



ALLA MAGNIFICA RETTRICE
DELL'UNIVERSITÀ DEGLI STUDI DI MILANO

COD. ID: A046

Il sottoscritto chiede di essere ammesso a partecipare alla selezione pubblica, per titoli ed esami, per il conferimento di un assegno di ricerca presso il Dipartimento di Fisica
Responsabile scientifico: Prof. Milani Paolo

GUGLIELMO MASTROSERIO

CURRICULUM VITAE

INFORMAZIONI PERSONALI

Cognome	Mastroserio
Nome	Guglielmo

OCCUPAZIONE ATTUALE

Incarico	Struttura
Assegnista di ricerca	Università degli Studi di Milano

ISTRUZIONE E FORMAZIONE

Titolo	Corso di studi	Università	anno conseguimento titolo
Dottorato Di Ricerca	Fisica	Università di Amsterdam	2019
Diploma Di Specializzazione Medica			
Laurea Magistrale o equivalente	FISICA LM-17	Università degli Studi di Milano	2014
Master			
Altro			

ISCRIZIONE AD ORDINI PROFESSIONALI

Data iscrizione	Ordine	Città

LINGUE STRANIERE CONOSCIUTE

lingue	livello di conoscenza
Italiano	Madrelingua
Inglese	Avanzato

PREMI, RICONOSCIMENTI E BORSE DI STUDIO

anno	Descrizione premio
2024	Linea 4 - University of Milan internal grant 18 000 euros
2023	Marie Skłodowska-Curie Individual Fellowship: 172 000 euros
2023	IXPE cycle 1, available budget as PI: \$74 313 (received and passed to Co-I)
2021	NICER cycle 4, available budget as PI: \$44 000 (not received since not triggered)
2020	NICER cycle 3, available budget as PI: \$37 500 (received)
2017	UvA385 Grant: 3000 euros for long-term visit in Oxford
2016-2017	Leids Kerkhoven-Bosscha Fonds (LKBF) Grant: 600 euros + 400 euros + 550 euros for working visits during the PhD



ATTIVITÀ DI FORMAZIONE O DI RICERCA

Current position

- 2023 - 2025 Marie Skłodowska-Curie Fellow, presso Dipartimento di Fisica, Università degli Studi di Milano, Italy

Education and key qualifications

- 2015-2019 PhD: *Measuring properties of accreting black holes with X-ray reverberation*
Anton Pannekoek Institute for Astronomy, Universiteit van Amsterdam, The NL
Supervisor: Michiel van der Klis
- 2014 Master's degree in Physics 110/110
Dipartimento di Fisica, Università degli Studi di Milano, Italy

Previous position(s)

- 2022 - 2023 Postdoctoral position: Osservatorio Astronomico di Cagliari, INAF, Italy
- 2020 - 2023 Postdoctoral Scholar: Space Radiation Lab, California Institute of Technology, USA
Member of the Science Operational Center of the NuSTAR telescope
- 2019 Postdoctoral position (2 months): Anton Pannekoek Institute for Astronomy, Universiteit van Amsterdam, The NL
- 2014 - 2015 Internship in management: Bending Spoons (tech-company), Milan, Italy

ATTIVITÀ PROGETTUALE

Anno	Progetto
Observational proposals:	
2024	PI of an observational proposal accepted with NASA's NuSTAR telescope during Cycle 10, which is still ongoing. The proposal includes an allocation of 60,000 seconds of observation by the telescope. The proposal identification number is #10245. The proposal focuses on the observation of a single source to distinguish the different spectral components and to constrain the orientation of the innermost regions of the black hole binary system, thanks to the combined data from NuSTAR and IXPE.
2024	PI of an observational proposal accepted with NASA's IXPE telescope during Cycle 1. The proposal includes the observation of a specific target for 350,000 seconds with the IXPE telescope and 30,000 seconds with the NICER telescope. The proposal identification number is #1124. The main objective is to apply a combined analysis of polarimetry and reverberation signals obtained from both IXPE and NICER to understand the geometry and evolution of the inner accretion flow and the corona.
2020-2023	PI of 3 observational proposals accepted with NASA's NICER telescope (Cycles 3, 4, 6). The proposals include a total of 130,000 seconds of observation. All proposals included a request for simultaneous observations with NASA's NuSTAR telescope for a total of 130,000 seconds of observation. The identification numbers of the accepted proposals are #4181, #5140, and #7126. Although with different angles, all three proposals aim to study the brightest hard state of any black hole binary system (known or unknown) that enters an outburst phase. The broad spectral coverage (0.3-80 keV) and high temporal resolution will allow the analysis of the hard state through reflection features and reverberation delay of X-ray radiation, testing different models and constraining the black hole's mass and spin.
2024-2025	Co-I of an observational proposal with the XMM-Newton telescope and the HAWK-I instrument (infrared band) at the VLT (PI Vincentelli) during Cycle AO-24, Obs ID 0963960(1-8). With this proposal, we aim to carry out the first rapid weekly monitoring program in the X-ray and infrared bands of active low-mass X-ray binaries, with 9 simultaneous observations using XMM (9 x 20 ks) and HAWK-I (9 x 1 hour) during the summer visibility window. The project aims to study astrophysical jets by analyzing the correlation between infrared and X-ray light curve variability, exploring how these jets form and are powered.
2019-2024	Co-I of more than 10 observational proposals with the NICER and NuSTAR telescopes during NICER Cycles 2, 3, 4, 5 and NuSTAR Cycles 7, 9, 10.



	Co-I of a NuSTAR Large Program during Cycle 10, with proposal ID #10216 (PI Garcia), aimed at monitoring the evolution of galactic black holes during their outburst.
2022	Co-I of an observational proposal with the HAWK-I instrument (infrared band) at the VLT (PI Vincentelli), proposal ID: 108.23MZ. The observation aims to determine the parameters of the jet originating from the accreting galactic black hole 4U 1543-47 during its transient luminosity recovery phase following the transition from the soft to the hard state.
Member of telescope missions and international collaborations:	
2020-today	Co-founder of the international Black hole Spectral-Timing And Reverberation (BlackSTAR) collaboration. This collaboration brings together members from the U.S. and European communities interested in studying the spectral and temporal characteristics of accreting black holes. My PhD at the University of Amsterdam and subsequent post-doctoral position at the California Institute of Technology (Caltech) allowed me to establish this collaboration, which currently includes groups from renowned universities such as Caltech (USA), Massachusetts Institute of Technology (USA), University of Amsterdam (NL), University of Oxford (UK), and University of Milan (ITA).
2023-today	Member of the Italian Black Hole (ItalianBH) collaboration. This collaboration includes many Italian astrophysicists (even those not working in Italy) interested in studying accreting galactic black holes. Meetings are held online biweekly to foster collaboration among Italian astronomers studying black hole accretion.
2023-2024	Member of the Science Team of the Imaging X-ray Polarimetry Explorer (IXPE) telescope. Specifically, I am a member of the following IXPE Science Topical Working Groups: Accreting Stellar-Mass BH and Radio-quiet AGN and Sgr A*. The IXPE mission, launched in December 2021 by NASA in collaboration with the Italian Space Agency (ASI), has opened new frontiers in high-energy astrophysics through X-ray polarization measurements
2022-2023	Member of the Science Team for the High-Energy X-ray Probe (HEX-P) mission, proposed as a concept mission for NASA's "Probe" class call, aimed at developing an advanced and mid-budget scientific mission. Specifically, I lead the working group focused on developing the scientific potential of Spectral-Timing analysis for compact objects within the HEX-P mission.
2020-2023	Member of the Science Team and Science Operation Center team of the NuSTAR telescope. During my post-doctoral period at Caltech, I contributed to supporting NASA's NuSTAR mission. I was responsible for the quality control of NuSTAR observations, which are later used by Principal Investigators (PIs) for their scientific analyses

TITOLARITÀ DI BREVETTI

Brevetto

CONGRESSI, CONVEGNI E SEMINARI

Data	Titolo	Sede
Invited Talks at Conferences		
2024	Invited talk at: <i>CNOC</i>	Alghero, Italy
2024	Invited talk at: <i>17th Marcel Grossman meeting</i>	Pescara, Italy
2023	Invited talk at: <i>The restless Nature of AGN</i>	Napoli, Italy
2022	3 invited talks at: <i>COSPAR</i>	Athens, Greece
2021	Invited talk at: <i>Can we use X-ray reflection spectroscopy for precision measurements of accreting black holes?</i>	Bern, Switzerland
2020	2 invited talks at: <i>The Geometry of Accretion onto Black Holes</i>	Bern, Switzerland



Invited Seminars		
2024	Invited seminar: <i>Recent findings regarding the geometrical structure of accreting black hole binaries</i>	Università Bicocca, Milan, Italy
2023	Invited seminar: <i>Constraining the geometrical properties of accreting black holes with X-ray spectral-timing techniques</i>	Tubingen, Germany
2023	Invited seminar: <i>What can we achieve with X-ray reverberation analysis?</i>	Osservatorio Astronomico di Cagliari, Italy
2020	Invited seminar: <i>Modelling X-ray reverberation in accreting black holes with reltrans</i>	IUSS Scuola Universitaria Superiore, Pavia, Italy
2019	Invited seminar: <i>Mass Measurement with X-ray Reverberation</i>	Osservatorio Astronomico di Brera, Italy
2019	Invited seminar: <i>X-ray Reverberation Mass Measurement of Cygnus X-1</i>	Cambridge, United Kingdom
2019	Invited seminar: <i>X-ray Reverberation Mass Measurement of Cygnus X-1</i>	Oxford University, United Kingdom
Organisation of conferences		
03/2025	I am the organizer and sponsor of the TRABH workshop, "The True Appearance of Black Holes," which will take place at the University of Milan (via Festa del Perdono, 7). The event is funded through the UNIMI Linea 4 grant and will bring together approximately 30 international experts in the field of black hole research, fostering the exchange of ideas and scientific collaborations.	
06/2023	Vasto Accretion Meeting 2023, Italy, LOC member	
06/2021	The Birth, Life, and Death of Black Holes, Virtual Symposium at EAS, SOC member	
10/2019	Future of X-ray Timing, Amsterdam, The Netherlands, LOC member (and contributed talk)	
Other contributions		
2024-today	Organizer of the Astro Seminars at the Department of Physics, University of Milan I am currently the organizer of the Astro Seminars at the Department of Physics of the University of Milan, which are held biweekly on Wednesday mornings. My responsibilities include contacting the speakers, welcoming them to the department, and organizing their visit, which involves meetings and discussions with members of the department's research groups.	
2016-2024	14 contributed talks accepted at international conferences	

PUBBLICAZIONI

Monografie
Articoli su riviste I have published 45 peer reviewed papers (807 citations) in highly respected astronomy journals, including Monthly Notices of the Royal Astronomical Society (MNRAS), the Astrophysical Journal (ApJ), Astronomy & Astrophysics (A&A), and Space Science Reviews. My h-index is 16 (Jan 2025), and all my publications are available at this ADS link: https://ui.adsabs.harvard.edu/public-libraries/XQshL9siQyS5ivW3hGnN0Q Metrics in Scopus.com: 42 publications, 664 citations, h-index 13 (at Jan 2025), I match the criteria for the Abilitazione Scientifica Nazionale <i>X-ray and optical polarization aligned with the radio jet ejecta in GX 339-4</i> Mastroserio, G. , De Marco, B., Baglio, M. C., Carotenuto, F., Fabiani, S., Russell, T. D., Capitanio, F., Cavecchi, Y., Motta, S., Russell, D. M., et al. The Astrophysical Journal Letters, 978, 2, L19 01/2025 <i>Rapid Mid-Infrared Spectral-Timing with JWST: I. GRS 1915+105 during a MIR-bright and X-ray-obscured state</i> Gandhi, P., Borowski, E. S., Byrom, J., Hynes, R. I., Maccarone, T. J., Shaw, A. W., Adegoke, O. K., Altamirano, D., Baglio, M. C., et al. (incl Mastroserio G.); Monthly Notices of the Royal Astronomical Society, Advance Access



01/2025
<i>Characterizing the Broadband Reflection Spectrum of MAXI J1803-298 During its 2021 Outburst with NuSTAR and NICER</i> Adegoke, O., Garcia, J., Connors, R., Ding, Y., Mastroserio, G., Steiner, J., Ingram, A., Harrison, F., Tomsick, J., Kara, E., et al. <i>The Astrophysical Journal</i> , 977, 1 12/2024
<i>Self-Consistent Disk-Reflection Analysis of the Black-Hole Candidate X-ray Binary MAXI J1813-095 with NICER, Swift, Chandra, and NuSTAR</i> Ubach, S., Steiner, J. F., Jiang, J., Garcia, J., Connors, R., Mastroserio, G. , Feng, Y., Tomsick, J. A. <i>The Astrophysical Journal</i> , 976, 1 11/2024
<i>Probing the polarized emission from SMC X-1: The brightest X-ray pulsar observed by IXPE</i> Forsblom, S., Tsygankov, S., Poutanen, J., Doroshenko, V., Mushtukov, Alexander A., Ng, M., Ravi, S., Marshall, H., Di Marco, A., La Monaca, F., Malacaria, C., Mastroserio, G. , et al. <i>Astronomy & Astrophysics</i> , 691, A216, 11 pp 11/2024
<i>Stingray 2: A fast and modern Python library for spectral timing</i> Bachetti, M., Huppenkothen, D., Stevens, A., Swinbank, J., Mastroserio, G. , Lucchini, M., Lai, E., Buchner, J., Desai, A., Joshi, G., et al.; <i>The Journal of Open Source Software</i> , 9, 7389 10/2024
<i>Proof of principle X-ray reflection mass measurement of the black hole in H1743-322</i> Nathan, E., Ingram, A., Steiner, J. F., König, O., Dauser, T., Lucchini, M., Mastroserio, G. , van der Klis, M., García, J. A., Connors, R., et al.; <i>Monthly Notices of the Royal Astronomical Society</i> , 533, 2441 09/2024
<i>Long term variability of Cygnus X-1. VIII. A spectral-timing look at low energies with NICER</i> König, O., Mastroserio, G. , Dauser, T., Méndez, M., Wang, J., García, J. A., Steiner, J. F., Pottschmidt, K., Ballhausen, R., Connors, R. M., et al.; <i>Astronomy and Astrophysics</i> , 687, A284 07/2024
<i>An IXPE-led X-Ray Spectropolarimetric Campaign on the Soft State of Cygnus X-1: X-Ray Polarimetric Evidence for Strong Gravitational Lensing</i> Steiner, J. F., Nathan, E., Hu, K., Krawczynski, H., Dovčiak, M., Veledina, A., Muleri, F., Svoboda, J., Alabarta, K., Parra, M., et al. (incl Mastroserio G.); <i>The Astrophysical Journal</i> , 969, L30 07/2024
<i>Recovery of the X-ray polarisation of Swift J1727.8–1613 after the soft-to-hard spectral transition</i> Podgorný, J., Svoboda, J., Dovčiak, M., Veledina, A., Poutanen, J., Kaaret, P., Bianchi, S., Ingram, A., Capitanio, F., Datta, S. R., et al. (incl Mastroserio G.); <i>Astronomy and Astrophysics</i> , 686, L12 06/2024
<i>Tracking the X-Ray Polarization of the Black Hole Transient Swift J1727.8–1613 during a State Transition</i> Ingram, A., Bollemeijer, N., Veledina, A., Dovčiak, M., Poutanen, J., Egron, E., Russell, T. D., Trushkin, S. A., Negro, M., Ratheesh, A., et al. (incl Mastroserio G.); <i>The Astrophysical Journal</i> , 968, 76 06/2024
<i>Dramatic Drop in the X-Ray Polarization of Swift J1727.8–1613 in the Soft Spectral State</i> Svoboda, J., Dovčiak, M., Steiner, J. F., Kaaret, P., Podgorný, J., Poutanen, J., Veledina, A., Muleri, F., Taverna, R., Krawczynski, H., et al. (incl Mastroserio G.); <i>The Astrophysical Journal</i> , 966, L35 06/2024
<i>IXPE observation confirms a high spin in the accreting black hole 4U 1957+115</i> Marra, L., Brigitte, M., Rodriguez Caverio, N., Chun, S., Steiner, J. F., Dovčiak, M., Nowak, M., Bianchi, S., Capitanio, F., Ingram, A., et al. (incl Mastroserio G.); <i>Astronomy and Astrophysics</i> , 684, A95 04/2024
<i>Highly Coherent Quasiperiodic Oscillations in the "Heartbeat" Black Hole X-Ray Binary IGR J17091–3624</i> Wang, J., Kara, E., Homan, J., Steiner, J. F., Altamirano, D., Belloni, T., van der Klis, M., Ingram, A., García, J. A., Mastroserio, G. , et al.; <i>The Astrophysical Journal</i> , 963, 118 03/2024
<i>The 2022 Outburst of IGR J17091–3624: Connecting the Exotic GRS 1915+105 to Standard Black Hole X-Ray Binaries</i> Wang, J., Kara, E., García, J. A., Altamirano, D., Belloni, T., Steiner, J. F., van der Klis, M., Ingram, A., Mastroserio, G. , Connors, R., et al.; <i>The Astrophysical Journal</i> , 963, 14 03/2024
<i>Highly Significant Detection of X-Ray Polarization from the Brightest Accreting Neutron Star Sco X-1</i> La Monaca, F., Di Marco, A., Poutanen, J., Bachetti, M., Motta, S. E., Papitto, A., Pilia, M., Xie, F., Bianchi, S., Bobrikova, A., et al. (incl Mastroserio G.); <i>The Astrophysical Journal</i> , 960, L11 01/2024
<i>First X-Ray Polarization Measurement Confirms the Low Black Hole Spin in LMC X-3</i> Svoboda, J., Dovčiak, M., Steiner, J. F., Muleri, F., Ingram, A., Yilmaz, A., Rodriguez Caverio, N., Marra, L., Poutanen, J., Veledina, A., et al. (incl Mastroserio G.); <i>The Astrophysical Journal</i> , 960, 3 01/2024



<p><i>Variability as a Predictor for the Hard-to-soft State Transition in GX 339-4</i> Lucchini, M., Ten Have, M., Wang, J., Homan, J., Kara, E., Adegoke, O., Connors, R., Dauser, T., Garcia, J., Mastroserio, G., et al.; The Astrophysical Journal, 958, 153 12/2023</p>
<p><i>Discovery of X-Ray Polarization from the Black Hole Transient Swift J1727.8-1613</i> Veledina, A., Muleri, F., Dovčiak, M., Poutanen, J., Ratheesh, A., Capitanio, F., Matt, G., Soffitta, P., Tennant, A. F., Negro, M., et al. (incl Mastroserio G.); The Astrophysical Journal, 958, L16 11/2023</p>
<p><i>Sub-second infrared variability from the archetypal accreting neutron star 4U 1728-34</i> Vincentelli, F. M., Casella, P., Borghese, A., Cavecchi, Y., Mastroserio, G., Stella, L., Altamirano, D., Armas Padilla, M., Baglio, M. C., Belloni, T. M., et al.; Monthly Notices of the Royal Astronomical Society, 525, 2509 10/2023</p>
<p><i>First Detection of X-Ray Polarization from the Accreting Neutron Star 4U 1820-303</i> Di Marco, A., La Monaca, F., Poutanen, J., Russell, T. D., Anitra, A., Farinelli, R., Mastroserio, G., Muleri, F., Xie, F., Bachetti, M., et al. (incl Mastroserio G.); The Astrophysical Journal, 953, L22 08/2023</p>
<p><i>Investigating the Impact of Vertically Extended Coronae on X-Ray Reverberation Mapping</i> Lucchini, M., Mastroserio, G., Wang, J., Kara, E., Ingram, A., Garcia, J., Dauser, T., van der Klis, M., König, O., Lewin, C., et al.; The Astrophysical Journal, 951, 19 07/2023</p>
<p><i>Reflection and Timing Study of the Transient Black Hole X-Ray Binary MAXI J1803-298 with NuSTAR</i> Coughenour, B. M., Tomsick, J. A., Mastroserio, G., Steiner, J. F., Connors, R. M. T., Jiang, J., Hare, J., Shaw, A. W., Ludlam, R. M., Fabian, A. C., et al.; The Astrophysical Journal, 949, 70 06/2023</p>
<p><i>StingraySoftware/stingray: Version 1.1.2</i> Bachetti, M., Huppenkothen, D., Khan, U., Mishra, H., Stevens, A., Sharma, S., Swinbank, J., Desai, A., Rashid, H., Martinez Ribeiro, E., Tripathi, M., Sipócz, B., Vats, D., Tappina, Mastroserio, G., et al. Zenodo 05/2023</p>
<p><i>Revealing the Spectral State Transition of the Clocked Burster, GS 1826-238, with NuSTAR StrayCats</i> Yun, S. B., Grefenstette, B. W., Ludlam, R. M., Brumback, M. C., Buisson, D. J. K., Mastroserio, G., & Pike, S. N. The Astrophysical Journal, 947, 81 04/2023</p>
<p><i>NuSTAR Spectral Analysis beyond 79 keV with Stray Light</i> Mastroserio, G., Grefenstette, B. W., Thalhammer, P., Buisson, D. J. K., Brumback, M. C., Ludlam, R. M., Connors, R. M. T., García, J. A., Grinberg, V., Madsen, K. K., et al.; The Astrophysical Journal, 941, 35 12/2022</p>
<p><i>X-Ray Reverberation Mapping of Ark 564 Using Gaussian Process Regression</i> Lewin, C., Kara, E., Wilkins, D., Mastroserio, G., García, J. A., Zhang, R. C., Alston, W. N., Connors, R., Dauser, T., Fabian, A., et al.; The Astrophysical Journal, 939, 109 11/2022</p>
<p><i>The Long-stable Hard State of XTE J1752-223 and the Disk Truncation Dilemma</i> Connors, R. M. T., García, J. A., Tomsick, J., Mastroserio, G., Grinberg, V., Steiner, J. F., Jiang, J., Fabian, A. C., Parker, M. L., Harrison, F., et al.; The Astrophysical Journal, 935, 118 08/2022</p>
<p><i>StrayCats. II. An Updated Catalog of NuSTAR Stray Light Observations</i> Ludlam, R. M., Grefenstette, B. W., Brumback, M. C., Tomsick, J. A., Buisson, D. J. K., Coughenour, B. M., Mastroserio, G., Wik, D., Krivonos, R., Jaodand, A. D., et al.; The Astrophysical Journal, 934, 59 07/2022</p>
<p><i>High-density disc reflection spectroscopy of low-mass active galactic nuclei</i> Mallick, L., Fabian, A. C., García, J. A., Tomsick, J. A., Parker, M. L., Dauser, T., Wilkins, D. R., De Marco, B., Steiner, J. F., Connors, R. M. T., Mastroserio, G., et al.; Monthly Notices of the Royal Astronomical Society, 513, 4361 07/2022</p>
<p><i>The NICER "Reverberation Machine": A Systematic Study of Time Lags in Black Hole X-Ray Binaries</i> Wang, J., Kara, E., Lucchini, M., Ingram, A., van der Klis, M., Mastroserio, G., García, J. A., Dauser, T., Connors, R., Fabian, A. C., et al.; The Astrophysical Journal, 930, 18 05/2022</p>
<p><i>MAXI and NuSTAR Observations of the Faint X-Ray Transient MAXI J1848-015 in the GLIMPSE-C01 Cluster</i> Pike, S. N., Negoro, H., Tomsick, J. A., Bachetti, M., Brumback, M., Connors, R. M. T., García, J. A., Grefenstette, B., Hare, J., Harrison, F. A., Jaodand, A., Ludlam, R., Mastroserio, G., et al.; The Astrophysical Journal, 927, 190 03/2022</p>
<p><i>Extending the Baseline for SMC X-1's Spin and Orbital Behavior with NuSTAR Stray Light</i> Brumback, M. C., Grefenstette, B. W., Buisson, D. J. K., Bachetti, M., Connors, R., García, J. A., Jaodand, A., Krivonos, R., Ludlam, R., Madsen, K. K., Mastroserio, G., et al.; The Astrophysical Journal, 926, 187 02/2022</p>



<p><i>On measuring the Hubble constant with X-ray reverberation mapping of active galactic nuclei</i> Ingram, A., Mastroserio, G., van der Klis, M., Nathan, E., Connors, R., Dauser, T., García, J. A., Kara, E., König, O., Lucchini, M., et al.; Monthly Notices of the Royal Astronomical Society, 509, 619 01/2022</p>
<p><i>Modelling correlated variability in accreting black holes: the effect of high density and variable ionization on reverberation lags</i> Mastroserio, G., Ingram, A., Wang, J., García, J. A., van der Klis, M., Cavecchi, Y., Connors, R., Dauser, T., Harrison, F., Kara, E., et al.; Monthly Notices of the Royal Astronomical Society, 507, 55 10/2021</p>
<p><i>Towards Precision Measurements of Accreting Black Holes Using X-Ray Reflection Spectroscopy</i> Bambi, C., Brenneman, L. W., Dauser, T., García, J. A., Grinberg, V., Ingram, A., Jiang, J., Liu, H., Lohfink, A. M., Marinucci, A., Mastroserio, G., et al.; Space Science Reviews, 217, 65 08/2021</p>
<p><i>Reflection Modeling of the Black Hole Binary 4U 1630-47: The Disk Density and Returning Radiation</i> Connors, R. M. T., García, J. A., Tomsick, J., Hare, J., Dauser, T., Grinberg, V., Steiner, J. F., Mastroserio, G., Sridhar, N., Fabian, A. C., et al.; The Astrophysical Journal, 909, 146 03/2021</p>
<p><i>StrayCats: A Catalog of NuSTAR Stray Light Observations</i> Grefenstette, B. W., Ludlam, R. M., Thompson, E. T., García, J. A., Hare, J., Jaodand, A. D., Krivonos, R. A., Madsen, K. K., Mastroserio, G., Slaughter, C. M., et al.; The Astrophysical Journal, 909, 30 03/2021</p>
<p><i>Disk, Corona, Jet Connection in the Intermediate State of MAXI J1820+070 Revealed by NICER Spectral-timing Analysis</i> Wang, J., Mastroserio, G., Kara, E., García, J. A., Ingram, A., Connors, R., van der Klis, M., Dauser, T., Steiner, J. F., Buisson, D. J. K., et al.; The Astrophysical Journal, 910, L3 03/2021</p>
<p><i>Multi-timescale reverberation mapping of Mrk 335</i> Mastroserio, G., Ingram, A., & van der Klis, M.; Monthly Notices of the Royal Astronomical Society, 498, 4971 11/2020</p>
<p><i>X-ray reverberation lags from the 1.5 Seyfert galaxy NGC 5273</i> Vincentelli, F. M., Mastroserio, G., McHardy, I., Ingram, A., & Pahari, M.; Monthly Notices of the Royal Astronomical Society, 492, 1135 02/2020</p>
<p><i>A public relativistic transfer function model for X-ray reverberation mapping of accreting black holes</i> Ingram, A., Mastroserio, G., Dauser, T., Hovenkamp, P., van der Klis, M., & García, J. A.; Monthly Notices of the Royal Astronomical Society, 488, 324 09/2019</p>
<p><i>An X-ray reverberation mass measurement of Cygnus X-1</i> Mastroserio, G., Ingram, A., & van der Klis, M.; Monthly Notices of the Royal Astronomical Society, 488, 348 09/2019</p>
<p><i>Multi-time-scale X-ray reverberation mapping of accreting black holes</i> Mastroserio, G., Ingram, A., & van der Klis, M.; Monthly Notices of the Royal Astronomical Society, 475, 4027 04/2018</p>
<p><i>On the different flavours of Lense-Thirring precession around accreting stellar mass black holes</i> Motta, S. E., Franchini, A., Lodato, G., & Mastroserio, G.; Monthly Notices of the Royal Astronomical Society, 473, 431 01/2018</p>

Atti di convegni

ALTRE INFORMAZIONI

<p>Supervision activities Co-supervisor of two undergraduate theses (from 01-05-2024 to 21-10-2024):</p> <ul style="list-style-type: none">• Davide Borroni, title: “<i>Comparison between optical and X-ray variability in the black hole binary system GX 339-4</i>”, October 2024, supervisor: Prof. Giuseppe Lodato, co-supervisor: Dr. Guglielmo Mastroserio. In this thesis, I supervised the analysis of optical and X-ray observations of the GX 339-4 source using the ULTRACAM instrument (optical band) and the NICER and NuSTAR telescopes (X-ray band), finding a correlation between the fast variability in both emission bands.



- **Matteo Bianchi**, title: “*Study of X-ray temporal variability in the black hole binary system GX 339-4*”, October 2024, supervisor: Prof. Giuseppe Lodato, co-supervisor: Dr. Guglielmo Mastroserio.

Co-mentor and supervisor of more than 10 students participating in the WAVE and SURF summer programs during my time at Caltech:

- **07/2022 - 08/2022** Qunfeng Jiang (bachelor student). Project title: *Spectral analysis of H 1743-322 with RXTE and NuSTAR data.*
- **06/2022 - 08/2022** Mayra Velazquez (undergrad student). Project title: *Mapping of the column density in our galaxy using Chandra and GAIA catalogues.*
- **06/2022 - 08/2022** Yash Gursahani (undergrad student). Project title: *Analysis of the NuSTAR observations of Sgr A**
- **05/2022 - 06/2022** Sanyukta Agarwal (bachelor student). Project title: *Analysis of MAXI J1803-298 with NuSTAR focusing on QPO during the transition state.*
- **07/2021 - 09/2021** Zhibo Yu (bachelor student). Project title: *Spectral-timing analysis of MAXI J1820+070 with Insight-HXMT data.*
- **07/2021 - 08/2021** Marianne Xu (high-school student). Project title: *Overview of black hole binaries archival data with RXTE, NuSTAR, and NICER.*
- **06/2021 - 08/2021** Eunice Beato (undergrad student). Project title: *Possible Disk Obscuration in the Black Hole X-Ray Binary XTE J1550-564.*
- **06/2021 - 08/2021** Jennifer Rodriguez (undergrad student). Project title: *Characterization of the Broad-band X-ray Spectrum of Black Hole Binary MAXI J1820+070.*
- **06/2021 - 08/2021** Hanbai Lyu (undergrad student). Project title: *X-ray Spectroscopy and Parameter Variation Analysis of Active Galactic Nucleus Swift J2127.4+5654.*
- **06/2020 - 08/2020** Jessie Miller (undergrad student). Project title: *Analysis of the MAXI J1820+070 soft-intermediate NuSTAR observation (conducted virtually).*

Teaching Assistant experience during my PhD at the University of Amsterdam:

As part of my PhD contract, I served as a Teaching Assistant for two Master's courses:

- **Course title:** “*Accretion onto Compact Objects*” (annual course, period: 10/2016 - 05/2017)
Responsibilities: organizing exercises, preparing mid-term exams, evaluating student projects, and grading exams.
- **Course title:** “*Star and Planet Formation*” (semester course, period: 11/2018 - 02/2019) Responsibilities: conducting exercises, tutoring students, and grading exams.

Outreach experience

I have always enjoyed the outreach part of being a researcher. I have managed to keep the connection with a few Italian schools even when I was abroad which gave me the opportunity to lecture young teenagers about astrophysical topics such as star formation and the origin of the Universe.

2020/2024 Invited outreach lectures at Secondary School Don Bosco village, Milan, Italy

2023 Public outreach talk at Sardinia Radio Telescope, Cagliari, Italy

2017 – 2019 Invited outreach lectures during the period at Secondary School Luigi Maino, Italy

2017 – 2019 Stargazing nights at the University of Amsterdam, Netherlands

Le dichiarazioni rese nel presente curriculum sono da ritenersi rilasciate ai sensi degli artt. 46 e 47 del DPR n. 445/2000. Il presente curriculum, non contiene dati sensibili e dati giudiziari di cui all'art. 4, comma 1, lettere d) ed e) del D.Lgs. 30.6.2003 n. 196.

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Luogo e data: Milano, 22/01/2025