

# Curriculum Vitae: Laurent Mahy

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**Date of birth:** 23 November 1982

**Birth place:** Namur, Belgium

**marital status:** married, two children

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## I. Expertise

Observer using ground and space-based facilities on world-class observational facilities through open time competition. Expert in multi-wavelength (UV, Optical, IR) analysis of massive stars with extensive expertise in spectroscopy, photometry, atmosphere modelling and spectral disentangling to measure fundamental properties of massive single and multiple stars.

## II. Education

- **Postgraduate degree** 2007 – 2011  
PhD in Astronomy with thesis title: *Astrophysical parameters and multiplicity of massive stars: a mathematical approach*, awarded on 12 December 2011 by Department of Astrophysics, Geophysics, and Oceanography, University of Liège, Belgium.
- **Senior secondary school teaching qualifications (Agrégation)** 2005-2006  
Orientation Mathematics-Physics from University of Namur, Belgium
- **Master in Applied Mathematics Sciences** 2003-2005  
Master in Celestial Mechanics with thesis title: “*Développement du champ de gravité terrestre en harmoniques ellipsoïdales et applications*” – awarded by University of Namur, Belgium with the grade “magna cum laude”
- **Bachelor in Applied Mathematics Sciences** 2000-2003  
Department of Mathematics, University of Namur, Belgium
- **Secondary school diploma** 2000  
Mathematics - Latin, Institut Saint-Louis, Namur, Belgium

## III. Employment

- **Post-doctoral research associate** 2017 – to date  
Institute of Astronomy, KU Leuven, Belgium.
- **F.R.S-FNRS Post-doctoral research associate** 2014 – 2017  
Department of Astrophysics, Geophysics, and Oceanography, University of Liège, Belgium.
- **IT Consulting analyst** 2012 – 2014  
Sopra Banking Software, Brussel, Belgium.
- **PRODEX/XMM Post-doctoral research associate** 2011 – 2012  
Department of Astrophysics, Geophysics, and Oceanography, University of Liège, Belgium.
- **PRODEX/XMM Doctoral researcher** 2007 – 2011  
Department of Astrophysics, Geophysics, and Oceanography, University of Liège, Belgium.
- **Scientific collaborator** 2007  
Department of Applied Mathematics, University of Namur, Belgium.
- **High school teacher** 2006 – 2007  
Mathematics - Physics, Collège Saint-Guibert, Gembloux, Belgium

## IV. Languages

French (native), English (Fluent), Dutch (intermediate), Spanish (beginner)

## V. Teaching & Supervision Experience

### PhD theses

- Co-supervisor of Françoise Raucq, University of Liège, Belgium 2014 – 2016
- Co-supervisor of Gareth Banyard, KU Leuven, Belgium 2018 – to date
- Co-supervisor of Calum Hawcroft, KU Leuven, Belgium 2018 – to date
- Progress committee member of Julia Bodensteiner, KU Leuven, Belgium 2017 – to date

### Master theses

- Examination committee member (reader) of Sophie Rosu - University of Liège, Belgium. 2016
- Examination committee member (reader) of Prem Kumar Bulusu KU Leuven, Belgium. 2018
- Supervisor of Lukas van Riel, KU Leuven, Belgium Sept. 2018 – June 2019
- Supervisor of Nimmy Samson Attipetty, KU Leuven, Belgium Sept. 2019 – June 2020
- Co-supervisor of Soetkin Janssens, KU Leuven, Belgium Sept. 2019 – June 2020

### Bachelor and Master student projects

Supervision of multiple bachelor and master student projects about massive stars. 2017 - 2020

### Binary Stars class (B-KUL-G0I55A)

2019 – 2020

## VI. Awards & Prizes

- **FNRS-F.R.S. Postdoctoral fellowship** 2014-2017  
~250,000 euros + 15,000 euros credit
- **FWO, Travel grant** 2019  
1,650 euros
- **BELSP0/PRODEX - HST** 2020 - 2022  
~215,000 euros
- **Travel grant - conference Confifest, USA** 2008  
~300 dollars
- **Pol & Christiane Swings prize**, Royal Academy of Sciences, Belgium 2017  
1,500 euros
- **Junior member of the International Astronomical Union (IAU)** 2018

## VII. Conference/Summer school Organization

- **Liège Astrophysical winter school** 17 – 19 January 2011  
Co-organizer of the winter school titled “Radiative Transfer in Stellar Environments” with invited speakers: Prof. D. J. Hillier, Dr. R. Blomme, and Prof. van Hoof

## VIII. Miscellaneous

- Junior IAU member 2018
- Referee for ApJ, A&A, MNRAS, and AJ
- ESO Observing Programs Committee member
- Leader for the Belgian O-star node in the Gaia-ESO Survey consortium

## IX. Observing runs

Exemplary track record in obtaining observing time as Principal Investigator (PI) on high-profile ESO, ESA and NASA observing facilities, including ESO-2.2m/FEROS, VLT/UVES, /MUSE, VLT/PIONIER, HST/COS and STIS, SALT/HRS and on other smaller facilities, 1.2m MERCATOR/hermes, OHP/1.93m, OHP/1.52m, 2.12m SPM/espresso, 1.2m LA LUZ/tigre, with over 150 hours obtained as PI in the last 10 years and at least an equivalent amount as co-I.

- 27 orbits with Hubble Space Telescope (HST) as Co-I, granted in Cycle 28 (2020-2021)
- 6 orbits with Hubble Space Telescope (HST) as Co-I, granted in Cycle 27 (2019-2020)
- 42 orbits with Hubble Space Telescope (HST) as PI, granted in Cycle 26 (2018-2019)

- 2-week campaign (observer) on 1.2m/HERMES (Roque de los Muchachos - Spain) in March-April 2018.
- 2-week campaign as PI (observer) on 2.2m/FEROS (La Silla - Chile) in April-May 2012.
- 1-week campaign as PI (observer) on 1.52m/AURELIE (Observatoire de Haute Provence - France) in August 2010
- 1-week campaign as PI (observer) on 1.52m/AURELIE (Observatoire de Haute Provence - France) in June 2010
- 2-week campaign as Co-I (observer) on 2.12m/ESPRESSO (San Pedro Martir - Mexico) in October 2009
- 1-week campaign as Co-I (observer) on 1.52m/AURELIE (Observatoire de Haute Provence - France) in January 2008

## X. Scientific Conferences & Workshops

- Poster at Mobster-1 virtual conference 2020, Format was changed to a virtual conference because of the COVID-19 pandemic.
- Contributed talk at EWASS 2019, Lyon (France), June 2019.
- XII<sup>th</sup> VFTS meeting, Edinburgh (Scotland), April 2019
- Seminar: “Spectral disentangling: a tool to constrain the evolution of massive stars”, at the KU Leuven institute of astrophysics (IvS) seminar (Belgium) March. 2019
- Contributed talk at Massive Stars and Supernovae conference, Bariloche (Argentina) November 2018
- Massive star meeting, Leuven (Belgium) October 2018
- Contributed talk at 6<sup>th</sup> TIGRE workshop, University of Liège (Belgium) June 2018
- Contributed talk at Belgian contact group meeting, Brussel (Belgium) June 2018
- 10<sup>th</sup> CÉCI Scientific Meeting, University of Namur (Belgium) May 2018
- Contributed talk at XI<sup>th</sup> VFTS meeting, Tenerife (Spain) April 2018
- Einstein Telescope event meeting, University of Liège (Belgium) January 2018
- Contributed talk at STAR meeting, University of Liège (Belgium) Sept 2017
- Contributed talk at Gaia-ESO meeting, Catania (Italy) Sept 2017.
- Contributed talk at Eta Carinae, LBVs, and Supernova Impostors, Pittsburgh (PA, USA) June 2017
- Contributed talk at X<sup>th</sup> VLT/FLAMES Tarantula Survey (VFTS) meeting, Leuven (Belgium), May 2017
- Contributed talk at GREAT workshop: Massive stars and the Gaia-ESO Survey, Brussel (Belgium), May 2015
- Contributed talk at 3<sup>rd</sup> TIGRE workshop, University of Liège (Belgium) December 2014
- Poster at GREAT-ESF Workshop: Stellar atmosphere in the Gaia era, Quantitative spectroscopy and comparative spectrum modelling, Brussel (Belgium), June 2011
- Poster at IAU Symposium 272, Paris (France), July 2010
- Contributed talk at 39<sup>th</sup> LIAC “The multiwavelength view of hot, massive stars”, Liège (Belgium), July 2010
- Contributed talk at CoRoT O star meeting, Leuven (Belgium), July 2009 and Liège (Belgium), November 2009
- Contributed talk at ARC meeting: space and ground based imaging in astrophysics, Liège (Belgium), February 2009, February 2010, March 2011
- Seminar (invited) “Multiplicity of O-type stars in NGC 2244” at University of Guanajuato (Mexico), October 2009
- Poster at ‘Hot massive stars, a lifetime of influence, a workshop in honor of Peter S. Conti’, Flagstaff (AZ, USA), October 2008
- Evolution and pulsation of massive stars on the main sequence and close to it, Liège (Belgium), July 2008

## XI. Public Engagement and Outreach

- Outreach presentation on spectroscopy for high school students in visit at Institute of Astronomy at KU Leuven (Belgium)
- Since 2015, Participation to astronomical exhibitions organized by the amateur club of astronomy of Namur (Astronamur), Belgium.
- Participation to the interactive astronomical exhibitions for the “Printemps des Sciences” at the University of Liège, Belgium:
  - In 2008, “hunting exoplanets” for primary schools and “Other earths” for secondary schools).
  - In 2009, “Revolution in the solar system” for primary schools and “Evolution of the universe” for secondary schools.
  - In 2010, “hunting exoplanets” for primary schools and “Celestial Cataclysms” for the secondary school.
  - In 2011, “Signatures of matter” for primary and secondary school.

## XII. Publications

### Referred papers:

- 1) Shenar, T., J. Bodensteiner, M. Abdul-Masih, M. Fabry, **L. Mahy**, P. Marchant, G. Banyard, D. M. Bowman, K. Dsilva, C. Hawcroft, M. Reggiani, and H. Sana (2020), "*The ``hidden'' companion in LB-1 unveiled by spectral disentangling*", *Astronomy and Astrophysics*, 639, L6.
- 2) Bodensteiner, J., T. Shenar, **L. Mahy**, M. Fabry, P. Marchant, M. Abdul-Masih, G. Banyard, D. M. Bowman, K. Dsilva, A. J. Frost, C. Hawcroft, M. Reggiani, and H. Sana (2020), "*Is HR 6819 a triple system containing a black hole? -- An alternative explanation*", *Astronomy and Astrophysics*, in press, arXiv e-prints, arXiv:2006.10770.
- 3) Langer, N., C. Schürmann, K. Stoll, P. Marchant, D. J. Lennon, **L. Mahy**, S. E. de Mink, M. Quast, W. Riedel, H. Sana, P. Schneider, A. Schootemeijer, C. Wang, L. A. Almeida, J. M. Bestenlehner, J. Bodensteiner, N. Castro, S. Clark, P. A. Crowther, P. Dufton, C. J. Evans, L. Fossati, G. Gräfener, L. Grassitelli, N. Grin, B. Hastings, A. Herrero, A. de Koter, A. Menon, L. Patrick, J. Puls, M. Renzo, A. A. C. Sander, F. R. N. Schneider, K. Sen, T. Shenar, S. Simón-Días, T. M. Tauris, F. Tramper, J. S. Vink, and X.-T. Xu (2020), "*Properties of OB star-black hole systems derived from detailed binary evolution models*", *Astronomy and Astrophysics*, 638, A39.
- 4) Abdul-Masih, M., G. Banyard, J. Bodensteiner, E. Bordier, D. M. Bowman, K. Dsilva, M. Fabry, C. Hawcroft, **L. Mahy**, P. Marchant, G. Raskin, M. Reggiani, T. Shenar, A. Tkachenko, H. Van Winckel, L. Vermeyley, and H. Sana (2020), "*On the signature of a 70-solar-mass black hole in LB-1*", *Nature*, 580, E11.
- 5) **Mahy, L.**, L. A. Almeida, H. Sana, J. S. Clark, A. de Koter, S. E. de Mink, C. J. Evans, N. J. Grin, N. Langer, A. F. J. Moffat, F. R. N. Schneider, T. Shenar, and F. Tramper (2020), "*The Tarantula Massive Binary Monitoring. IV. Double-lined photometric binaries*", *Astronomy and Astrophysics*, 634, A119.
- 6) **Mahy, L.**, H. Sana, M. Abdul-Masih, L. A. Almeida, N. Langer, T. Shenar, A. de Koter, S. E. de Mink, S. de Wit, N. J. Grin, C. J. Evans, A. F. J. Moffat, F. R. N. Schneider, R. Barbá, J. S. Clark, P. Crowther, G. Gräfener, D. J. Lennon, F. Tramper, and J. S. Vink (2020), "*The Tarantula Massive Binary Monitoring. III. Atmosphere analysis of double-lined spectroscopic systems*", *Astronomy and Astrophysics*, 634, A118.
- 7) Bodensteiner, J., H. Sana, **L. Mahy**, L. R. Patrick, A. de Koter, S. E. de Mink, C. J. Evans, Y. Götzberg, N. Langer, D. J. Lennon, F. R. N. Schneider, and F. Tramper (2020), "*The young massive SMC cluster NGC 330 seen by MUSE. I. Observations and stellar content*", *Astronomy and Astrophysics*, 634, A51.
- 8) Abdul-Masih, M., H. Sana, J. Sundqvist, **L. Mahy**, A. Menon, L. A. Almeida, A. De Koter, S. E. de Mink, S. Justham, N. Langer, J. Puls, T. Shenar, and F. Tramper (2019), "*Clues on the Origin and Evolution of Massive Contact Binaries: Atmosphere Analysis of VFTS 352*", *The Astrophysical Journal*, 880, 115.
- 9) Nazé, Y., G. Rauw, S. Czesla, **L. Mahy**, and F. Campos (2019), "*Variations on a theme: the puzzling behaviour of Schulte 12*", *Astronomy and Astrophysics*, 627, A99.
- 10) Schneider, F. R. N., O. H. Ramírez-Agudelo, F. Tramper, J. M. Bestenlehner, N. Castro, H. Sana, C. J. Evans, C. Sabín-Sanjulián, S. Simón-Díaz, N. Langer, L. Fossati, G. Gräfener, P. A. Crowther, S. E. de Mink, A. de Koter, M. Gieles, A. Herrero, R. G. Izzard, V. Kalari, R. S. Klessen, D. J. Lennon, **L. Mahy**, J. Maíz Apellániz, N. Markova, J. T. van Loon, J. S. Vink, and N. R. Walborn (2018), "*The VLT-FLAMES Tarantula Survey. XXIX. Massive star formation in the local 30 Doradus starburst*", *Astronomy and Astrophysics*, 618, A73.
- 11) **Mahy, L.**, E. Gosset, J. Manfroid, C. Nitschelm, A. Hervé, T. Semaan, H. Sana, J.-B. Le Bouquin, and S. Toonen (2018), "*The triple system HD 150136: From periastron passage to actual masses*", *Astronomy and Astrophysics*, 616, A75.
- 12) Mossoux, E., **L. Mahy**, and G. Rauw (2018), "*The long-period massive binary HD 54662 revisited*", *Astronomy and Astrophysics*, 615, A19.
- 13) Raucq, F., G. Rauw, **L. Mahy**, and S. Simón-Díaz (2018), "*Fundamental parameters of massive stars in multiple systems: The cases of HD 17505A and HD 206267A*", *Astronomy and Astrophysics*, 614, A60.

- 14) Nazé, Y., E. Gosset, L. Mahy, and E. R. Parkin (2017), "*An X-ray view of HD 166734, a massive supergiant system*", *Astronomy and Astrophysics*, 607, A97.
- 15) **Mahy, L.**, Y. Damerdji, E. Gosset, C. Nitschelm, P. Eenens, H. Sana, and A. Klotz (2017), "*A modern study of HD 166734: a massive supergiant system*", *Astronomy and Astrophysics*, 607, A96.
- 16) Martins, F., **L. Mahy**, and A. Hervé (2017), "*Properties of six short-period massive binaries: A study of the effects of binarity on surface chemical abundances*", *Astronomy and Astrophysics*, 607, A82.
- 17) Raucq, F., E. Gosset, G. Rauw, J. Manfroid, **L. Mahy**, N. Mennekens, and D. Vanbeveren (2017), "*Observational signatures of past mass-exchange episodes in massive binaries: the case of LSS 3074*", *Astronomy and Astrophysics*, 601, A133.
- 18) **Mahy, L.**, D. Hutsemékers, Y. Nazé, P. Royer, V. Leboutellier, and C. Waelkens (2017), "*Evolutionary status of the Of?p star HD 148937 and of its surrounding nebula NGC 6164/5*", *Astronomy and Astrophysics*, 599, A61.
- 19) **Mahy, L.**, D. Hutsemékers, P. Royer, and C. Waelkens (2016), "*Tracing back the evolution of the candidate LBV HD 168625*", *Astronomy and Astrophysics*, 594, A94.
- 20) Rauw, G., S. Rosu, A. Noels, **L. Mahy**, J. H. M. M. Schmitt, M. Godart, M.-A. Dupret, and E. Gosset (2016), "*Apsidal motion in the massive binary HD 152218*", *Astronomy and Astrophysics*, 594, A33.
- 21) Rauw, G., R. Blomme, Y. Nazé, M. Spano, **L. Mahy**, E. Gosset, D. Volpi, H. van Winckel, G. Raskin, and C. Waelkens (2016), "*Testing the theory of colliding winds: the periastron passage of 9 Sagittarii. I. X-ray and optical spectroscopy*", *Astronomy and Astrophysics*, 589, A121.
- 22) Raucq, F., G. Rauw, E. Gosset, Y. Nazé, **L. Mahy**, A. Hervé, and F. Martins (2016), "*Observational signatures of past mass-exchange episodes in massive binaries: The case of HD 149 404*", *Astronomy and Astrophysics*, 588, A10.
- 23) Tramper, F., H. Sana, N. E. Fitzsimons, A. de Koter, L. Kaper, **L. Mahy**, and A. Moffat (2016), "*The mass of the very massive binary WR21a*", *Monthly Notices of the Royal Astronomical Society*, 455, 1275.
- 24) **Mahy, L.**, G. Rauw, M. De Becker, P. Eenens, and C. A. Flores (2015), "*A spectroscopic investigation of the O-type star population in four Cygnus OB associations. II. Determination of the fundamental parameters*", *Astronomy and Astrophysics*, 577, A23.
- 25) Rauw, G., **L. Mahy**, Y. Nazé, P. Eenens, J. Manfroid, and C. A. Flores (2014), "*Phase resolved X-ray spectroscopy of HDE 228766: Probing the wind of an extreme Of<sup>+</sup>/WNLha star (Corrigendum)*", *Astronomy and Astrophysics*, 569, C1.
- 26) Rauw, G., **L. Mahy**, Y. Nazé, P. Eenens, J. Manfroid, and C. A. Flores (2014), "*Phase resolved X-ray spectroscopy of HDE 228766: Probing the wind of an extreme Of<sup>+</sup>/WNLha star*", *Astronomy and Astrophysics*, 566, A107.
- 27) Uuh-Sonda, J. M., G. Rauw, P. Eenens, **L. Mahy**, M. Palate, E. Gosset, and C. A. Flores (2014), "*Epoch-dependent absorption line profile variability in lambda Cep*", *Revista Mexicana de Astronomia y Astrofisica*, 50, 67.
- 28) Martins, F., E. Depagne, D. Russeil, and **L. Mahy** (2013), "*Evidence of quasi-chemically homogeneous evolution of massive stars up to solar metallicity*", *Astronomy and Astrophysics*, 554, A23.
- 29) Sana, H., J.-B. Le Bouquin, **L. Mahy**, O. Absil, M. De Becker, and E. Gosset (2013), "*Three-dimensional orbits of the triple-O stellar system HD 150136*", *Astronomy and Astrophysics*, 553, A131.
- 30) **Mahy, L.**, G. Rauw, M. De Becker, P. Eenens, and C. A. Flores (2013), "*A spectroscopic investigation of the O-type star population in four Cygnus OB associations. I. Determination of the binary fraction*", *Astronomy and Astrophysics*, 550, A27.

- 31) Palate, M., G. Rauw, and **L. Mahy** (2013), "*Spectral Modelling of Massive Binary Systems: The Example of LZ Cep*", Central European Astrophysical Bulletin, 37, 311.
- 32) Chené, A.-N., J. Borissova, C. Bonatto, D. J. Majaess, G. Baume, J. R. A. Clarke, R. Kurtev, O. Schnurr, J.-C. Bouret, M. Catelan, J. P. Emerson, C. Feinstein, D. Geisler, R. de Grijs, A. Hervé, V. D. Ivanov, M. S. N. Kumar, P. Lucas, **L. Mahy**, F. Martins, F. Mauro, D. Minniti, and C. Moni Bidin (2013), "*Massive open star clusters using the VVV survey. II. Discovery of six clusters with Wolf-Rayet stars*", Astronomy and Astrophysics, 549, A98.
- 33) Nazé, Y., **L. Mahy**, Y. Damerджи, H. A. Kobulnicky, J. M. Pittard, E. R. Parkin, O. Absil, and R. Blomme (2012), "*The 2.35 year itch of Cygnus OB2 #9. I. Optical and X-ray monitoring*", Astronomy and Astrophysics, 546, A37.
- 34) Rauw, G., H. Sana, M. Spano, E. Gosset, **L. Mahy**, M. De Becker, and P. Eenens (2012), "*9 Sagittarii: uncovering an O-type spectroscopic binary with an 8.6 year period*", Astronomy and Astrophysics, 542, A95.
- 35) **Mahy, L.**, E. Gosset, H. Sana, Y. Damerджи, M. De Becker, G. Rauw, and C. Nitschelm (2012), "*Evidence for a physically bound third component in HD 150136*", Astronomy and Astrophysics, 540, A97.
- 36) Martins, F., **L. Mahy**, D. J. Hillier, and G. Rauw (2012), "*A quantitative study of O stars in NGC 2244 and the Monoceros OB2 association*", Astronomy and Astrophysics, 538, A39.
- 37) **Mahy, L.**, F. Martins, C. Machado, J.-F. Donati, and J.-C. Bouret (2011), "*The two components of the evolved massive binary LZ Cephei. Testing the effects of binarity on stellar evolution*", Astronomy and Astrophysics, 533, A9.
- 38) Blomme, R., **L. Mahy**, C. Catala, J. Cuypers, E. Gosset, M. Godart, J. Montalbán, P. Ventura, G. Rauw, T. Morel, P. Degroote, C. Aerts, A. Noels, E. Michel, F. Baudin, A. Baglin, M. Auvergne, and R. Samadi (2011), "*Variability in the CoRoT photometry of three hot O-type stars. HD 46223, HD 46150, and HD 46966*", Astronomy and Astrophysics, 533, A4.
- 39) **Mahy, L.**, E. Gosset, F. Baudin, G. Rauw, M. Godart, T. Morel, P. Degroote, C. Aerts, R. Blomme, J. Cuypers, A. Noels, E. Michel, A. Baglin, M. Auvergne, C. Catala, and R. Samadi (2011), "*Plaskett's star: analysis of the CoRoT photometric data*", Astronomy and Astrophysics, 525, A101.
- 40) Nazé, Y., Y. Damerджи, G. Rauw, D. C. Kiminki, **L. Mahy**, H. A. Kobulnicky, T. Morel, M. De Becker, P. Eenens, and C. Barbieri (2011), "*A first orbital solution for the non-thermal radio emitter Cyg OB2 #9*", Bulletin de la Societe Royale des Sciences de Liege, 80, 709.
- 41) **Mahy, L.**, G. Rauw, F. Martins, E. Gosset, Y. Nazé, M. Godart, H. Sana, M. De Becker, and P. Eenens (2011), "*The multiplicity of O-type stars in NGC 2244*", Bulletin de la Societe Royale des Sciences de Liege, 80, 622.
- 42)
- 43) Degroote, P., M. Briquet, M. Auvergne, S. Simón-Díaz, C. Aerts, A. Noels, M. Rainer, M. Hareter, E. Poretti, **L. Mahy**, R. Oreiro, M. Vučković, K. Smolders, A. Baglin, F. Baudin, C. Catala, E. Michel, and R. Samadi (2010), "*Detection of frequency spacings in the young O-type binary HD 46149 from CoRoT photometry*", Astronomy and Astrophysics, 519, A38.
- 44) Nazé, Y., Y. Damerджи, G. Rauw, D. C. Kiminki, **L. Mahy**, H. A. Kobulnicky, T. Morel, M. De Becker, P. Eenens, and C. Barbieri (2010), "*First Orbital Solution for the Non-thermal Emitter Cyg OB2 No. 9*", The Astrophysical Journal, 719, 634.
- 45) **Mahy, L.**, G. Rauw, F. Martins, Y. Nazé, E. Gosset, M. De Becker, H. Sana, and P. Eenens (2010), "*A New Investigation of the Binary HD 48099*", The Astrophysical Journal, 708, 1537.
- 46) **Mahy, L.**, Y. Nazé, G. Rauw, E. Gosset, M. De Becker, H. Sana, and P. Eenens (2009), "*Early-type stars in the young open cluster NGC 2244 and in the Monoceros OB2 association. I. The multiplicity of O-type stars*", Astronomy and Astrophysics, 502, 937.

**Proceedings:**

- 1) Shenar, T., K. Dsilva, A. Gilkis, R. Hainich, W.-R. Hamann, S. Janssens, **L. Mahy**, P. I. Marchant Campos, L. Oskinova, V. Ramachandran, A. Sander, and H. Todt (2020), "*The multiplicity and properties of the LMC WC stars: the immediate progenitors of black holes and stripped supernovae*", HST Proposal, 16272.
- 2) Shenar, T., R. Hainich, **L. Mahy**, L. Oskinova, H. Sana, and A. Sander (2019), "*Are the most massive stars in the Local Group truly single?*", HST Proposal, 15942.
- 3) **Mahy, L.** (2018), "*MAssivE STaR Outflows (MAESTRO)*", HST Proposal, 15629.
- 4) Martins, F., **L. Mahy**, and A. Hervé (2017), "*Properties of six massive binaries*", SF2A-2017: Proceedings of the Annual meeting of the French Society of Astronomy and Astrophysics, Di.
- 5) Gosset, E., **L. Mahy**, Y. Damerджи, C. Nitschelm, H. Sana, P. Eenens, and Y. Nazé (2017), "*The supergiant O + O binary system HD 166734: a new study*", *The Lives and Death-Throes of Massive Stars*, 329, 402.
- 6) Berlanas, S. R., A. Herrero, F. Martins, S. Simón-Díaz, **L. Mahy**, R. Blomme, and GES WG-13 (2017), "*Early-type massive stars in Carina Nebula within the Gaia-ESO Survey.*", *Highlights on Spanish Astrophysics IX*, 453.
- 7) Rauw, G., **L. Mahy**, and Y. Nazé (2014), "*X-raying the winds of the evolved massive binary HDE228766*", *The X-ray Universe 2014*, 306.
- 8) Rauw, G., **L. Mahy**, Y. Nazé, and J.-P. Swings (2014), "*X-raying the winds of the evolved massive binary HDE228766*", 40th COSPAR Scientific Assembly, 40, E1.3-16-14.
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