

Zen Vasconcellos, César Augusto



Position: **Full Professor** – Universidade Federal do Rio Grande do Sul (UFRGS), Porto Alegre, Brazil

Adjoint Professor – ICRANet, Rome and Pescara, Italy

Period covered: 2015 - 2017

I Scientific Work

II Conferences and educational activities

II a Conferences and Other External Scientific Work:

1. *Chair of STARS2015 - 3th Caribbean Symposium on Cosmology, Gravitation, Nuclear and Astroparticle Physics/SMFNS2015 - 4th International Symposium on Strong Electromagnetic Fields and Neutron Stars, held in Havana and Varadero, Cuba, from 10 to 16 May, 2015 <https://indico.cern.ch/event/328198/>*
2. *Chair of IWARA 2016 - 7th International Workshop on Astronomy and Relativistic Astrophysics, held in Gramado, Brazil, from 9 to 13 of October, 2016 <http://www.if.ufrgs.br/IWARA2016/index.html>*
3. *Chair of STARS2017 - 4th Caribbean Symposium on Cosmology, Gravitation, Nuclear and Astroparticle Physics/SMFNS2017 - 5th International Symposium on Strong Electromagnetic Fields and Neutron Stars, held in Havana and Varadero, Cuba, from 3 to 13 May, 2017 <https://indico.cern.ch/event/542644/>*
4. *Chair of the IWARA2018 - 8th International Workshop on Astronomy and Relativistic Astrophysics, to be held in Ollantaytambo, Peru, from 9 to 15 September 2018 <https://indico.cern.ch/event/646046/>*
5. *Chair of Chair of STARS2019 - 5th Caribbean Symposium on Cosmology, Gravitation, Nuclear and Astroparticle Physics/SMFNS2019 - 6th International Symposium on Strong Electromagnetic Fields and Neutron Stars, to be held in Havana and Varadero, Cuba, from 6 to 11 May, 2019*

II b Work With Students

II c Diploma thesis supervision: PhD Student Fabio Kopp (UFRGS), on “Compact Stars and Dark Energy”

II d Other Teaching Duties

II e. Work With Postdocs

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

III b. Outside ICRANet

IV. Other

2017 List of Publication

1. **4th Caribbean Symposium on Cosmology, Gravitation, Nuclear and Astroparticle Physics; 5th International Symposium on Strong Electromagnetic Fields and Neutron Stars**, *Astronomische Nachrichten*, Volume 338, Issue 9-10, Pages 963–1173. Issue edited by: Th. Boller, R. González Felipe, A. Pérez Martínez, H. Pérez Rojas, M. M. Roth, C. Zen Vasconcellos. <http://onlinelibrary.wiley.com/doi/10.1002/asna.v338.9-10/issuetoc>
2. **Effective field theory for neutron stars with WIMPS in the pc-GR formalism**, M. Razeira, D. Hadjimichef, M.V.T. Machado, F. Köpp, G.L. Volkmer and C.A.Z. Vasconcellos, *Astronomische Nachrichten*, Volume 338, Issue 9-10, Pages 1073–1078, DOI: 10.1002/asna.201713438. <http://onlinelibrary.wiley.com/doi/10.1002/asna.v338.9-10/issuetoc>
3. **A dark matter compact star in the framework of the pseudo-complex general relativity**, D. Hadjimichef, M.V.T. Machado, F. Köpp, G.L. Volkmer, M. Razeira and C.A.Z. Vasconcellos, *Astronomische Nachrichten*, Volume 338, Issue 9-10, Pages 1079–1084, DOI: 10.1002/asna.201713439. <http://onlinelibrary.wiley.com/doi/10.1002/asna.v338.9-10/issuetoc>
4. **Equilibrium configurations of white dwarfs in the pseudo-complex general relativity**, J. E. S. Costa, D. Hadjimichef, M. V. T. Machado, F. Köpp, G. L. Volkmer, M. Razeira and C. A. Z. Vasconcellos, *Astronomische Nachrichten*, Volume 338, Issue 9-10, Pages 1085-1089, DOI: 10.1002/asna.201713440. <http://onlinelibrary.wiley.com/doi/10.1002/asna.v338.9-10/issuetoc>
5. **Dark matter compact stars in pseudo-complex general relativity**, D. Hadjimichef, G. L. Volkmer, R. O. Gomes and C. A. Zen Vasconcellos, to appear in *Walter Greiner Memorial Volume*, Edited by: Peter O Hess (Universidad Nacional Autónoma de México, Mexico & Goethe-Universität, Frankfurt, Germany), Horst Stöcker (Goethe-Universität, Frankfurt, Germany) (World Scientific, Singapura, 2017). <http://www.worldscientific.com/worldscibooks/10.1142/10828>
6. **Proceedings of the 7th International Workshop on Astronomy and Relativistic Astrophysics (IWARA 2016)**; Gramado, Rio Grande do Sul, Brazil, 9–13 October 2016; Editors: Alexander Lunkes dos Santos, César Augusto Zen Vasconcellos, Daniel Tavares da Silva, Dimiter Hadjimichef, Fridolin Weber, Magno Valério Trindade Machado, Mário Luiz Lopes da Silva, Renxin Xu, and Walter Greiner* (*Deceased.). *International Journal of Modern Physics: Conference Series* (World Scientific, Singapura, 2017) <http://www.worldscientific.com/toc/ijmpcs/45>
7. **Walter Greiner: In Memoriam**, César Zen Vasconcellos, Helio T. Coelho, Peter Otto Hess, *International Journal of Modern Physics: Conference Series* (World Scientific, Singapura, 2017) https://doi.org/10.1142/S2010194517600011_1760001
8. **Highly magnetized neutron stars in a many-body forces formalism**, Rosana O. Gomes, Cesar A. Z. Vasconcellos, Bruno Franzon, Stefan Schramm, Veronica Dexheimer, , *International Journal of Modern Physics: Conference Series* (World Scientific, Singapura, 2017) https://doi.org/10.1142/S2010194517600333_1760033 *Int.J.Mod.Phys.Conf.Ser.* 45 (2017) 1760033, DOI: 10.1142/S2010194517600333
9. **Centennial of General Relativity: A Celebration**, Edited by: César Augusto Zen Vasconcellos (Universidade Federal do Rio Grande do Sul, Brazil & ICRANet, Italy), (World

- Scientific, Singapura, 2017), 336pp, Apr 2017, ISBN: 978-981-4699-65-5 (hardcover). Contents: General Relativity and Compact Stars (Norman K Glendenning); Non-Spherical Compact Stellar Objects in Einstein's Theory of General Relativity (Omair Zubairi and Fridolin Weber); Pseudo-Complex General Relativity: Theory and Observational Consequences (Peter O Hess and Walter Greiner); Strange Matter: A State before Black Hole (Renxin Xu and Yanjun Guo), Building Non-Spherical Cosmic Structures (Roberto A Sussman); Cosmology after Einstein (Marc Lachièze-Rey); Highlights of Standard Model Results from ATLAS and CMS (Cristina Biino); Beyond the Standard Model Searches at ATLAS and CMS (Géraldine Conti); Results from LHCb (Katharina Müller); TeV Astrophysics: Probing the Relativistic Universe (Ulisses Barres de Almeida); Observation of Gravitational Waves from a Binary Black Hole Merger (B P Abbott et al.) <http://www.worldscientific.com/worldscibooks/10.1142/9690>
10. **Fine-tuning in scalar meson decay with bound-state corrections**, M.L.L. da Silva, D.T. da Silva, C.A.Z. Vasconcellos, D. Hadjimichef. Dec 22, 2017. 6 pp. e-Print: arXiv:1712.08503 [hep-ph]
 11. **A review on the relativistic effective field theory with parameterized couplings for nuclear matter and neutron stars**, C.A. Zen Vasconcellos (Rio Grande do Sul U. & ICRA, Pescara). 2015. , Published in AIP Conf.Proc. 1693 (2015) 030002, DOI: 10.1063/1.4937185
 12. **Proceedings, 2nd ICRANet César Lattes Meeting: Supernovae, Neutron Stars and Black Holes**, Niterói, Rio de Janeiro, Brazil, April 13-18, 2015, João Pessoa, Brazil, April 21, 2015, Recife, Fortaleza, Brazil, April 22, 2015, Ulisses Barres de Almeida (ed.), Pascal Chardonnet (ed.), Rodrigo Negreiros (ed.), Jorge Rueda (ed.), Remo Ruffini (ed.), Gregory Vereshchagin (ed.), César Zen Vasconcellos (ed.). 2015. Published in AIP Conf.Proc. 1693 (2015)
 13. **Z' decay and dark matter relic density in a Stueckelberg extension of the Standard Model**, A.L. dos Santos (Rio Grande do Sul U.), C.A. Z. Vasconcellos (Rio Grande do Sul U. & ICRA, Pescara). 2015. 5 pp. Published in Astron.Nachr. 336 (2015) no.8/9, 900-904 DOI: 10.1002/asna.201512246
 14. **An effective field theory for neutron stars with many- body forces, strong Σ^- repulsion, and K^- and K^0K^0 condensation**, A. Mesquita, M. Razeira, R. Ruffini, J.A. Rueda, D. Hadjimichef, R.O. Gomes, C.A. Zen Vasconcellos. 2015. 5 pp. Published in Astron.Nachr. 336 (2015) no.8/9, 880-884, DOI: 10.1002/asna.201512242
 15. **Many-body forces in the equation of state of hyperonic matter**, R.O. Gomes (Rio Grande do Sul U. & Frankfurt U., FIAS), V. Dexheimer (Kent State U.), S. Schramm (Frankfurt U., FIAS), C.A.Z. Vasconcellos (Rio Grande do Sul U. & ICRA, Pescara). Nov 18, 2014. 21 pp. Published in Astrophys.J. 808 (2015) no.1, 8, DOI: 10.1088/0004-637X/808/1/8
 16. **3th Caribbean Symposium on Cosmology, Gravitation, Nuclear and Astroparticle Physics; 4th International Symposium on Strong Electromagnetic Fields and Neutron Stars**, Astronomische Nachrichten, Volume 336, Issue 8-9, Pages 715–908. Issue edited by: Th. Boller, R. González Felipe, A. Pérez Martínez, H. Pérez Rojas, M. M. Roth, C. Zen Vasconcellos, <http://onlinelibrary.wiley.com/doi/10.1002/asna.v336.8/9/issuetoc>