

Cristiano Guidorzi

Associate Professor

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Research Interests

My interests mostly concern Transient Sky and Time Domain Astronomy. I have a long lasting multi-wavelength experience and interest in Gamma-Ray Bursts (GRBs) and related stellar explosions. I also developed interest in novel energetic and transient phenomena such as Fast Radio Bursts (FRBs), Tidal Disruption Events (TDEs), and Terrestrial Gamma-Ray Flashes (TGFs). On a data analysis perspective, I am interested in timing analysis techniques (e.g., power spectral analysis, singular spectrum analysis, wavelets), stochastic vs. deterministic processes, non-linear dynamical systems, and their astrophysical applications. I am also interested in astrostatistics and Bayesian analysis: PCA, exploratory data analysis, Markov-Chain Monte-Carlo techniques. Last but not least, I am still on the learning curve of machine learning techniques and eager to progress quickly.

Education

- 1999–2002 **Ph.D. Physics**, *University of Ferrara*.
“Cosmic Gamma-Ray Bursts and Other Fast Transients detected with the BeppoSAX Gamma-Ray Burst Monitor”, mentored by prof. F. Frontera
- 1991–1997 **Master’s degree in Physics**, *University of Ferrara*, magna cum laude.
“Monitoring of X and Gamma-Ray Celestial Sources with the Gamma-Ray Burst Monitor Experiment aboard the BeppoSAX Satellite”.
- 1986–1991 **High School Diploma**, *Liceo Scientifico “G. Galilei”, Ostiglia (MN)*, 60/60.

Positions

- 2021– **Associate Professor**, *Department of Physics and Earth Science, University of Ferrara*.
- 2009–2021 **Permanent Researcher**, *Department of Physics and Earth Science, University of Ferrara*.
- 2008 **Swift Postdoctoral Research Associate**, *INAF Brera Observatory, Milan*, “The physics of Gamma-Ray Bursts: observations and theory”, in collaboration with prof. G. Chincarini and the Italian *Swift* team (10 months).
- 2006–2007 **Swift Postdoctoral Research Associate**, *Department of Physics, University of Bicocca, Milan*, “Study of GRBs and their afterglow in the Swift Era”, in collaboration with prof. G. Chincarini and the Italian *Swift* team (21 months).
- 2004–2006 **Postdoctoral Marie Curie Fellowship from European Commission**, *Astrophysics Research Institute, Liverpool John Moores University, Liverpool (UK)*.
“Development of software infrastructure for early-time optical observations of Gamma-Ray Burst sources and participation in undertaking and interpreting the results”
- 2002–2004 **Postdoctoral Research Associate**, *Department of Physics, University of Ferrara*.
“Observations and Study of Gamma-Ray Bursts”, in collaboration with prof. F. Frontera and the *BeppoSAX* team

Languages

- Italian mother-tongue
English fluent, equivalent to C1

German equivalent to B1

Teaching

- 2020– **Chair**, “*Astrophysical Processes*” (ECTS: 6) for graduate students, MSc Physics.
- 2021– **Chair**, “*Multimessenger Astrophysics*” (ECTS: 6) for graduate students, MSc Physics.
- 2013–2020 **Chair**, “*Fisica Generale I*” (English: *fundamental physics, module I*; ECTS: 12) for undergraduate students, BSc Physics.
- 2017–2020 **Chair**, “*High-Energy Astrophysics*” (ECTS: 6) for graduate students, MSc Physics.
- 2009–2016 **Chair**, “*Astrophysical Measures*” (ECTS: 6) for undergraduate students, BSc Physics.
- 2009–2013 **Teaching Assistant**, “*Fisica Generale I*” for undergraduate students, BSc Physics and Engineering.
- 2002–2003 **Teaching Assistant**, “*Fisica Generale I*” for undergraduate students, BSc Engineering, at the University of Ferrara.
- Sep 2016 **Lecturer**, Ferrara, “*Transient Sky in the Time-Domain Astronomy*”, PhD school.
- Sep 2015 **Lecturer**, Ferrara, “*Transient Sky in the Era of Time-Domain Astronomy*”, PhD school.
- 1999–2000 **Teaching Assistant**, “*Probability and Statistics*” for undergraduate students, BSc Engineering, at the University of Ferrara..

Mentoring: former graduate and PhD students

- PhD, advisor **M. Marongiu**, “*Broadband modelling of relativistic explosions*”, University of Ferrara, 2020.
- PhD, advisor **R. Martone**, “*A perspective on the high-energy transient sky: from gamma-ray bursts to the search for fast radio burst counterparts*”, University of Ferrara, 2020.
- PhD, advisor **S. Dichiara**, “*A multiwavelength view of the transient sky: gamma-ray bursts and other fast transients from optical to gamma-rays*”, University of Ferrara, 2015.
- PhD, co-adv **R. Margutti**, “*Towards new insights on the gamma-ray burst physics: from X-ray spectroscopy to the identification of characteristic time scales*”, Bicocca University, Milan, 2009.
- MSc, advisor **S. Bisero**, “*Comparative analysis of absorption features in GRB afterglow spectra*”, University of Ferrara, 2022.
- MSc, advisor **A. Clerici**, “*A statistical search for Galactic transients among Swift gamma-ray bursts*”, University of Ferrara, 2015.
Research published in A&A (Clerici, Guidorzi, and La Parola, 2015)
- MSc, advisor **A. Baldeschi**, “*Study of gamma-ray burst interpulse time distribution with singular spectrum analysis*”, University of Ferrara, 2014.
Research published as a letter in A&A (Baldeschi & Guidorzi, 2015)
- MSc, advisor **A. Ursi**, “*A search for Terrestrial Gamma-Ray Flashes in the BeppoSAX Gamma-Ray Burst Monitor Archive*”, University of Ferrara, 2013.
Research published in JASTP (Ursi et al., 2017)
- MSc, advisor **M. de Bennassuti**, “*Electromagnetic counterparts of neutron star mergers: numerical studies and its implications to the new generation of radio telescopes*”, University of Ferrara, 2012.
- MSc, advisor **V. Esposito**, “*Characteristic time scales in gamma-ray bursts: power spectral density with wavelet techniques*”, University of Ferrara, 2010.

Instrumentation Activities

- Calibration Team member of the space mission BeppoSAX/GRBM (1996–2002) (spectral response function, temporal noise study).

- Calibration Team member of the RINGO polarimeter deployed at the 2-m robotic Liverpool Telescope, through which the first measurement of optical polarization during a GRB was obtained.

Service Activities

- 2006–2009 **Burst Advocate (BA) and XRT Burst Scientist (XBS)**, *Italian Swift BA weeks: prompt reaction (24/7), issuing of burst discovery GCN; real-time XRT data analysis and dissemination of results through follow-up GCN Circulars and Reports; daily monitoring of bursts.*
- 2004–now **GRB duty scientist**, *weekly rota service to monitor, promptly analyse data and coordinate optical followup activities of GRB optical counterparts with former RoboNet network of 2-m telescopes operated by the Astrophysics Research Institute, Liverpool John Moores University, now with Las Cumbres Observatory robotic network of 1-m and 2-m telescopes, on behalf of an international collaboration.*
- 1999–2002 **Ground-segment GRB duty scientist**, *Physics Department of University of Ferrara for the monitoring of the GRBM/BeppoSAX data to promptly alert the community in case of GRBs of special interest.*

Conference, Schools Organisation

- Sep 2016 **International Phd School**, “*Astrophysical Probes of Fundamental Physics*”, Ferrara.
- Sep 2015 **International Phd School**, “*Astrophysical Probes of Fundamental Physics*”, Ferrara.

Awards

- 2007 **Times Higher Education Supplement**, “*Research Project of the Year*” Award for the pioneering work with the RINGO optical polarimeter instrument deployed on the Liverpool Telescope (UK) (team member).
- 2007 **Bruno Rossi Prize**, awarded to Neil Gehrels and the team of scientists working on NASA’s Swift mission. The prize is the top award given each year by the High Energy Astrophysics Division (HEAD) of the American Astronomical Society (AAS), the largest professional organization of astronomers in the United States (team member).

Computer skills

- Operative Systems **Unix in general**, more specifically: *various linux distributions (in particular Fedora, Centos).*
- Programming Languages **C, fortran, bash and C shells, R Programming Language, Python**, *basic knowledge of C++, IDL (Research Systems), PERL, HTML.*
- Data Analysis **Various Packages**, *e.g., ftools, xronos, xspec, wcstools, gnuplot, GAIA, saomage, in addition to own code.*
- Writing **latex, openoffice.**

Proposals and Projects

- Coordinator of the approved proposal “Monitoring the high-energy side of the periodic repeater FRB 20180916B through a joint multi-wavelength approach” within the AO4 call to observe with Insight-HXMT (2021)
- Coordinator of the approved proposal “A joint multi-wavelength search for activity from nearby active fast radio burst repeaters” within the AO4 call to observe with Insight-HXMT (2021)
- Coordinator of the approved proposal “Constraining the high-energy activity associated with periodic repeater FRB180916.J0158+65” within the AO3 call to observe with Insight-HXMT (2020)

- Coordinator of the white paper “A Deep Study of the High–Energy Transient Sky” submitted to the ESA call for the Voyage 2050 long-term plan in the ESA Science Programme (2019)
- Responsible for WP 3240 “Light curve triggering” for the THESEUS mission concept proposed in response to the ESA call for medium-size mission (M5) within the Cosmic Vision Programme and selected by ESA on May 7, 2018, to enter an assessment phase study.
- PI of the project “A broadband study of Cosmic Gamma-Ray Burst Prompt and Afterglow Emission” supported by “Fondo per l’Incentivazione alla Ricerca” (FIR), call by University of Ferrara (5 kEuro) from 24-08-2018 to 31-12-2019.
- PI of the project “Gamma-ray burst broadband afterglow modelling based on hydrodynamics simulations with BOXFIT” on the GPU accelerated cluster “Fermi”, an HPC facility of the University of Ferrara (<http://fermi.unife.it/>)
- PI of ASI-INAF project “Implementation of a public BeppoSAX GRBM on-line catalogue and scientific exploitation of the GRBM data archive” for the call “Theory and Data Analysis” (ref. DA-019; 2009)
- PI of the proposal aimed to observe Anomalous X-ray Pulsars (AXPs) and SGRs with the SupIRCam deployed on the Liverpool Telescope, following the notification of outbursts from dedicated spacecrafts. Period: PL/05B.
- PI of the proposal aimed to observe optical counterparts to GRBs with the Telescopio Nazionale Galileo (TNG) for the period AOT17 (February - July 2008)

Some Seminars

- Mar 2015 **Invited seminar**, “*Waiting Times in Cosmic Explosions*”, held at the Physics Dept., University of Bath (UK).
- Dec 2014 **Lecture**, “*The Transient Sky in the Time Domain Era*”, held at the Ferrara University for grad/undergrad students.
- May 2010 **Lectures**, “*Detection Techniques and Observational Properties of GRBs*”, 2 lectures at the International School on GRBs for postgraduate astrophysics students, Cargese (France).
- Dec 2006 **Invited seminar**, “*Timing analysis of non-stationary time series: applications to high-energy astronomy*”, held at the Dept. of Physics and Mathematics, University of Ljubljana (Slovenia).

Conference Talks and Posters

- Nov 2020 **Invited talk**, “*Hermes-SP/TP 1st Scientific Workshop – Astrophysics with CubeSats*”, on line, “Time Variability in GRBs” ([link](#)).
- Oct 2019 **Invited Talk**, *Workshop ESA “Voyage 2050 Workshop – Shaping the European Space Agency’s Space Science Plan for 2035–2050”*, Madrid, “A Deep Study of the High–Energy Transient Sky” ([link](#)).
- Sep 2019 **Talk**, “*Third Insight-HXMT Calibration Meeting*”, Ferrara, “In-flight calibration and data analysis of Insight-HXMT/HE GRBs”.
- Sep 2019 **Talk**, “*Third Insight-HXMT Calibration Meeting*”, Ferrara, “BeppoSAX/GRBM background modelling with machine learning techniques: prospects for HXMT/HE”.
- Jul 2018 **Talk**, “*The 15th Marcel Grossmann Meeting*”, Rome, “Investigating Gamma-Ray Bursts by joining Insight-HXMT and Other Gamma-Ray Spacecraft”.
- Dec 2017 **Talk**, “*Insight-HXMT Calibration Meeting*”, Tübingen, “Investigating Gamma-Ray Bursts with Insight-HXMT”.
- Nov 2017 **Talk**, *Mini-workshop “Gravitational Wave–Astrophysics day”*, Ferrara, “The electromagnetic afterglow of GW170817 a.k.a. GRB170817A”.
- Jun 2012 **Talk**, *Workshop “Gamma Ray Bursts in the Era of Rapid Follow-up”*, Liverpool, “Average Power Density Spectrum of long GRBs in the Swift Era”.

- Nov 2011 **Invited talk**, *Workshop "Swift and the surprising sky: the first 7 years of Swift"*, Milan, "The prompt emission of GRBs observed by Swift".
- Mar 2010 **Talk**, *International IRAP School for PhD students*, Ferrara, "The GRB prompt emission in the optical/NIR band".
- Sep 2009 **Talk**, *Workshop "The Shocking Universe"*, Venice, "The controversial link between prompt optical and gamma-rays: temporal study of GRB 080319B".
- Sep 2009 **Poster**, *"The Shocking Universe"*, Venice, "Let there be light: the optical flash and afterglow onset of dusty GRB 080603A".
- Jun 2007 **Invited talk**, *Workshop "10th Italian-Korean Symposium on Relativistic Astrophysics"*, Pescara, "GRB 070311: a direct link between the prompt emission and the afterglow".
- Feb 2007 **Invited talks**, *Workshop "Cesare Lattes Meeting on GRBs Black Holes and Supernovae"*, Rio de Janeiro, "GRB prompt emission variability", "GRBs Empirical Correlations".
- Jun 2006 **Talk**, *Workshop "Swift and GRBs: Unveiling the Relativistic Universe"*, San Servolo (Venice), "Insights into the Properties and Circumburst Environment of Gamma Ray Bursts from Early-Time Optical Follow-ups".
- Dec 2005 **Poster**, *Workshop "The Gamma-Ray Bursts in the Swift Era"*, Washington D.C., "The Early (<1 hr) Multi-Colour Afterglow of GRB 050502a with the 2-m Liverpool Telescope".
- Nov 2005 **Poster**, *Workshop "Relativistic Astrophysics and Cosmology: Einstein's Legacy"*, Munich (Germany), "The Early (<1 hr) Multi-Colour Afterglow of GRB 050502a with the 2-m Liverpool Telescope".
- May 2005 **Talk**, *"Multifrequency Behaviour of High Energy Cosmic Sources"*, Vulcano (Italy), "The Early (<1 hr) Multi-Colour Afterglow of GRB 050502a with the 2-m Liverpool Telescope".
- Oct 2004 **Talk**, *Workshop "Gamma-Ray Bursts in the Afterglow Era - Fourth Workshop"*, Rome, "The GRB Variability/Peak Luminosity Correlation: new results".
- May 2003 **Talk**, *Workshop "The Restless High-Energy Universe"*, Amsterdam, "Giant Flares from SGR1900+14 observed with BeppoSAX GRBM: new results".
- Sep 2002 **Talk**, *Workshop "Pulsars, AXPs and SGRs observed with BeppoSAX and other observatories"*, Marsala (Sicily), "Temporal and spectral behavior of the 2001 and 1998 giant flares from SGR1900+14 as seen by BeppoSAX/GRBM".
- Sep 2002 **Talk**, *Workshop "Gamma-Ray Burst in the Afterglow Era: 3rd Workshop"*, Rome, "The BeppoSAX GRBM Catalog of GRBs".
- Oct 2000 **Talk**, *Workshop "Gamma-Ray Bursts in the Afterglow Era"*, Rome, "New Possibilities offered by BeppoSAX: automatic GRB alerts using GRBM".
- Sep 2000 **Talk**, *Workshop "IV INTEGRAL WORKSHOP"*, Alicante (Spain), "Gamma-Ray Bursts and their Direction detected with the Gamma-Ray Burst Monitor aboard BeppoSAX".
- May 2000 **Talk**, *Workshop "IX Congresso GIFCO (Italian Group of Cosmic Physics)"*, Lecce (Italy), "The Quest of Non-Triggered Gamma-Ray Bursts in the GRBM/BeppoSAX archive".
- Sep 1999 **Talk**, *Workshop "LXXXV Congresso SIF (Italian Society of Physics)"*, Pavia (Italy), "Identification of GRBs in the BeppoSAX/GRBM data".
- Oct 1997 **poster**, *Workshop "The Active X-ray Sky"*, Rome, "Monitoring of high energy X-ray sources with the BeppoSAX GRBM".

International Schools

- 12/09/2005 – **"Gamma-Ray Bursts: from Astrophysics to Cosmology"**, *International School of Space Science at Scuola Superiore "Guglielmo Reiss Romoli"*, L'Aquila (Italy).
- 16/09/2005
- 30/08/2001 – **"Astroparticle and Gamma-ray Physics in Space"**, *International School of Space Science at Scuola Superiore "Guglielmo Reiss Romoli"*, L'Aquila (Italy).
- 07/09/2001

26/12/2000 – “Cosmic Explosions: Gamma-Ray Bursts and Related Phenomena”, 18th Jerusalem Winter School in Theoretical Physics, “The Hebrew University of Jerusalem”, Jerusalem.
06/01/2001

Public Outreach

- Dec 2020 **INFN–LNF Pomeriggi di Scienza**, “Lampi di raggi gamma: quando la fine è solo l’inizio” (Italian), <https://www.youtube.com/watch?v=-h20I1JRRKI>.
- Jan 2022 **High schools**, “Zapping through the violent Universe in the multi-messenger astrophysics era”, Ferrara.
- Jan 2020 **High schools**, “Riding gravitational and e.m. waves: the as-yet unknown side of the Universe”, Ferrara.
- Jan 2018 **High schools**, “Gravitational waves and neutron star merging: birth of multi-messenger astronomy”, Ferrara.
- Jan 2016 **High schools**, “Star-swallowing monsters and other mysterious stellar explosions”, Ferrara.
- Jun 2014 **High schools**, “The research in Astrophysics in Ferrara in the 21st century”, Ferrara.
- Mar 2013 **High schools**, “Bad Boys in the Universe: stellar explosions and extreme phenomena”, Ferrara.
- Feb 2013 **UniJunior Ferrara**, Public lecture on astrophysics for children “Finchè dura il Sole” in Italian (“As long as the Sun shines”), <http://www.unijunior.it/ferrara>.
- Feb 2012 **Istituto Statale di Istruzione Superiore “Galilei”**, “Explosions from the remote Universe in real time on your home computer: the Swift satellite and gamma-ray bursts”, Ostiglia (Mantova).
- Mar 2011 **“I Venerdì dell’Universo”**, Public conference within a popular annual cycle held in Ferrara. Title “Come funzionano le stelle: manuale d’uso” in Italian (“How stars work: user manual”), <http://www.fe.infn.it/venerdi>.
- Feb 2006 **Public conference**, under invitation held at the Physics and Mathematics Department of the Ljubljana University (Slovenia): “Rapid flashes of light: from Renaissance to gamma-ray bursts”.

Military Service

- 1/1998 – **Rank of second-lieutenant**, Corps of Engineers (Corpo degli Ingegneri, 94° AUC, after passing a national selection of 8–10 graduates in physics per year) of the Italian Army, committed by the Centro Tecnico Militare delle Trasmissioni (Rome) on behalf of the Corps of Engineers as inspector for testing military apparatuses and devices devoted to the CATRIN system (system for open-field integrated transmissions).
3/1999

Science Reviewer Activities

- Referee of several peer-review journals, in particular, The Astrophysical Journal, Astronomy and Astrophysics, Monthly Notices of the Royal Astronomical Society, Experimental Astronomy, Advances in Space Research
- Member of the Italian Time Allocation Committee (TAC) for LBT-TNG-REM for the periods AOT 37, 38 (April 2018 – April 2019).

Publications

My record includes one book (in Italian) for undergraduate physics students published by one of the most relevant academic editors in Italy, along with 188 peer-reviewed papers (as of January 2021). I am first author of 27, and second author of 23. I am referee of several peer-review journals, in particular, The Astrophysical Journal, Astronomy and Astrophysics, Monthly Notices of the Royal Astronomical Society, Experimental Astronomy, Advances in Space Research.

Books

- C. Guidorzi, A. Zanzi, “Problemi di Fisica Generale I”, Casa Editrice Ambrosiana (Zanichelli), Milano, ISBN 978-88-08-28001-5 (2017)

Recent Highlight Papers

- A.E. Camisasca, C. Guidorzi, L. Amati, F. Frontera, X.Y. Song, S. Xiao, S.L. Xiong, S.N. Zhang, R. Margutti, S. Kobayashi, C.G. Mundell, M.Y. Ge, A. Gomboc, S.M. Jia, N. Jordana-Mitjans, C.K. Li, X.B. Li, R. Maccary, M. Shrestha, W.C. Xue, S. Zhang, “*GRB minimum variability timescale with Insight-HXMT and Swift. Implications for progenitor models, dissipation physics, and GRB classifications*”, *A&A*, in press (arXiv:2301.01176) (2023)
- P. Romano, P.A. Evans, E. Bozzo, V. Mangano, S. Vercellone, C. Guidorzi, L. Ducci, J.A. Kennea, S.D. Barthelmy, D.M. Palmer, H.A. Krimm, B. Cenko, “*The 100-month Swift catalogue of supergiant fast X-ray transients II. SFXT diagnostics from outburst properties*”, *A&A*, in press (arXiv:2212.05083) (2023)
- N. Jordana-Mitjans, C. G. Mundell, C. Guidorzi, R. J. Smith, E. Ramírez-Ruiz, B. D. Metzger, S. Kobayashi, A. Gomboc, I. A. Steele, M. Shrestha, “*A Short Gamma-Ray Burst from a Protomagnetar Remnant*”, *ApJ*, 939, 106 (2022)
- M. Shrestha, I. A. Steele, S. Kobayashi, R. J. Smith, C. Guidorzi, N. Jordana-Mitjans, H. Jermak, D. Arnold, C. G. Mundell, A. Gomboc, “*Polarimetry and photometry of gamma-ray bursts afterglows with RINGO3*”, *MNRAS*, 516, 1584 (2022)
- A. Rossi, D.D. Frederiks, D.A. Kann, M. De Pasquale, E. Pian, G. Lamb, P. D’Avanzo, L. Izzo, A.J. Levan, D.B. Malesani, A. Melandri, A. Nicuesa Guelbenzu, S. Schulze, R. Strausbaugh, N. R. Tanvir, L. Amati, S. Campana, A. Cucchiara, G. Ghirlanda, M. Della Valle, S. Klose, R. Salvaterra, R. L. C. Starling, G. Stratta, A.E. Tsvetkova, S.D. Vergani, A. D’Ai, D. Burgarella, S. Covino, V. D’Elia, A. de Ugarte Postigo, H. Fausey, J.P.U. Fynbo, F. Frontera, C. Guidorzi, K. E. Heintz, N. Masetti, E. Maiorano, C. G. Mundell, S. R. Oates, M.J. Page, E. Palazzi, J. Palmerio, G. Pugliese, A. Rau, A. Saccardi, B. Sbarufatti, D.S. Svinkin, G. Tagliaferri, A.J. van der Horst, D.J. Watson, M.V. Ulanov, K. Wiersema, D. Xu, and J. Zhang, “*A blast from the infant Universe: The very high-z GRB 210905A*”, *A&A*, 665, A125 (2022)
- A. Hajela, R. Margutti, J.S. Bright, K.D. Alexander, B.D. Metzger, V. Nedora, A. Kathirgamaraju, B. Margalit, D. Radice, C. Guidorzi, E. Berger, A. MacFadyen, D. Giannios, R. Chornock, I. Heywood, L. Sironi, O. Gottlieb, D. Coppejans, T. Laskar, Y. Cendes, R. Barniol Duran, T. Eftekhari, W. Fong, A. McDowell, M. Nicholl, X. Xie, J. Zrake, S. Bernuzzi, F. S. Broekgaarden, C. D. Kilpatrick, G. Terreran, V. A. Villar, P. K. Blanchard, S. Gomez, G. Hosseinzadeh, D. J. Matthews, and J. C. Rastinejad, “*Evidence for X-Ray Emission in Excess to the Jet-afterglow Decay 3.5 yr after the Binary Neutron Star Merger GW 170817: A New Emission Component*”, *ApJL*, 927, L17 (2022)
- X.Y. Song, S.L. Xiong, S.N. Zhang, C.K. Li, X.B. Li, Y. Huang, C. Guidorzi, F. Frontera, C.Z. Liu, X.F. Li, G. Li, J.Y. Liao, C. Cai, Q. Luo, S. Xiao, Q.B. Yi, Y.G. Zheng, D.K. Zhou, J.C. Liu, W.C. Xue, Y.Q. Zhang, C. Zheng, Z. Chang, Z.W. Li, X.F. Lu, A.M. Zhang, Y.F. Zhang, Y.J. Jin, T.P. Li, F.J. Lu, L.M. Song, M. Wu, Y.P. Xu, X. Ma, M.Y. Ge, S.M. Jia, B. Li, J.Y. Nie, L.J. Wang, J. Zhang, S.J. Zheng, X.J. Yang, R.J. Yang, “*The First Insight-HXMT Gamma-Ray Burst Catalog: The First Four Years*”, *ApJS*, 259, 46 (2022)
- L. Zampieri, S. Mereghetti, R. Turolla, G. Naletto, P. Ochner, A. Burtovoi, M. Fiori, C. Guidorzi, L. Nicastro, E. Palazzi, M. Pilia, A. Possenti, “*Deep Upper Limit on the Optical Emission during a Hard X-Ray Burst from the Magnetar SGR J1935+2154*”, *ApJL*, 925, L16 (2022)
- M. Marongiu, C. Guidorzi, G. Stratta, A. Gomboc, N. Jordana-Mitjans, S. Dichiara, S. Kobayashi, D. Kopac, C.G. Mundell, “*Radio data challenge the broadband modelling of GRB160131A afterglow*”, *A&A*, 658, A11 (2022)
- M. Shrestha, I. A. Steele, S. Kobayashi, N. Jordana-Mitjans, R. J. Smith, H. Jermak, D. Arnold, C. G. Mundell, A. Gomboc, & C. Guidorzi, “*GRB 191016A: a highly collimated gamma-ray burst jet with magnetized energy injection*”, *MNRAS*, 509, 5964 (2022)

- A. Rossi, B. Rothberg, E. Palazzi, D.A. Kann, P. D'Avanzo, L. Amati, S. Klose, A. Perego, E. Pian, C. Guidorzi, A. S. Pozanenko, S. Savaglio, G. Stratta, G. Agapito, S. Covino, F. Cusano, V. D'Elia, M. Pasquale, M. della Valle, O. Kuhn, L. Izzo, E. Loffredo, N. Masetti, A. Melandri, P.Y. Minaev, A.M. Nicuesa Guelbenzu, D. Paris, S. Paiano, C. Plantet, F. Rossi, R. Salvaterra, S. Schulze, C. Veillet, A.A. Volnova, "*The peculiar short-duration GRB 200826A and its supernova*", *ApJ*, 932, 1 (2022)
- M. Marongiu & C. Guidorzi, "*A Python approach for GRB afterglow analysis: sAGa (Software for AfterGlow Analysis)*", INAF Technical Reports, 99 (2021)
- N. Jordana-Mitjans, C. G. Mundell, R. J. Smith, C. Guidorzi, M. Marongiu, S. Kobayashi, A. Gomboc, M. Shrestha, I. A. Steele, "*Coherence scale of magnetic fields generated in early-time forward shocks of GRBs*", *MNRAS*, 505, 2662 (2021)
- C. Guidorzi, F. Frontera, G. Ghirlanda, G. Stratta, C. G. Mundell, E. Virgilli, P. Rosati, E. Caroli, L. Amati, E. Pian, S. Kobayashi, G. Ghisellini, C. Fryer, M. Della Valle, R. Margutti, M. Marongiu, R. Martone, R. Campana, F. Fuschino, C. Labanti, M. Orlandini, J. B. Stephen, S. Brandt, R. Curado da Silva, P. Laurent, R. Mochkovitch, E. Bozzo, R. Ciolfi, L. Burderi, T. Di Salvo, "*A deep study of the high-energy transient sky*", *Exp Ast*, 51, 1023 (2021)
- L. Nicastro, C. Guidorzi, E. Palazzi, L. Zampieri, M. Turatto, A. Gardini, "*Multiwavelength observations of Fast Radio Bursts*", *Universe*, 7, 76 (2021)
- R. Farinelli, R. Basak, L. Amati, C. Guidorzi, F. Frontera, "*A numerical jet model for the prompt emission of gamma-ray bursts*", *MNRAS*, 501, 5723 (2021)
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