino Physics”, London, 16th to 18th December 2019, invited talk.
- “5th International Electronic Conference on Entropy and its applications”, https:// ecea-5.sciforum.net, 18th to 30th November 2019, keynote talk.
- “VII Meeting on Fundamental Cosmology”, Universidad Complutense de Madrid, Madrid, 9th to 11th September 2019, keynote talk.
- “Cosmological constraints on the standard model and its extensions”, IoP Joint APP and HEPP Annual Conference 2019, Imperial college London, 8th to 10th April 2019, invited talk.
- “29th Rencontres de Blois”, Blois, Loire Valley, France, from 29th May to 2nd June 2017, invited talk.
- “Origin of Mass 2017”, CP3-Origin, SDU, Odense, Denmark, from 1st to 4th May 2017, contributed talk.
- 'Now 2016. Neutrino Oscillation Workshop', Otranto, Italy, from 4th to 11th September 2016, contributed talk.
- 'The 12th International Workshop Dark Side of the Universe', University of Bergen, Norway, from 25th to 29th July 2016, contributed talk.
- 'Towards a next space probe for CMB observations and cosmic origins exploration', CERN, Geneve, from 17th to 20th May 2016, invited talk.
- 'The Universe of Neutrinos', SLAC, Menlo Park, California, from 10th to 21st August 2015, poster.
- 'Fourteenth Marcel Grossmann Meeting', University of Rome 'La Sapienza', Italy, from 12th to 18th July 2015, contributed talk.
- 'Pascos', ICTP, Trieste, Italy, from 29th June to 3rd July 2015, contributed talk.
- 'Meeting on fundamental Cosmology', Santander, Spain, from 17th to 19th June 2015, contributed talk.

- 'Essential Cosmology for the Next Generation 2014', Cabo San Lucas, Mexico, from 13th to 17th January 2014, poster.
- '7th TRR Winter School', Passo del Tonale, Italy, from 1st to 6th December 2013, contributed talk.
- 'Workshop on New Light in Cosmology from the CMB', Trieste, Italy, from 29th July to 2nd August 2013, invited talk.
- 'New horizons for observational cosmology', Varenna, Italy, from 30th June to 6th July 2013, poster.

Part IX - Seminars

- “Tensions in cosmology and implications for the standard model”, GR-QC-Cosmo-Astro online seminar, Romania, 23rd February 2023.
- “Tensions in cosmology and implications for the standard model”, Early Universe & AliCPT online Forum, University of Science and Technology of China, 15th February 2023.
- “Tensions in cosmology and implications for the standard model”, Theoretical cosmological seminars, Institute of Cosmology and Gravitation, Portsmouth, 8th February 2023.
- “Hubble tension: theoretical interpretations”, Astroparticle and Cosmology Journal Club, Department of Physics in Torino, 13th December 2022.
- “An overview on cosmological tensions”, virtual colloquium Physics University of North Carolina at Chapel Hill, 19th September 2022.
- “An overview on cosmological tensions”, virtual seminar National Observatory, Rio de Janeiro, 12th May 2022.
- “Unraveling the Hubble constant tension”, Online Pheno Journal Club in La Sapienza & Frascati, Rome, 24th February 2022.
- “Cosmological tensions: hints for a new concordance model?”, zoom Cosmology Lunch seminar, Cambridge UK, 14th February 2022.
- “Cosmological tensions: hints for a new concordance model?”, zoom Heidelberg cosmology seminar, 26th January 2022.
- “Neutrinos, Thermal Axions and Cosmology”, zoom CAT seminar series, University of Gottingen, 17th January 2022.
- “Cosmological tensions: hints for a new concordance model?”, zoom APC colloquium, Paris, 12th November 2021.
- “Cosmological tensions: hints for a new concordance model?”, Northeastern University, online physics colloquium, 4th November 2021.
- “Cosmological tensions: hints for a new concordance model?”, Observatoire astronomique de Strasbourg, online seminar, France, 22nd October 2021.
- “Cosmological tensions: hints for a new concordance model?”, Joint University of Geneva - EPFL zoom colloquium, Observatory of Sauverny and Geneva Observatory, 28th September 2021.
- “Cosmological tensions: hints for a new concordance model?”, google meet seminar, Centre for Theoretical Physics Jamia Millia Islamia, New Delhi, India, 14th July 2021.

- “Investigating Cosmic Discordances”, zoom seminar, National Observatory of Athens, IAASARS seminar, 26th May 2021.
- “Investigating Cosmic Discordances”, zoom seminar King's College London, Theoretical Particle Physics & Cosmology group, 5th May 2021.
- “Investigating Cosmic Discordances”, zoom seminar Max-Planck-Institute for Nuclear Physics Particle and Astroparticle, Heidelberg, 3rd May 2021.
- “Investigating Cosmic Discordances”, zoom seminar Institute of Astrophysics and Space Science (IA) in Lisbon, 15th March 2021.
- “Anomalies and Tensions in Cosmology”, zoom seminar IPPP, 22nd January 2021.
- “Anomalies and Tensions in Cosmology”, zoom seminar Niels Bohr International Academy, 18th January 2021.
- “Cosmic discordances”, zoom seminar APCTP, 28th July 2020.
- “Cosmic discordances”, zoom seminar Fermilab, 1st June 2020.
- “Cracks in LCDM?”, Astrophysics Research Institute Liverpool John Moores University, 4th March 2020.
- “Cracks in LCDM?”, Queen Mary University of London, 22nd January 2020.
- “Cosmology in tension”, Virtual Institute of Astroparticle physics, 13th December 2019.
- “Cosmology in tension”, University of Sheffield, 22nd November 2019.
- “Cosmology in tension”, University of Plymouth, 30th October 2019.
- “Unraveling the Hubble constant tension”, University of Liverpool, 2nd April 2019.
- “Tensions and extensions of the standard cosmological model”, University of Lancaster, 20th March 2018.
- “Tensions and extensions of the standard cosmological model”, King’s College of London, 14th March 2018.
- “New constraints on extensions of the standard cosmological model”, LBNL, Berkeley, 5th January 2017.
- “New constraints on extensions of the standard cosmological model”, Joint Cosmology Lunch Seminar at DAMTP, Cambridge, 28th November 2016.
- “Constraining fundamental physics with Cosmology”, Post doc talk at IAP, Paris 23rd June 2015.
- “Planck 2015 results”, ICAP meeting at IAP, Paris, 12th February 2015.
- “Constraining fundamental physics with current cosmological data”, DESY, Hamburg, 24th November 2014.
- “New Constraints on Dark Radiation”, CERN, 2nd October 2013.
- “Planck Constraints on Dark Radiation”, CNRS laboratory, ANNECY, 3rd October 2013.
- “Constraints on Dark Radiation Candidates”, University of Geneva, Geneva, 4th October 2013.

Part X - Fields of Research

Cosmological tensions, Cosmic Microwave Background, Data Analysis, Neutrino Physics, Axion

cosmology, Theoretical Cosmology, CMB lensing, Inflation and primordial perturbations, Dark energy and Modified Gravity, Gravitational Waves

Part XI – Services:

- Peer review for Astrophysics and Cosmology Journals: JCAP, PRD, PRL, MNRAS, Nature Astronomy, ApJ, EPJC, EPJP, Symmetry, Universe, Galaxies, Entropy, PDU, JHEAP, PRX, Astronomy & Astrophysics, Science, Reviews of Modern Physics, New Astronomy Reviews, Annalen der Physik, General Relativity and Gravitation.
- Referee and Expert team Panel of the OPUS and PRELUDIUM grant proposals for the National Science Center, Poland
- Referee for the 2022 SONATINA grant proposals for the National Science Center, Poland
- Referee of the FONDECYT Regular Competition, Chile.
- Referee of the 2020 Fellowship proposal of the University of Strasbourg Institute for Advanced Study (USIAS)
- Referee of the INAF PRIN, Italy.
- Referee of the UKRI Future Leaders Fellowships scheme.
- Referee of the DiRAC HPC proposals in the UK.
- Referee of STFC fellowships in the UK.
- Referee for the Irish Research Council, Ireland.
- Review Panel for the NASA Hubble Fellowship Program (NHFP)
- Referee of the Master of Philosophy (Science) Thesis of K. Redzikultsava for the University of Sidney in Aug. 2019.
- Member of the committee for the PhD thesis of Nikki Arendse for the University of Copenhagen in Dec 2021.

Part XII – Editor:

- Member of the Editorial Board for Entropy MDPI and Symmetry MDPI
- Associate Editor in Frontiers in Physics - High-Energy and Astroparticle Physics
- Guest Editor for a Special Issue of Symmetry MDPI “Anomalies and Tensions of the Cosmic Microwave Background”
- Guest Editor for a Special Issue of Universe MDPI “Dark Matter and Dark Energy: Particle Physics, Cosmology, and Experimental Searches”
- Guest Editor for a Special Issue of Universe MDPI “Modified Theories of Gravitation for the resolution of the LCDM tensions”
- Invited Editor (co-editor Dillon Brout) of the book “Hubble constant tension” for the Springer Series in Astrophysics and Cosmology

Part XIII – Summary of Scientific Achievements

- Total of 157 papers since 2011, composed of: 147 refereed publications in high-impact peer reviewed

journals, of which 49 as a first author and 10 papers under review. I also participated in 9 conference proceedings, 1 chapter of a book, 1 Meeting Report, 10 white papers (of which 1 as corresponding author), and 6 Letters of Interest (of which 4 as corresponding author).

- Considering the published papers only, according to the inSPIRES-HEP database:

Total Impact factor	740
Average Impact Factor per Publication	5.3
Total Citations	41880
Average Citations per Product	271.9
Hirsch (H) index	61

- Considering SCOPUS database:

  Total Citations 20325
  Average Citations per Product 127
  Hirsch (H) index 51

- Considering the ISI web of knowledge database:

  Total Citations 17132
  Average Citations per Product 137
  Hirsch (H) index 47

Part XIV - Maternity leaves:

- Oct 2007/Aug 2008
- Nov 2011/ Aug 2012
- Oct 2018/ Mar 2019

Part XV - Refereed Publications:

1. W. Yang, S. Pan, **E. Di Valentino**, C. Escamilla-Rivera, A. Paliathanasis, "**Exploring bulk viscous unified scenarios with Gravitational Waves Standard Sirens**", [arXiv:2301.03969 [astro-ph.CO]], *Mon. Not. Roy. Astron. Soc.* 520 (2023) 1, 1146-1154, https://doi.org/10.1093/mnras/stad115
2. **E. Di Valentino**, N. A. Nilsson, and M. Park, "**A New Test of Dynamical Dark Energy Models and Cosmic Tensions in Horava Gravity**", [arXiv:2212.07683 [astro-ph.CO]], *Mon.Not.Roy.Astron.Soc.* 519 (2023) 4, 5043-5058, https://doi.org/10.1093/mnras/stac3824
3. W. Giare', F. Renzi, O. Mena, **E. Di Valentino**, and A. Melchiorri, "**Is the Harrison-Zel'dovich spectrum coming back? ACT preference for *ns* ~1 and its discordance with Planck",** [arXiv:2210.09018 [astro-ph.CO]], *Mon.Not.Roy.Astron.Soc.* 521 (2023) 2, 2911, https://doi.org/10.1093/mnras/stad724
4. W. Giare', M. Forconi, **E. Di Valentino**, and A. Melchiorri, "**Towards a reliable**

calculation of relic radiation from primordial gravitational waves", [arXiv:2210.14159 [astro-ph.CO]], *Mon. Not. Roy. Astron. Soc.* 520 (2023) 2, https://doi.org/10.1093/mnras/stad258

5. W. Yang, W. Giare', S. Pan, **E. Di Valentino**, A. Melchiorri, and J. Silk, "**Revealing the effects of curvature on the cosmological models**", [arXiv:2210.09865 [astro-ph.CO]], *Phys.Rev.D* 107 (2023) 6, 063509, https://doi.org/10.1103/PhysRevD.107.063509
6. **E. Di Valentino**, W. Giare', A. Melchiorri, and J. Silk, "**Quantifying the global "CMB tension" between the Atacama Cosmology Telescope and the Planck satellite in extended models of cosmology**", [arXiv:2209.14054 [astro-ph.CO]], *Mon. Not. Roy. Astron. Soc. 520* (2023) 1, 210-215, https://doi.org/10.1093/mnras/stad152.
7. **E. Di Valentino,** W. Giare', A. Melchiorri, and J. Silk, "**A health checkup test of the standard cosmological model in view of recent Cosmic Microwave Background Anisotropies experiments**", [arXiv:2209.12872 [astro-ph.CO]], *Phys.Rev.D* 106 (2022) 10, 103506, https://doi.org/10.1103/PhysRevD.106.103506
8. **E. Di Valentino**, "**Challenges of the Standard Cosmological Model**", *Universe* 8 (2022) 8, 399, https://doi.org/10.3390/universe8080399
9. **E. Di Valentino**, S. Gariazzo, and O. Mena, "**Model marginalized constraints on neutrino properties from cosmology**", [arXiv:2207.05167 [astro-ph.CO]], *Phys.Rev.D* 106 (2022) 4, 043540, https://doi.org/10.1103/PhysRevD.106.043540
10. F. D'Eramo, **E. Di Valentino**, W. Giare', F. Hajkarim, A. Melchiorri, O. Mena, F. Renzi, and S. Yun, "**Cosmological Bound on the QCD Axion Mass, Redux**", [arXiv:2205.07849 [astro-ph.CO]], *JCAP* 09 (2022) 022, https://doi.org/10.1088/1475-7516/2022/09/022
11. R. C. Nunes, S. Vagnozzi, S. Kumar, **E. Di Valentino**, and O. Mena, "**New tests of dark sector interactions from the full-shape galaxy power spectrum**", [arXiv:2203.08093 [astro-ph.CO]], *Phys.Rev.D* 105 (2022) 12, 123506, https://doi.org/10.1103/PhysRevD.105.123506
12. O. Akarsu, **E. Di Valentino**, S. Kumar, M. Ozygit, and S. Sharma, "**Testing spatial curvature and anisotropic expansion on top of the LCDM model**", [arXiv:2112.07807 [astro-ph.CO]], *Phys. Dark Univ.* 39 (2023) 101162, https://doi.org/10.1016/j.dark.2022.101162
13. **E. Di Valentino** and A. Melchiorri, "**Neutrino Mass Bounds in the era of Tension Cosmology**", [arXiv:2112.02993 [astro-ph.CO]], *Astrophys.J.Lett.* 931 (2022) 2, L18, https://doi.org/10.3847/2041-8213/ac6ef5.
14. S. Gariazzo, **E. Di Valentino**, O. Mena, and R. C. Nunes, "**Robustness of non-standard cosmologies solving the Hubble constant tension**", [arXiv:2111.03152 [astro-ph.CO]], *Phys.Rev.D* 106 (2022) 2, 023530, https://doi.org/10.1103/PhysRevD.106.023530
15. G. Alestas, D. Camarena, **E. Di Valentino**, Lavrentios Kazantzidis, V. Marra, Savvas Nesseris, and Leandros Perivolaropoulos, "**Late-transition vs smooth H(z) deformation models for the resolution of the Hubble crisis**", [arXiv: 2110.04336 [astro-ph.CO]], *Phys.Rev.D* 105 (2022) 6, 6, https://doi.org/10.1103/PhysRevD.105.063538
16. **E. Di Valentino**, S. Gariazzo, C. Giunti, O. Mena, S. Pan, and W. Yang, "**Minimal dark energy: key to sterile neutrino and Hubble constant tensions?**", [arXiv: 2110.03990 [astro-ph.CO]], *Phys.Rev.D* 105 (2022) 10, 103511, https://doi.org/10.1103/PhysRevD.105.103511
17. M. Forconi, W. Giare, **E. Di Valentino**, and A. Melchiorri, "**Cosmological constraints on**

slow-roll inflation: an update", [arXiv:2110.01695 [astro-ph.CO]], *Phys.Rev.D* 104 (2021) 10, 103528, https://doi.org/10.1103/PhysRevD.104.103528

18. W. Giare, F. Renzi, A. Melchiorri, O. Mena, and **E. Di Valentino**, "**Cosmological forecasts on thermal axions, relic neutrinos and light elements**", [arXiv:2110.00340 [astro-ph.CO]], *Mon.Not.Roy.Astron.Soc.* 511 (2022) 1, 1373-1382, https://doi.org/10.1093/mnras/stac126
19. W. Liu, L. A. Anchordoqui, **E. Di Valentino**, S. Pan, Y. Wu, and W. Yang, "**Constraints from High-Precision Measurements of the Cosmic Microwave Background: The Case of Disintegrating Dark Matter with Λ or Dynamical Dark Energy**", [arXiv:2108.04188 [astro-ph.CO], *JCAP* 02 (2022) 02, 012, https://doi.org/10.1088/1475-7516/2022/02/012
20. R. Nunes and **E. Di Valentino**, "**Dark sector interaction and the supernova absolute magnitude tension**", [arXiv:2107.09151 [astro-ph.CO]], *Phys.Rev.D* 104 (2021) 6, 063529, https://doi.org/10.1103/PhysRevD.104.063529
21. F. Capozzi, **E. Di Valentino,** E. Lisi, A. Marrone, and A. Melchiorri, "**The unfinished fabric of the three neutrino paradigm**", [arXiv:2107.00532 [hep-ph]], *Phys.Rev.D* 104 (2021) 8, 083031, https://doi.org/10.1103/PhysRevD.104.083031.
22. L. A. Anchordoqui, **E. Di Valentino**, S. Pan, and W. Yang, "**Dissecting the H0 and S8 tensions with Planck + BAO + supernova type Ia in multi-parameter cosmologies**", [arXiv:2107.13932 [astro-ph.CO]], *JHEAp* 32 (2021) 28-64, https://doi.org/10.1016/j.jheap.2021.08.001
23. **E. Di Valentino,** S. Gariazzo, and O. Mena, "**Most constraining cosmological neutrino mass bounds**", [arXiv:2106.15267 [astro-ph.CO]], *Phys.Rev.D* 104 (2021) 8, 083504, https://doi.org/10.1103/PhysRevD.104.083504
24. S. Bahamonde, K. F. Dialektopoulos, C. Escamilla-Rivera, G. Farrugia, V. Gakis, M. Hendry, M. Hohmann, J. Levi Said, J. Mifsud, and **E. Di Valentino**, "**Teleparallel Gravity: From Theory to Cosmology**", [arXiv:2106.13793 [hep-ph]], *Rept.Prog.Phys.* 86 (2023) 2, 026901, https://doi.org/10.1088/1361-6633/ac9cef
25. **E. Di Valentino,** O. Mena, S. Pan, L. Visinelli, W. Yang, A. Melchiorri, D. Mota, A. Riess and J. Silk, "**In the Realm of the Hubble tension – a Review of Solutions**", [arXiv:2103.01183 [astro-ph.CO]], *Class. Quant. Grav.* (2021), https://doi.org/10.1088/1361-6382/ac086d
26. W. Yang, **E. Di Valentino,** S. Pan, A. Shafieloo and X. Li, "**Generalized Emergent Dark Energy Model and the Hubble Constant Tension**", [arXiv:2103.03815 [astro-ph.CO]], *Phys.Rev.D* 104 (2021) 6, 063521, https://doi.org/10.1103/PhysRevD.104.063521
27. **E. Di Valentino**, S. Pan, W. Yang and L. Anchordoqui, "**The touch of Neutrinos on the Vacuum Metamorphosis: is the H0 solution back?**", [arXiv:2102.05641 [astro-ph.CO]], *Phys. Rev. D* 103 (2021) 12, 123527, https://doi.org/10.1103/PhysRevD.103.123527
28. W. Yang, S. Pan, **E. Di Valentino**, O. Mena and A. Melchiorri, "**2021-H0 Odyssey: Closed, Phantom and Interacting Dark Energy Cosmologies**", [arXiv:2101.03129 [astro-ph.CO]], *JCAP* 10 (2021) 008, https://doi.org/10.1088/1475-7516/2021/10/008
29. W. Yang, **E. Di Valentino**, S. Pan, Y. Wu and J. Lu, "**Dynamical dark energy after Planck CMB final release and H0 tension**", [arXiv:2101.02168 [astro-ph.CO]], *Mon.Not.Roy.Astron.Soc.* 501 (2021) 4, 5845-5858, https://doi.org/10.1093/mnras/staa3914
30. **E. Di Valentino**, A. Melchiorri, O. Mena, S. Pan and W. Yang, "**Interacting Dark Energy**

in a closed universe", [arXix:2011.00283 [astro-ph.CO]], *Mon.Not.Roy.Astron.Soc.* 502 (2021) 1, L23-L28, https://doi.org/10.1093/mnrasl/slaa207
31. W. Giarè, **E. Di Valentino**, A. Melchiorri and O. Mena, "**New cosmological bounds on hot relics: Axions & Neutrinos**", [arXix:2011.14704 [astro-ph.CO]], *Mon.Not.Roy.Astron.Soc.* 505 (2021) 2, 2703-2711, https://doi.org/10.1093/mnras/stab1442
32. **E. Di Valentino**, "**A combined analysis of the H0 late time direct measurements and the impact on the Dark Energy sector**", [arXiv: 2011.00246 [astro-ph.CO]], *Mon.Not.Roy.Astron.Soc.* 502 (2021) 2, 2065-2073, https://doi.org/10.1093/mnras/stab187
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