Rueda Hernández, Jorge Armando

Position:
Faculty Professor at ICRANet
Member of ICRANet Faculty
IRAP PhD Faculty
Period covered: 2011-Present

I Scientific Work

I perform research in the following topics:

- Nuclear and atomic astrophysics.
- Physics and astrophysics of white dwarfs and neutron stars.
- Radiation mechanisms of white dwarfs and neutron stars.
- Gamma-ray busts theory.
- Accretion disks, hypercritical accretion processes.
- Neutrino emission from astrophysical sources.
- Gravitational waves.
- Exact solutions of the Einstein and Einstein-Maxwell equations in astrophysics.
- Critical electromagnetic fields and non-linear electrodynamics effects in astrophysics.
- Distribution of dark matter in galaxies and cosmological implications.

II Conferences and educational activities

II a Conferences and Other External Scientific Work

In the year 2017 I presented lectures/talks in the following conferences/meetings/workshops:

- "Fifth Bego Rencontre", IRAP Ph.D. Erasmus Mundus School, 15-19 May 2017, Nice (France).
- "The 2017 Annual meeting of the Division of Gravitation and Relativistic Astrophysics of the Chinese Physical Society",25-30 June 2017, Chengdu (China).
- "The Fifth Galileo-Xu Guangqi Meeting",25-30 June 2017, Chengdu (China).
- "XIII International Conference on Gravitation, Astrophysics and Cosmology", 3-7 July 2017, Seoul (South Korea).
- "15th Italian-Korean Symposium on Relativistic Astrophysics", 3-7 July 2017, Seoul (South Korea).
- "Vida después de la muerte: Estrellas de neutrones y las explosiones más potentes del Universo", Invited Talk for the High School Instituto Antonino Nariño, 12 Septemer 2017, Barrancabermeja (Colombia)

- "9th European Summer School on Experimental Nuclear Astrophysics", 17-24 September 2017, Santa Tecla (Italy).
- "La notte europea dei ricercatori", 29 September 2017, Pescara (Italy).
- "Theseus Workshop", 5-6 October 2017, Naples (Italy).
- "¿Hacia dónde va la astronomía y la astrofísica en Colombia?", Invited Talk at the 50th anniversary of the Physics Department of Universidad Industrial de Santander, 20 October 2017, Bucaramanga (Colombia).

II b Work With Students

- Current scientific collaboration with the following students of the IRAP-PhD program at Sapienza University of Rome, Italy: Yerlan Aimuratov, Laura Becerra, Stefano Campion, Milos Kovacevic, David Melon Fuksman, Jose Fernando Rodriguez, Juan David Uribe, Ronaldo Vieira Lobato, Yu Wang.

II c Diploma thesis supervision

I list below the undergraduate theses which I have supervised.

- Undergraduate Thesis of Davide Gizzi 2016, Sapienza University of Rome, Italy: "Gravitational wave emission of compact object binary mergers within the effective one-body formalism"

Scientific Production:

- R. Ruffini, J. F. Rodriguez, M. Muccino, J. A. Rueda, et al., "On the rate and on the gravitational wave emission of short and long GRBs", arXiv:1602.03545.

- Undergraduate Physics thesis of Silvia Petroni 2016, Sapienza University of Rome, Italy: "Hypercritical neutrino-colled accretion onto black holes".

I list below the PhD theses which I have supervised and the ones currently under my supervision. They are distributed in the seven topics listed above in the section I. I also include some scientific production that derived from these PhD researches.

- PhD thesis of Juan David Uribe 2015-2018, Sapienza University of Rome, Italy. Topics: 1-4. Fellowship: IRAP-PhD

Scientific Production:

- L. Becerra, M. Guzzo, F. Rossi-Torres, J. A. Rueda, R. Ruffini, J. D. Uribe, "Neutrino Oscillations within the Induced Gravitational Collapse Paradigm of Long Gamma-Ray Bursts", The Astrophysical Journal 852, 120 (2018).

- PhD thesis of Jose Fernando Rodriguez Ruiz 2014-2017, Sapienza University of Rome, Italy. Topics: 1-4. Fellowship: IRAP-PhD

Scientific Production:

- J. F. Rodriguez, J. A. Rueda, and R. Ruffini, "Comparison and contrast of test-particle and numerical-relativity waveform templates", submitted to JCAP; arXiv:1706.07704

- J. F. Rodriguez, J. A. Rueda, and R. Ruffini, "Strong-field gravitational-wave emission in Schwarzschild and Kerr geometries: some general considerations", submitted to Phys. Rev. D; arXiv:1706.06440
- R. Ruffini, J. F. Rodriguez, M. Muccino, J. A. Rueda, et al., "On the rate and on the gravitational wave emission of short and long GRBs", submitted to ApJ, arXiv:1602.03545.

- PhD thesis of Laura Becerra Bayona 2013-2016, Sapienza University of Rome, Italy. Topics: 1-4. Fellowship: IRAP-PhD

Scientific Production:

- L. Becerra, M. Guzzo, F. Rossi-Torres, J. A. Rueda, R. Ruffini, J. D. Uribe, "Neutrino Oscillations within the Induced Gravitational Collapse Paradigm of Long Gamma-Ray Bursts", ApJ 852, 120 (2018).
- R. Ruffini, J. F. Rodriguez, M. Muccino, J. A. Rueda, et al., "On the rate and on the gravitational wave emission of short and long GRBs", submitted to ApJ; arXiv:1602.03545.
- L. Becerra, J. A. Rueda, P. Lorén-Aguilar, E. García-Berro, "The Spin Evolution of Fast-Rotating, Magnetized Super-Chandraskehar White Dwarfs in the Aftermath of White Dwarf Mergers", submitted to ApJ.
- R. Ruffini, J. A. Rueda, M. Muccino, Y. Aimuratov, L. M. Becerra, et al., "On the classification of GRBs and their occurrence rates," ApJ 832, 136 (2016).
- L. Becerra, C. L. Bianco, C. L. Fryer, J. A. Rueda, and R. Ruffini, "On the induced gravitational collapse scenario of gamma-ray bursts associated with supernovae", ApJ 833, 107 (2016).
- L. Becerra, F. Cipolletta, C. L. Fryer, J. A. Rueda, and R. Ruffini, "Angular Momentum Role in the Hypercritical Accretion of Binary-driven Hypernovae", ApJ 812, 100 (2015).

- PhD thesis of Luis Gabriel Gómez 2013-2016, Sapienza University of Rome, Italy and University of Nice Sophia-Antipolis, Nice, France. Topics: 7. Fellowship: Erasmus Mundus IRAP-PhD

Scientific Production:

- L. G. Gomez and J. A. Rueda, "Dark-matter dynamical friction versus gravitational-wave emission in the evolution of compact-star binaries", Phys. Rev. D 96, 063001 (2017).
- L. G. Gomez, C. R. Arguelles, P. Volker, J. A. Rueda, R. Ruffini, "Strong lensing by fermionic dark matter in galaxies", Phys. Rev. D 94, 123004 (2016).
- L. G. Gomez and J. A. Rueda, "The Role of the Dark Matter Distribution in the Structure Formation", Proc. Second César Lattes Meeting 2016.

- PhD thesis of Fernanda Gomes Oliveira 2012-2015, Sapienza University of Rome, Italy and University of Nice Sophia-Antipolis, Nice, France. Topics: 2-4. Fellowship: Erasmus Mundus IRAP-PhD

Scientific Production:

- C. L. Fryer, F. G. Oliveira, J. A. Rueda, and R. Ruffini, "Neutron-Star-Black-Hole Binaries Produced by Binary-Driven Hypernovae", Phys. Rev. Lett., vol. 115, p. 231102, Dec. 2015.

- R. Ruffini, M. Muccino, M. Kovacevic, F. G. Oliveira, J. A. Rueda, C. L. Bianco, M. Enderli, A. V. Penacchioni, G. B. Pisani, Y. Wang, and E. Zaninoni, "GRB 140619B: a short GRB from a binary neutron star merger leading to black hole formation", ApJ, vol. 808, p. 190, Aug. 2015.
- F. G. Oliveira, J. A. Rueda, and R. Ruffini, "X, Gamma-Rays, and Gravitational Waves Emission in a Short Gamma-Ray Burst" Astrophysics and Space Science Proceedings, vol. 40, p. 43, 2015.
- F. G. Oliveira, J. A. Rueda, and R. Ruffini, "Gravitational Waves versus X-Ray and Gamma-Ray Emission in a Short Gamma-Ray Burst", ApJ, vol. 787, p. 150, June 2014.

- PhD thesis of Diego Leonardo Cáceres Uribe 2011-2014, Sapienza University of Rome, Italy. Topics: 2 and 4. Fellowship: IRAP-PhD

Scientific Production:

- D. L. Cáceres, S. M. de Carvalho, J. G. Coelho, R. C. R. de Lima, J. A. Rueda, "Thermal X-ray emission from massive, fast rotating, highly magnetized white dwarfs", MNRAS 465, 4434 (2017).
- Jaziel G. Coelho, D. L. Cáceres, R. C. R. de Lima, M. Malheiro, J. A. Rueda, R. Ruffini "The rotation-powered nature of some SGRs and AXPs", A&A 599, A87 (2017).
- J. G. Coelho, R. M. Marinho, M. Malheiro, R. Negreiros, D. L. Caceres, J. A. Rueda, and R. Ruffini, "Dynamical Instability of White Dwarfs and Breaking of Spherical Symmetry Under the Presence of Extreme Magnetic Fields", ApJ 794, 86 (2014).
- D. L. Caceres, J. A. Rueda, and R. Ruffini, "On the stability of ultra-magnetized white dwarfs", Journal of Korean Physical Society 65, 846 (2014).

- PhD thesis of Jonas Pedro Pereira's PhD 2011-2014, Sapienza University of Rome, Italy and University of Nice Sophia-Antipolis, Nice, France. Topics: 3 and 6. Fellowship: Erasmus Mundus IRAP-PhD

Scientific Production:

- J. P. Pereira and J. A. Rueda, "Energy decomposition within Einstein-Born-Infeld black holes", Phys. Rev. D, vol. 91,p. 064048, Mar. 2015.
- J. P. Pereira and J. A. Rueda, "Radial Stability in Stratified Stars", ApJ, vol. 801, p. 19, Mar. 2015.
- J. P. Pereira, J. G. Coelho, and J. A. Rueda, "Stability of thin-shell interfaces inside compact stars", Phys. Rev. D, vol. 90, p. 123011, Dec. 2014.
- J. P. Pereira, H. J. Mosquera Cuesta, J. A. Rueda, and R. Ruffini, "On the black hole mass decomposition in nonlinear electrodynamics", Physics Letters B, vol. 734, pp. 396-402, June 2014.

- PhD thesis of Carlos Raul Arguelles 2011-2014, Sapienza University of Rome, Italy. Topics: 7. Fellowship: IRAP-PhD

Scientific Production:

- C. R. Arguelles, J. A. Rueda, and R. Ruffini, "Theoretical evidence of 50 keV fermionic dark matter from galactic observables", submitted; arXiv:1606.07040.

- C. R. Arguelles, N. E. Mavromatos, J. A. Rueda, and R. Ruffini, "The role of self-interacting right-handed neutrinos in galactic structure," JCAP, vol. 4, p. 038, Apr. 2016.
- R. Ruffini, C. R. Arguelles, and J. A. Rueda, "On the core-halo distribution of dark matter in galaxies", MNRAS, vol. 451, pp. 622-628, July 2015.
- R. Ruffini, C. R. Arguelles, B. M. O. Fraga, A. Geralico, H. Quevedo, J. A. Rueda, and I. Siutsou, "Black Holes in Gamma Ray Bursts and Galactic Nuclei", International Journal of Modern Physics D, vol. 22, p. 60008, Sept. 2013.

- PhD thesis of Sheyse Martins de Carvalho 2010-2013, Sapienza University of Rome, Italy and University of Nice Sophia-Antipolis, Nice, France. Topics: 1-3. Fellowship: Erasmus Mundus IRAP-PhD

Scientific Production:

- S. M. de Carvalho, J. A. Rueda, and R. Ruffini, "On the Relativistic Feynman-Metropolis Equation of State at Finite Temperatures", Proc. Thirteenth Marcel Grossmann Meeting, pp. 2481-2483, Jan. 2015.
- S. M. de Carvalho, R. Negreiros, J. A. Rueda, and R. Ruffini, "Thermal evolution of neutron stars with global and local neutrality", Phys. Rev. C, vol. 90, p. 055804, Nov. 2014.
- S. M. de Carvalho, J. A. Rueda, and R. Ruffini, "On the cooling of globally-neutral neutron stars", Journal of Korean Physical Society, vol. 65, pp. 861-864, Sept. 2014.
- S. M. de Carvalho, M. Rotondo, J. A. Rueda, and R. Ruffini, "Relativistic Feynman-Metropolis-Teller treatment at finite temperatures", Phys. Rev. C, vol. 89, p. 015801, Jan. 2014.
- S. M. de Carvalho, J. A. Rueda, M. Rotondo, C. Arg uelles, and R. Ruffini, "The Relativistic Feynman Metropolis Teller Theory at Zero and Finite Temperatures", International Journal of Modern Physics Conference Series, vol. 23, pp. 244-247, Jan. 2013.

- PhD thesis of Riccardo Belvedere 2008-2013, Sapienza University of Rome, Italy. Topics: 1, 3-4. Fellowship: IRAP-PhD

Scientific Production:

- R. Belvedere, J. A. Rueda, and R. Ruffini, "On the Magnetic Field of Pulsars with Realistic Neutron Star Configurations", ApJ, vol. 799, p. 23, Jan. 2015.
- R. Belvedere, J. A. Rueda, and R. Ruffini, "Static and rotating neutron stars fulfilling all fundamental interactions", Journal of Korean Physical Society, vol. 65, pp. 897-902, Sept. 2014.
- R. Belvedere, K. Boshkayev, J. A. Rueda, and R. Ruffini, "Uniformly rotating neutron stars in the global and local charge neutrality cases", Nuclear Physics A, vol. 921, pp. 33-59, Jan. 2014.
- R. Belvedere, J. A. Rueda, and R. Ruffini, "Neutron Star Cores in the General Relativistic Thomas-Fermi Treatment", International Journal of Modern Physics Conference Series, vol. 23, pp. 185-192, Jan. 2013.
- R. Belvedere, D. Pugliese, J. A. Rueda, R. Ruffini, and S.-S. Xue, "Neutron star equilibrium configurations within a fully relativistic theory with strong, weak, electromagnetic, and gravitational interactions", Nuclear Physics A, vol. 883, pp. 1-24, June 2012.
- R. Belvedere, J. Rueda, and R. Ruffini, "Mass, Radius and Moment of Inertia of Neutron Stars", Proc. X-ray Astrophysics up to 511 keV, p. 7, Sept. 2011.

- R. Belvedere, J. A. Rueda, R. Ruffini, and S.-S. Xue, "The influence of the core on the structure of the outer crust of neutron stars", Proc. 25th Texas Symposium on Relativistic Astrophysics, p. 270, 2010.

- PhD thesis of Kuantay Boshkayev 2009-2012, Sapienza University of Rome, Italy. Topics: 2-5. Fellowship: IRAP-PhD

- K. Boshkayev, J. Rueda, and M. Muccino, "Extracting multipole moments of neutron stars from quasi-periodic oscillations in low mass X-ray binaries", Astronomy Reports, vol. 59, pp. 441-446, June 2015.
- K. Boshkayev, J. A. Rueda, R. Ruffini, and I. Siutsou, "General Relativistic and Newtonian White Dwarfs", Proc. Thirteenth Marcel Grossmann Meeting, pp. 2468-2474, Jan. 2015.
- K. Boshkayev, J. A. Rueda, and R. Ruffini, "SGRs and AXPs as Massive Fast Rotating Highly Magnetized White Dwarfs: the case of SGR 0418+5729", Prof. Thirteenth Marcel Grossmann Meeting, pp. 2295-2300, Jan. 2015.
- K. Boshkayev, D. Bini, J. Rueda, A. Geralico, M. Muccino, and I. Siutsou, "What can we extract from quasiperiodic oscillations?", Gravitation and Cosmology, vol. 20, pp. 233-239, Oct. 2014.
- K. Boshkayev, J. A. Rueda, R. Ruffini, and I. Siutsou, "General relativistic white dwarfs and their astrophysical implications", Journal of Korean Physical Society, vol. 65, pp. 855-860, Sept. 2014.
- R. Belvedere, K. Boshkayev, J. A. Rueda, and R. Ruffini, "Uniformly rotating neutron stars in the global and local charge neutrality cases", Nuclear Physics A, vol. 921, pp. 33-59, Jan. 2014.
- J. A. Rueda, K. Boshkayev, L. Izzo, R. Ruffini, P. Loren-Aguilar, B. Kulebi, G. Aznar-Sigu_an, and E. Garcia-Berro, "A White Dwarf Merger as Progenitor of the Anomalous X-Ray Pulsar 4U 0142+61?", ApJL., vol. 772, p. L24, Aug. 2013.
- K. Boshkayev, L. Izzo, J. A. Rueda, and R. Ruffini, "SGR 0418+5729, Swift J1822.3-1606, and 1E 2259+586 as massive, fast-rotating, highly magnetized white dwarfs", A&A, vol. 555, p. A151, July 2013.
- K. Boshkayev, J. Rueda, and R. Ruffini, "On the Maximum Mass and Minimum Rotation Period of Relativistic Uniformly Rotating White Dwarfs", International Journal of Modern Physics Conference Series, vol. 23, pp. 193-197, Jan. 2013.
- K. Boshkayev, J. A. Rueda, R. Ruffini, and I. Siutsou, "On General Relativistic Uniformly Rotating White Dwarfs", ApJ, vol. 762, p. 117, Jan. 2013.
- K. Boshkayev, J. Rueda, and R. Ruffini, "On the Maximum Mass of General Relativistic Uniformly Rotating White Dwarfs", International Journal of Modern Physics E, vol. 20, pp. 136-140, 2011.

II d Other Teaching Duties

In addition to the supervision of PhD theses, I teach in the IRAP PhD Program and in the Doctoral Schools organized within it. The topics of teaching are the ones in section I.

II e International Scientific Collaborations

I have active scientific collaborations with the following professors/researches:

- In Argentina: Carlos R. Arguelles at UNLP (La Plata).

- In Brazil: Ulisses Barres de Almeida and Sergio B. Duarte at CBPF (Rio de Janeiro); R. Negreiros at UFF (Niterói); Débora P. Menezes at UFSC (Florianópolis); S. O. Kepler and C. A. Z. Vasconcellos at UFRGS (Porto Alegre); R. Marinho Jr and M. Malheiro at ITA (São José dos Campos); Marcelo Guzzo and Fernando Torres at Unicamp (Campinas); Luis J. Rangel-Lemos and Sheyse M. de Carvalho at UFT (Palma); Rafael Rodrigues de Lima at UDESC (Florianópolis); Jonas P. Pereira at UFABC (Santo André); Jaziel G. Coelho at INPE (São José dos Campos).
- In Colombia: Luis Nuñez, Guillermo González and Fabio Lora Clavijo at UIS (Bucaramanga); Leonardo A. Pachón and Antonio Enea Romano at UdeA (Medellín); César A. Valenzuela at Univalle (Cali).
- In England: Nikolaos Mavromatos at King College London (London); Pablo Lorén-Aguilar at Exeter University (Exeter).
- In Germany: Volker Perlick at University of Bremen (Bremen).
- In Kazakhstan: Kuantay Boshkayev at Al-Farabi Kazakh National University (Almaty).
- In Mexico: Hernando Quevedo at UNAM (México D. F.).
- In Spain: Enrique García-Berro at UPC (Barcelona); Luis Herrera Cometta at University of Salamanca (Salamanca).
- In USA: Chris L. Fryer at LANL (New Mexico); G. Mathews at UND (South Bend).

II e. Work With Postdocs

-Riccardo Belvedere (CAPES-ICRANet Program Fellow at ICRANet - Rio de Janeiro and Universidade Federal Fluminense). Scientific collaboration in the topics 1 and 3.

Scientific Production:

- R. Belvedere, J. A. Rueda, and R. Ruffini, "On the Magnetic Field of Pulsars with Realistic Neutron Star Configurations", ApJ, vol. 799, p. 23, Jan. 2015.
- R. Belvedere, K. Boshkayev, J. A. Rueda, and R. Ruffini, "Uniformly rotating neutron stars in the global and local charge neutrality cases", Nuclear Physics A, vol. 921, pp. 33-59, Jan. 2014.

- Rafael Camargo Rodrigues de Lima (CAPES-ICRANet Program Fellow at ICRANet - Pescara). Scientific collaboration in the topics 1 and 3.

Scientific Production:

- D. L. Cáceres, S. M. de Carvalho, J. G. Coelho, R. C. R. de Lima, J. A. Rueda, "Thermal X-ray emission from massive, fast rotating, highly magnetized white dwarfs", MNRAS 465, 4434 (2017).
- Jaziel G. Coelho, D. L. Cáceres, R. C. R. de Lima, M. Malheiro, J. A. Rueda, R. Ruffini "The rotation-powered nature of some SGRs and AXPs", A&A 599, A87 (2017).

- Sheyse Martins de Carvalho (CAPES-ICRANet Program Fellow at ICRANet – Rio de Janeiro and Universidade Federal Fluminense). Scientific collaboration in the topics 1-3.

Scientific Production:

- D. L. Caceres, S. M. de Carvalho, J. G. Coelho, R. C. R. de Lima, J. A. Rueda, "Thermal X-ray emission from massive, fast rotating, highly magnetized white dwarfs", submitted.

- S. M. de Carvalho, R. Negreiros, J. A. Rueda, and R. Ruffini, "Thermal evolution of neutron stars with global and local neutrality", Phys. Rev. C, vol. 90, p. 055804, Nov. 2014.

- Jaziel Goulart Coelho (CAPES-ICRANet Program Fellow at ICRANet and Sapienza University of Rome). Scientific collaboration in the topics 1-3.

Scientific Production:

- D. L. Caceres, S. M. de Carvalho, J. G. Coelho, R. C. R. de Lima, J. A. Rueda, "Thermal X-ray emission from massive, fast rotating, highly magnetized white dwarfs", submitted.
- Jaziel G. Coelho, D. L. Caceres, R. C. R. de Lima, M. Malheiro, J. A. Rueda, R. Ruffini "On the nature of some SGRs and AXPs as rotation-powered neutron stars", A&A, accepted.
- J. G. Coelho, R. M. Marinho, M. Malheiro, R. Negreiros, D. L. Caceres, J. A. Rueda, and R. Ruffini, "Dynamical Instability of White Dwarfs and Breaking of Spherical Symmetry Under the Presence of Extreme Magnetic Fields", ApJ, vol. 794, p. 86, Oct. 2014.
- J. P. Pereira, J. G. Coelho, and J. A. Rueda, "Stability of thin-shell interfaces inside compact stars", Phys. Rev. D, vol. 90, p. 123011, Dec. 2014.

III. Service activities *[activities carried out in collaboration with ICRANet (e.g. teaching activities, conferences etc...) and outside ICRANet (teaching activities in your university etc…]*

III a. Within ICRANet

- Coordinator of the CAPES-ICRANet Program
- Member of the IRAP- PhD Faculty

III b. Outside ICRANet

Journal Referee:

- European Journal of Physics
- Astrophysics and Space Science Researches in Astronomy and Astrophysics
- Canadian Journal of Physics
- Advances and Space Research
- Mathematical Reviews of the American Mathematical Society
- General Relativity and Gravitation

Scientific Advisor and/or Project Evaluation

- National Center of Science and Technology Evaluation, Ministry of Education and Science, Kazakhstan
- Agencia Nacional de Promoción Científica y Tecnológica and Fondo para la Investigación Científica y Tecnológica del Ministerio de Ciencia, Tecnología e Innovación Productiva, Argentina

Scientific Visits to other Insititutions

- Universidad Industrial de Santander, 23-27 October 2017, Bucaramanga (Colombia).

2017 List of Publication

1. L. Becerra, M. Guzzo, F. Rossi-Torres, J. A. Rueda, R. Ruffini, J. D. Uribe, "Neutrino Oscillations within the Induced Gravitational Collapse Paradigm of Long Gamma-Ray Bursts", The Astrophysical Journal 852, 120 (2018).

2. Gómez, L. Gabriel; Rueda, J. A., "Dark matter dynamical friction versus gravitational wave emission in the evolution of compact-star binaries", Physical Review D 96, 063001, 2017.

3. Cipolletta, Federico; Cherubini, Christian; Filippi, Simonetta; Rueda, Jorge A.; Ruffini, Remo, "Equilibrium Configurations of Classical Polytropic Stars with a Multi-Parametric Differential Rotation Law: A Numerical Analysis",Communications in Computational Physics 22, 863, 2017.

4. Cipolletta, F.; Cherubini, C.; Filippi, S.; Rueda, J. A.; Ruffini, R., "Last stable orbit around rapidly rotating neutron stars", Physical Review D 96, 024046, 2017.

5. Coelho, Jaziel G.; Cáceres, D. L.; de Lima, R. C. R.; Malheiro, M.; Rueda, J. A.; Ruffini, R., "The rotation-powered nature of some soft gamma-ray repeaters and anomalous X-ray pulsars", A&A 599, A87, 2017.

6. Cáceres, D. L.; de Carvalho, S. M.; Coelho, J. G.; de Lima, R. C. R.; Rueda, Jorge A., "Thermal X-ray emission from massive, fast rotating, highly magnetized white dwarfs", MNRAS 465, 4434, 2017.

7. Rueda, Jorge A.; Aimuratov, Y.; de Almeida, U. Barres; Becerra, L.; Bianco, C. L.; Cherubini, C.; Filippi, S.; Karlica, M.; Kovacevic, M.; Fuksman, J. D. Melon; Moradi, R.; Muccino, M.; Penacchioni, A. V.; Pisani, G. B.; Primorac, D.; Ruffini, R.; Sahakyan, N.; Shakeri, S.; Wang, Y., "The binary systems associated with short and long gamma-ray bursts and their detectability", IJMPD 26, 1730016, 2017.