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Publication List

Total number of publications - first author: 7 ; co-author: 26; h-index:14; ORCID:0000-0002-8472-3649

first author

Submitted: 1

2023 **Marcotulli L.;** Ajello M., et al. & *HEX-P Collaboration*

The High Energy X-ray Probe (HEX-P): the most powerful jets through the lens of a superb X-ray eye

Frontiers in Astronomy and Space Sciences (under review)

doi: arXiv:2311.04782

Published: 6

2022 **Marcotulli L.**

Shock waves spark blazing light from black holes

Nature, Volume 611, Issue 7937, p.673-674

doi: 10.1038/d41586-022-03768-4

Comment*: I was invited to write this publication as part of Nature News and Views. The piece highlights the first results of the IXPE mission on blazar science and its target audience is the broader scientific community.*

2022 **Marcotulli L.;** Ajello M., Paliya S. V., Urry M., Oh K., Koss M., *BASS Collaboration*

Swift-BAT blazars and their jets thorugh cosmic time

The Astrophysical Journal, Vol. 940, Issue 1, id.77, 25 pp. 25

doi: 10.3847/1538-4357/ac937f

2022 **Marcotulli L.;** Karwin C., Ajello M., Sheng Y., *Fermi-LAT Collaboration*

Bridging the gap - Fermi-LAT sources at 20-200 MeV

37th ICRC Proceedings

doi: 10.22323/1.395.0610

Comment*: although this publication has not been peer reviewed, it presents our preliminary analysis of the 20-200 MeV catalog. I am currenly co-advising a graduate student (S. Joffre) to finish this work and submit the paper for peer review.*

2020 **Marcotulli L.,** Di Mauro, M.; Ajello, M.

Source-count Distribution of Gamma-Ray Blazars

The Astrophysical Journal, Vol. 896, Issue 1, Id. 6, pp. 13

doi: 10.3847/1538-4357/ab8cbd

2020 **Marcotulli L.,** Paliya, V.; Ajello, M.; Kaur, A.; Marchesi, S. et al.

NuSTAR Perspective on High-redshift MeV Blazars

The Astrophysical Journal, Vol. 889, Issue 2, Id. 164, pp. 15

doi: 10.3847/1538-4357/ab65f5

2017 **Marcotulli L.,** Paliya, V. S.; Ajello, M.; Kaur, A.; Hartmann, D. H. et al.
High-redshift Blazars through NuSTAR Eyes
The Astrophysical Journal, Vol. 839, Issue 2, Id. 96, pp. 9
doi: 10.3847/1538-4357/aa6a17

co-authored publications

Student papers: 6

The following publications are the result of the outstanding work of students (undergraduate and graduate) whom I had the pleasure to mentor/co-advise during my PhD and current postdoc. My contributions are summarized for each of them below.

Submitted

2023 Rajguru, G.; **Marcotulli, L.** ; Ajello, M.; A. Tramacere
XMM–NuSTAR Observation and Multiwavelength SED Modelling of Blazar 4FGL J1520.8–0348
The Astrophysical Journal
Main contribution*: graduate student (G. Rajguru) co-advisor on X-ray data analysis and SED modeling; provided context for discussion and co-wrote the paper*

Published

2022 Rajagopal, M.; **Marcotulli, L.** ; Labrie K.; Marchesi S.; Ajello, M.
Identifying the 3FHL Catalog. VI. Results of the 2019 Gemini Optical Spectroscopy
The Astrophysical Journal, Vol. 165, Issue 2, Id.42, pp. 10
doi: 10.3847/1538-3881/aca1be
Main contribution*: graduate student (M. Rajagopal) co-advisor; performed broadband SED modeling of the source; provided context for discussion and co-wrote the paper*

2020 Silver, R.; Marchesi, S.; **Marcotulli, L.** ; Kaur, A.; Rajagopal, M.; Ajello, M.
Identifying the 3FHL Catalog. IV. Swift Observations of Unassociated Fermi-LAT 3FHL Sources
The Astrophysical Journal, Vol. 902, Issue 1, Id. 23, pp. 9
doi: 10.3847/1538-4357/abb317
Main contribution*: graduate student (R. Silver) mentor on X-ray data analysis, provided feedback for the science case and proof read the paper*

2020 Rajagopal, M.; **Marcotulli, L.** ; Ajello, M.; Kaur, A.; Paliya, V.; Hartmann, D.
NuSTAR Observations and Multiwavelength Modeling of the High-redshift BL Lacertae Object 4FGL J2146.5-1344
The Astrophysical Journal, Vol. 889, Issue 2, Id. 102, pp. 7
doi: 10.3847/1538-4357/ab6226
Main contribution*: graduate student co-advisor (M. Rajagopal); performed broadband SED modeling of the source; provided context for discussion and co-wrote the paper*

2019 Zhao, X.; Marchesi, S.; Ajello, M.; **Marcotulli, L.** ; Cusumano, G. et al.

Compton-thick AGNs in the NuSTAR Era. II. A Deep NuSTAR and XMM-Newton View of the Candidate Compton-thick AGN in NGC 1358

The Astrophysical Journal, Vol. 889, Issue 2, Id. 102, pp. 7

doi: 10.3847/1538-4357/aaf1a0

Main contribution*: graduate student (X. Zhao) mentor on X-ray data analysis, provided feedback for the science case and proof read the paper*

2017 Marchesi, S.; Tremblay, L.; Ajello, M.; **Marcotulli, L.** ; Paggi, A. et al.

Chandra and NuSTAR Follow-up Observations of Swift-BAT-selected AGNs

The Astrophysical Journal, Vol. 848, Issue 1, Id. 53, pp. 12

doi: 10.3847/1538-4357/aa8ee6

Main contribution*: undergraduate student (L. Tremblay) mentor on X-ray data analysis, provided feedback for the science case and proof read the paper*

Collaborative papers: 13

Submitted

2023 Boorman, P. et al. (incl. **Marcotulli L.**) & *HEX-P Collaboration*

The High Energy X-ray Probe (HEX-P): The Circum-nuclear Environment of Growing Supermassive Black Holes

Frontiers in Astronomy and Space Sciences (under review)

doi: arXiv:2311.04949

Main contribution*: provided feedback for the science case and proof read the paper*

2023 Brigthman, M. et al. (incl. **Marcotulli L.**) & *HEX-P Collaboration*

The High Energy X-ray Probe (HEX-P): Sensitive broadband X-ray observations of transient phenomena in the 2030s

Frontiers in Astronomy and Space Sciences (under review)

doi: arXiv:2311.04856

Main contribution*: provided feedback for the science case and proof read the paper*

2023 P. Peñil, J. Otero-Santos, M. Ajello, S. Buson, A. Domínguez,**L. Marcotulli**, N. Torres−Albà, J. Becerra González, J.A. Acosta-Pulido

Multiwavelength Analysis of Fermi-LAT Blazars with Low-Significance Periodicity

Monthly Notices of the Royal Astronomical Society (under review)

Main contribution*: produced the optical/UV long-term light-curves for the sources; wrote parts of the paper; provided feedback for the science case; proof read the paper*

Published

2023 P. Peñil, J.R. Westernacher-Schneider, A. Domínguez, S. Buson, J. Otero-Santos, **L. Marcotulli**N. Torres−Albà, J. Zrake

Multiwavelength Analysis of Fermi-LAT Blazars with High-Significance Periodicity: Detection of a Long-Term Rising Emission in PG 1553+113

Monthly Notices of the Royal Astronomical Society (**accepted**)

doi: arxiv:2310.12754

Main contribution*: produced the optical/UV long-term light-curves for the sources; wrote parts of the paper; provided feedback for the science case; proof read the paper*

2023 M. Negro;, M. Crnogorčević; E. Burns; E. Charles; **Lea Marcotulli**; Regina Caputo

A Cross-correlation Study between IceCube Neutrino Events and the FERMI Unresolved Gamma-Ray Sky

The Astrophysical Journal, Vol.951, Issue 1, Id. 83, pp. 14

doi: 10.3847/1538-4357/acd172

Main contribution*: produced the γ-ray blazar simulations of the population used as a main part of the analysis; wrote part of the paper; provided feedback for the science case and proof read the paper*

2019 Domínguez, A.; Wojtak, R.; Finke, J.; Ajello, M.; Helgason, K.; Prada, F.; Desai, A.; Paliya, V.; **Marcotulli, L.**; Hartmann, D. H.

A New Measurement of the Hubble Constant and Matter Content of the Universe Using Extragalactic Background Light γ-Ray Attenuation

The Astrophysical Journal, Vol. 885, Issue 2, Id. 137, pp. 7

doi: 10.3847/1538-4357/ab4a0e

Main contribution*: major contributor for the Fermi-LAT proposal that funded the project; provided feedback for the science case and proof read the paper*

2019 Paliya, Vaidehi S.; Koss, M.; Trakhtenbrot, B.; Ricci, C.; Oh, K.; Ajello, M.; Stern, D.; Powell, M. C.; Urry, C. M.; Harrison, F.; Lamperti, I.; Mushotzky, R.; **Marcotulli, L.**; Mejía-Restrepo, J.; Hartmann, D.

BAT AGN Spectroscopic Survey. XVI. General Physical Characteristics of BAT Blazars

The Astrophysical Journal, Vol. 881, Issue 2, Id. 154, pp. 12

doi: 10.3847/1538-4357/ab2f8b

Main contribution*: provided feedback for the science case and proof read the paper*

2019 Paliya, Vaidehi S.; Ajello, Marco; **Marcotulli, Lea**; Tomsick, John et al.

Supermassive black holes at high redshifts

Astro 2020 - Decadal Survey

doi: arXiv:1903.06106

Main contribution*: major contributor for writing this white paper*

2019 Marchesi, S.; Ajello, M.; Zhao, X.; **Marcotulli, L.**; Baloković, M. et al.
Compton-thick AGNs in the NuSTAR Era. III. A Systematic Study of the Torus Covering

The Astrophysical Journal, Vol. 872, Issue 1, Id. 8, pp. 19
doi: 10.3847/1538-4357/aafbeb

Main contribution*: NuSTAR data analysis of the sources*

2019 Paliya, Vaidehi S.; Ajello, M.; Ojha, R.; Angioni, R.; Cheung, C. C.; Tanada, K.; Pursimo, T.; Galindo, P.; Losada, I. R.; Siltala, L.; Djupvik, A. A.; **Marcotulli, L.**; Hartmann, D. H.
Detection of a Gamma-Ray Flare from the High-redshift Blazar DA 193

The Astrophysical Journal, Vol. 871, Issue 2, Id. 211, pp. 12
doi: 10.3847/1538-4357/aafa10

Main contribution*: provided feedback for the science case and proof read the paper*

2018 Marchesi, S.; Ajello, M.; **Marcotulli, L.**; Comastri, A.; Lanzuisi, G.; Vignali
Compton-thick AGNs in the NuSTAR Era

The Astrophysical Journal, Vol. 854, Issue 1, Id. 49, pp. 16
doi: 10.3847/1538-4357/aaa410

Main contribution*: NuSTAR data analysis of the sources; wrote part of the paper; provided feedback for the science case and proof read the paper*

2017 Paliya, Vaidehi S.; **Marcotulli, L.**; Ajello, M.; Joshi, M.; Sahayanathan, S.; Rao, A. R.; Hartmann, D.
General Physical Properties of CGRaBS Blazars

The Astrophysical Journal, Vol. 851, Issue 1, Id. 33, pp. 23
doi: 10.3847/1538-4357/aa98e1

Main contribution*: provided feedback for the science case and proof read the paper*

2016 Ajello, M.; Ghisellini, G.; Paliya, V. S.; Kocevski, D.; Tagliaferri, G.; Madejski, G.; Rau, A.; Schady, P.; Greiner, J.; Massaro, F.; Baloković, M.; Bühler, R.; Giomi, M.; **Marcotulli, L.**; D'Ammando, F.; Stern, D.; Boggs, S. E.; Christensen, F. E.; Craig, W. W.; Hailey, C. J. Harrison, F. A.; Zhang, W.
NUSTAR, SWIFT, AND GROND OBSERVATIONS OF THE FLARING MEV BLAZAR PMN J0641−0320

The Astrophysical Journal, Vol. 826, Issue 1, Id. 76, pp. 9
doi: 10.3847/0004-637X/826/1/76

Main contribution*: provided feedback for the science case and proof read the paper*

Collaborations papers: 7

The following publications are the result of several members of the collaborations I am part of. Unless otherwise specified, my main contribution has been to provide scientific feedback to the main authors and proof-read the paper.

2023 The COSI Collaboration
The Compton Spectrometer and Imager

doi: 10.48550/arXiv.2308.12362

2023 The COSI Collaboration
The cosipy library: COSI's high-level analysis software
doi: 10.48550/arXiv.2308.11436

2022 The AMEGO-X Collaboration
All-sky Medium Energy Gamma-ray Observatory eXplorer mission concept
Journal of Astronomical Telescopes, Instruments, and Systems, Volume 8, id. 044003
doi: 10.1117/1.JATIS.8.4.044003

2021 Ajello M., et al.
Gamma Rays from Fast Black-hole Winds
The Astrophysical Journal, Vol. 921, Issue 2, Id. 144, pp. 14
doi: 10.3847/1538-4357/ac1bb2

2020 The Fermi-LAT Collaboration
Fermi Large Area Telescope Fourth Source Catalog
The Astrophysical Journal, Vol. 247, Issue 1, Id. 33, pp. 37
doi: 10.3847/1538-4365/ab6bcb

2018 The Fermi-LAT Collaboration
A gamma-ray determination of the Universe's star formation history
Science, Vol. 362, Issue 6418, pp. 1031-1034
doi: 10.1126/science.aat8123

2017 Ackermann M., et al.
Gamma-Ray Blazars within the First 2 Billion Years
The Astrophysical Journal, Vol. 837, Issue 1, Id. L5, pp. 8
doi: 10.3847/2041-8213/aa5fff