

Curriculum Vitae

Di Mauro Mattia

Doctor in Physics and Astrophysics.

Postdoctoral Scholar in the Stanford University Kavli Institute for Particle
Astrophysics and Cosmology.

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PERSONAL DATA

- **First Name:** Mattia
- **Last Name:** Di Mauro
- **Gender:** Male
- **Date of Birth:** 23 November 1987
- **Place of Birth:** Torino, Italy
- **Citizenship:** Italian

STUDIES AND EMPLOYMENTS

- **Post-Doctoral** researcher in University of Stanford (starting date 01/09/2015).
- **Post-Doctoral** researcher in the University of Turin (starting and end dates 01/11/2014
31/10/2015).
- **Ph.D. in Physics and Astrophysics:** XVIII Cycle, University of Turin (2012-2014).
Joint Ph.D. Thesis between University of Turin and University of Grenoble.
Supervisor University of Turin: Prof. Fiorenza Donato.
Supervisor University of Grenoble: Dr. P. D. Serpico (LAPTH).
Student of the International Doctorate on AstroParticle Physics
(IDAPP <http://www.fe.infn.it/idapp/>).
Date of the PhD defense, Feb. 27th, 2015
- **Master Degree in Physics:** Astrophysics and Theoretical physics.
University of Turin, 2011, 110/110 magna cum laude.
Supervisor: Prof. Fiorenza Donato.
Title of the thesis: *Gamma-Rays Constraints on Galactic Dark Matter*.

- **Degree in Physics:** University of Turin, 2009, 110/110 Magna cum laude.
Supervisor: Prof. L. Fatibene.
Title of the thesis: *Conformal and Projective Structure of the Spacetime.*

LIST OF PUBLICATIONS

1. The Fermi-LAT Collaboration. *Resolving the Extragalactic γ -ray Background above 50 GeV with Fermi-LAT.* Submitted in the Physical Review Letters. arXiv:1511.00693.
2. K. Bechtol, M. Ahlers, M. Di Mauro, M. Ajello, J. Vandenbroucke. *Evidence against star-forming galaxies as the dominant source of IceCube neutrinos.* Submitted in the Physical Review Letters. arXiv:1511.00688.
3. The Fermi-LAT Collaboration. *2FHL: The Second Catalog of Hard Fermi-LAT Sources.* Accepted for the publication in the Astrophys.J. arXiv:1508.04449
4. M. Di Mauro and A. Vittino. *AMS-02 electrons and positrons: astrophysical interpretation and Dark Matter constraints.* ICRC 2015 Proceeding. arXiv:1507.08680.
5. M. Di Mauro, F. Donato, N. Fornengo and A. Vittino. *Dark matter vs. astrophysics in the interpretation of AMS-02 electron and positron data.* Submitted to Journal of Cosmology and Astroparticle Physics. arXiv:1507.07001.
6. M. Di Mauro. *Isotropic diffuse gamma-ray background: unveiling Dark Matter components beyond the contribution of astrophysical sources.* Fermi Symposium 2014 Proceeding. arXiv:1502.02566.
7. M. Di Mauro and F. Donato. *Composition of the Fermi-LAT isotropic gamma-ray background intensity: Emission from extragalactic point sources and dark matter annihilations.* Phys.Rev. D91 (2015) 12, 123001. arXiv:1501.05316.
8. F. Calore, M. Di Mauro and F. Donato. *Gamma rays from Galactic pulsars.* Proceedings of the Neutrino Oscillation Workshop. arXiv:1412.4997.
9. M. Di Mauro, F. Donato, A. Goudelis and P. D. Serpico. *New evaluation of the antiproton production cross section for cosmic ray studies.* Phys.Rev. D90 (2014) 8, 085017. arXiv:1408.0288.
10. M. Di Mauro, A. Cuoco, F. Donato, J. M. Siegal-Gaskins. *Fermi-LAT gamma-ray anisotropy and intensity explained by unresolved Radio-Loud Active Galactic Nuclei.* Journal of Cosmology and Astroparticle Physics 11 (2014) 021. arXiv:1407.3275.
11. F. Calore, M. Di Mauro, F. Donato. *Diffuse gamma-ray emission from galactic Millisecond Pulsars.* Astrophys.J. 796 (2014) 1, 14. arXiv:1406.2706

12. F. Calore, V. De Romeri, M. Di Mauro, F. Donato, J. Herpich, A. Maccio' and L. Maccione. *Uncertainties on gamma-ray anisotropy from dark matter substructures*. Monthly Notices of the Royal Astronomical Society 2014 442 1151-1156. arXiv: 1402.0512.
13. M. Di Mauro, F. Donato, N. Fornengo R. Lineros and A. Vittino. *Interpretation of AMS-02 electrons and positrons data*. Journal of Cosmology and Astroparticle Physics 04 (2014) 006. arXiv:1402.0321.
14. M. Di Mauro, F. Donato, G. Lamanna, D. Sanchez and P. D. Serpico. *Diffuse gamma-ray emission from Bl Lacertae Blazars*. Astrophys.J 786 129 (2014). arXiv:1311.5708.
15. M. Di Mauro, F. Calore, F. Donato. *Diffuse γ -ray emission from misaligned active galactic nuclei*. arXiv:1305.4200. Proceedings of Rencontres de Moriond, La Thuile, March 9th - 16th, 2013.
16. T. Bringmann, F. Calore, M. Di Mauro, F. Donato. *Updated constraints on WIMP dark matter annihilation into gamma-rays*. Phys. Rev. D 89,023012 (2014). arXiv:1303.3284
17. M. Di Mauro, F. Calore, F. Donato, M. Ajello, L. Latronico. *Diffuse γ -ray emission from misaligned active galactic nuclei*. Astrophys.J. 780 (2014) 161. arXiv:1304.0908
18. M Di Mauro, L Fatibene, M Ferraris, M Francaviglia. *Further Extended Theories of Gravitation*. Part I. Int.J.Geom.Meth.Mod.Phys.7:887-898,2010. arXiv:0911.2841.

A complete list of my publications is available at the following web page:
<http://inspirehep.net/author/profile/M.Di.Mauro.1>

SUMMER SCHOOLS, CONFERENCES AND TALKS

2012

- **International School of Astroparticle Physics 2012** (Paris 2-13 July)
Multimessenger approach in High Energy Astrophysics.
<http://isapp2012paris.sciencesconf.org/>
- **2nd School on Unification in the era of LHC UNILHC** (Valencia 27 August-7 September)
<http://itn2012.astroparticles.es/>

2013

- **Rencontres de Moriond** (La Thuile 9-16 March).
Very High Energy Phenomena in the Universe (<http://moriond.in2p3.fr/J13/>).

TALK: Diffuse gamma-ray emission from mis-aligned active galactic nuclei.

(<http://moriond.in2p3.fr/J13/transparencies/dimauro.pdf>)

- **The International School for Astroparticle Physics ISAPP 2013** (Stockholm July 29 – August 6)

Dark Matter Composition and Detection (<http://agenda.albanova.se/conferenceDisplay.py?confId=3647>)

POSTER: Diffuse gamma-ray emission from misaligned active galactic nuclei.

2014

- **High-energy-messengers: connectic the non-thermal extragalactic background.**

Chicago 2014 9-11, June (<https://kicp-workshops.uchicago.edu/hem2014/index.php>)

Talk: Composition of the Isotropic diffuse gamma-ray background and dark matter constraints (<https://kicp-workshops.uchicago.edu/hem2014/index.php>).

- **Astroparticle Physics: a joint TeVPA/IDM conference** (Amsterdam 23-28 June 2014).

<http://indico.cern.ch/event/278032/overview>

TALK: *Interpretation of AMS-02 electrons and positrons data* (<https://indico.cern.ch/event/278032/session/11/contribution/58>)

- **ISAPP 2014: Multi-wavelength and multi-messenger investigation of the visible and dark Universe** (21-30 July 2014 Villa Carlotta, Belgirate) <https://agenda.infn.it/conferenceDisplay.py?confId=6968>

- **Fifth International Fermi Symposium (Nagoya 20-24 October 2014)** <http://fermi.gsfc.nasa.gov/science/mtgs/symposia/2014/> TALK: *Composition of the Fermi-LAT IGRB and EGB and constraints on Galactic Dark Matter.* (http://fermi.gsfc.nasa.gov/science/mtgs/symposia/2014/program/09B_Dimauiromattia.pdf)

- **Invited talk** *Composition of the Fermi-LAT IGRB and EGB and constraints on Galactic Dark Matter.* II. Institut für Theoretische Physik, Desy, Hamburg. 17 November 2014.

- **Invited talk** *The composition of the Fermi-LAT IGRB: astrophysical emissions and dark matter annihilations.* Laboratoire d'Annecy-le-Vieux de Physique Théorique, France.

2015

- **Collaboration meeting** of the Fermi-LAT Collaboration at SLAC (Stanford USA) 16-20 April, 2015.

- **Invited talk** *Indirect detection of dark matter.* University of Clemson (South Carolina USA) 17 November 2014.

- **Invited talk** *The origin of the Fermi-LAT gamma-ray background*. Fourteenth Marcel Grossmann Meeting. University of Rome La Sapienza - Rome, July 12-18, 2015. <http://www.icra.it/mg/mg14/>
- **The p-He cross section measurement: a physics case from cosmic rays.** *The origin of the Fermi-LAT gamma-ray background*. University of Turin, 6-7 July 2015 *Torino*. <https://agenda.infn.it/conferenceDisplay.py?confId=9748>
- **International Conference on Topics in Astroparticle and Underground Physics** 7-11 September 2015 Turin, Italy (<http://taup2015.to.infn.it>). *Isotropic diffuse gamma ray background: emission from extragalactic sources VS dark matter annihilating particles* (http://www.taup-conference.to.infn.it/2015/day1/parallel/dmb/4_dimauro.pdf).
- Invited talk: *AMS-02 leptonic data explained with astrophysical sources and constraints on a possible dark matter contribution*. University of Stanford. October 6.
- Invited talk: *AMS-02 leptonic data explained with astrophysical sources and constraints on a possible dark matter contribution*. University of California, Santa Cruz. October 20

COLLABORATIONS

- **Member of the Fermi-LAT Collaboration** since September 2014 under the supervision of Dr. Eric Charles.

TEACHING ACTIVITY

- *Electromagnetism and optics* (Prof. Chiavassa, Degree in Physics).
Teacher assistant 2011/2012.
- *Mathematics and Biostatistics with Computer Applications* (Prof. M Capiello and L. Fatibene, Degree in Biotechnology).
Teacher assistant 2012/2013.

REFEREE

Referee for the *The Astrophysical Journal*.