

Curriculum vitae (September 1st, 2021)

Raphaël Fabio Duque

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RESEARCH INTERESTS

Compact object mergers, gamma-ray bursts, relativistic jets, high-energy emission processes, multi-messenger astronomy

EDUCATION

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| 2018 – 2021 | PhD in Astrophysics, <i>Sorbonne Université</i> : Doctoral thesis “Compact Object Coalescences and Gamma-Ray Bursts in the Gravitational-Wave Era” prepared at the <i>Institut d’astrophysique de Paris</i> under supervision of Prof. Frédéric Daigne and Dr. Robert Mochkovitch. |
| 2017 – 2018 | Master’s in Astronomy, Astrophysics and Space Engineering, <i>Université Paris-Diderot</i> : <i>Cum laude</i> . |
| 2014 – 2017 | Multidisciplinary Polytechnique Diploma, <i>École polytechnique</i> : <i>Prize for remarkable final internship at the European Gravitational Observatory</i> . |

POSITIONS HELD

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| 2021 – Present | Post-doctoral position at the Institute for Theoretical Physics, <i>Goethe Universität Frankfurt</i> : Under Advanced ERC project “JETSET” (PI: Prof. Luciano Rezzolla). |
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TEACHING

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| 2018 – 2021 | Master’s degree in Astronomy and Astrophysics, <i>Observatoire de Paris-Meudon</i> : Tutoring in courses “Statistical Physics”, “Astronomical Data Analysis”, “Astronomical Instrumentation and Observations”. |
| 2018 – 2021 | Public courses in General Astronomy for the <i>Explorer et Comprendre l’Univers</i> curriculum of the <i>Observatoire de Paris-Meudon</i> . |

SERVICES TO THE ASTROPHYSICS COMMUNITY

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| since 2021 | Publication refereeing: MNRAS (1). |
| since 2019 | Burst Advocate for the <i>SVOM</i> high-energy satellite mission. |
| since 2019 | Maintainer of the astro-reduce CCD image reducer and astrometry tool. |
| 2018 – 2021 | Co-organizer of the weekly “Multi-Messenger Astronomy Journal Club” in the Paris Area. |

SEMINAR TALKS (INVITED)

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| November 2020 | TAPIR at Caltech (Pasadena) |
| November 2020 | Hebrew University (Jerusalem) |
| October 2020 | Columbia University (New York City) |
| October 2020 | Grandma Collaboration Astrophysics Seminar (Paris) |
| October 2020 | <i>Osservatorio Astronomico di Brera</i> (Milano) |
| September 2020 | Jagiellonian University (Cracow) |
| August 2018 | Kavli Institute for Astronomy and Astrophysics (Beijing) |

CONFERENCE TALKS

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| March 2021 | National “Multi-messenger astrophysics” Group meeting (Paris) |
| October 2020 | General Assembly of National Gravitational-Waves Working Group (Paris) |
| December 2019 | Texas Symposium (Portsmouth): <i>Prize for best student talk in the “X-ray messenger” session</i> |
| May 2019 | Nanjing GRB Conference & SVOM mission workshop (Nanjing) |
| March 2019 | Asterics Radioastronomy Conference (Groningen) |
| October 2018 | Eighth Fermi Symposium (Baltimore, poster) |
| 2018 – 2021 (yearly) | “Elbereth” Conference by astronomy and astrophysics graduate students in the Paris Area |

List of publications

PUBLICATIONS (REFEREED)

- A&A 652 (2021) “The potential role of binary neutron star merger afterglows in multimessenger cosmology”
Mastrogiovanni, S. ; **Duque, R.** ; Chassande-Mottin, E. ; Daigne, F. ; Mochkovitch, R.
- A& 651 (2021) “Prospects for kilonova signals in the gravitational-wave era”
Mochkovitch, R. ; Daigne, F. ; **Duque, R.** ; Zitouni, H.
- A&A 639 (2020) “Probing high-density neutron star mergers with afterglow counterparts”
Duque, R. ; Beniamini, P. ; Daigne, F. ; Mochkovitch R.
- MNRAS 492 (2020) “X-ray plateaus in gamma-ray bursts’ light curves from jets viewed slightly off-axis”
Beniamini, P. ; **Duque, R.** ; Daigne, F. ; Mochkovitch R.
- A&A 631 (2019) “Radio afterglows of binary neutron star mergers: a population study for current and future gravitational-wave observing runs”
Duque, R. ; Daigne, F. ; Mochkovitch, R.

PUBLICATIONS (NON-REFEREED)

- GCN 26386 (2019) “LIGO/Virgo S191205ah: no counterpart candidate in SVOM/GWAC observations”
- PoS 357 (2019) “Neutron star merger afterglows: population prospects for the gravitational-wave era”
Duque, R. ; Daigne, F. ; Mochkovitch, R.