

Publications in refereed journals

Francisco Javier Correa Santander

45 publications WoS, 1 article submitted and 4 proceedings in peer review journal

[ArXiv link](#)

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46. **“Stability in integrable nonlocal nonlinear equations”**
Julia Cen, F. Correa, A. Fring and T. Taira,
[Physics Letters A 435 128060 \(2022\)](#).
45. **“Linearly stable and unstable complex soliton solutions with real energies in the Bullough-Dodd model”**
F. Correa, A. Fring and T. Taira,
[arXiv:2110.06825 \[nlin.SI\], submitted to Nuclear Physics B](#).
44. **“ N -dimensional Smorodinsky-Winternitz model and related higher rank quadratic algebra $SW(N)$ ”**
F. Correa, M. Fazlul Hoque, I. Marquette, Y-Z. Zhang,
[Journal of Physics A: Mathematical and Theoretical 54 395201 \(2021\)](#).
43. **“Integrable Systems and Spacetime Dynamics”**
M. Cárdenas, F. Correa, K. Lara, M. Pino,
[Physical Review Letters 127 161601 \(2021\)](#).
42. **“Complex BPS Skyrmions with real energy”**
F. Correa, A. Fring and T. Taira,
[Nuclear Physics B 971 115516 \(2021\)](#).
41. **“Integrability, intertwiners and non-linear algebras in Calogero models”**
F. Carrillo-Morales, F. Correa and O. Lechtenfeld,
[Journal of High Energy Physics 2021 163 \(2021\)](#).
40. **“Polynomial algebras from $su(3)$ and the generic model on the two sphere”**
F. Correa, M. A. del Olmo, I. Marquette and J. Negro,
[Journal of Physics A: Mathematical and Theoretical 54 015205 \(2021\)](#).
39. **“Super-Klein tunneling of Dirac fermions through electrostatic gratings in graphene”**
A. Contreras-Astorga, F. Correa and V. Jakubsky,
[Physical Review B 102, 115429 \(2020\)](#).
38. **“Nonlocal gauge equivalence: Hirota versus extended continuous Heisenberg and Landau-Lifschitz equation”**
J. Cen, F. Correa and A. Fring,
[Journal of Physics A: Mathematical and Theoretical 53, no.19, 195201 \(2020\)](#).
37. **“Microscopic entropy of higher-dimensional nonminimally dressed Lifshitz black holes”**
E. Ayón-Beato, M. Bravo-Gaete, F. Correa, M. Hassaine and M. M. Juárez-Aubry,
[Physical Review D 100, 044024 \(2019\)](#).
36. **“ \mathcal{PT} deformation of Calogero-Sutherland models”**
F. Correa and O. Lechtenfeld,
[Journal of High Energy Physics 1905, 166 \(2019\)](#).

35. **“Integrable nonlocal Hirota equations”**
J. Cen, F. Correa and A. Fring.
[Journal of Mathematical Physics](#) **60**, 081508 (2019).
34. **“ \mathcal{PT} deformation of angular Calogero models”**
F. Correa and O. Lechtenfeld.
[Journal of High Energy Physics](#) **1711**, 122 (2017).
33. **“Degenerate multi-solitons in the sine-Gordon equation”**
J. Cen, F. Correa and A. Fring.
[Journal of Physics A: Mathematical and Theoretical](#) **50**, no. 43, 435201 (2017).
32. **“Confluent Crum-Darboux transformations in Dirac Hamiltonians with \mathcal{PT} -symmetric Bragg gratings”**
F. Correa and V. Jakubsky.
[Physical Review A](#) **95**, no. 3, 033807 (2017).
31. **“Time-delay and reality conditions for complex solitons”**
J. Cen, F. Correa and A. Fring.
[Journal of Mathematical Physics](#) **58**, 032901 (2017).
30. **“Regularized degenerate multi-solitons”**
F. Correa and A. Fring.
[Journal of High Energy Physics](#) **1609**, 008 (2016).
29. **“Spherical Calogero model with oscillator/Coulomb potential: quantum case”**
F. Correa, T. Hakobyan, O. Lechtenfeld and A. Nersessian.
[Physical Review D](#) **93**, no. 12, 125009 (2016).
28. **“Spherical Calogero model with oscillator/Coulomb potential: classical case”**
F. Correa, T. Hakobyan, O. Lechtenfeld and A. Nersessian.
[Physical Review D](#) **93**, no. 12, 125008 (2016).
27. **“The tetrahedric angular Calogero model”**
F. Correa and O. Lechtenfeld.
[Journal of High Energy Physics](#) **1510**, 191 (2015).
26. **“ \mathcal{PT} -symmetric invisible defects and confluent Darboux-Crum transformations”**
F. Correa, V. Jakubsky and M. S. Plyushchay.
[Physical Review A](#) **92**, no. 2, 023839 (2015).
25. **“First law and anisotropic Cardy formula for three-dimensional Lifshitz black holes”**
E. Ayón-Beato, M. Bravo-Gaete, F. Correa, M. Hassaine, M. M. Juárez-Aubry and J. Oliva.
[Physical Review D](#) **91**, no. 6, 064006 (2015), Addendum: [[Phys. Rev. D](#) **96**, no. 4, 049903 (2017)].
24. **“Soliton defects in one-gap periodic system and exotic supersymmetry”**
A. Arancibia, F. Correa, V. Jakubský, J. Mateos Guilarte and M. S. Plyushchay.
[Physical Review D](#) **90**, no. 12, 125041 (2014).
23. **“Exact multisoliton solutions in the four-dimensional Skyrme model”**
F. Canfora, F. Correa and J. Zanelli.
[Physical Review D](#) **90**, 085002 (2014).
22. **“Twisted kinks, Dirac transparent systems and Darboux transformations”**
F. Correa and V. Jakubsky.
[Physical Review D](#) **90**, no. 12, 125003 (2014).
21. **“Black holes in New Massive Gravity dressed by a (non)minimally coupled scalar field”**
F. Correa, M. Hassaine and J. Oliva.
[Physical Review D](#) **89**, no. 12, 124005 (2014).

20. **“Nonlinear supersymmetry in the quantum Calogero model”**
F. Correa, O. Lechtenfeld and M. Plyushchay.
[Journal of High Energy Physics **1404**, 151 \(2014\).](#)
19. **“Thermodynamics of Lovelock black holes with a nonminimal scalar field”**
F. Correa and M. Hassaine.
[Journal of High Energy Physics **1402**, 014 \(2014\).](#)
18. **“Finite-gap twists of carbon nanotubes and an emergent hidden supersymmetry”**
F. Correa and V. Jakubsky.
[Physical Review D **87**, no. 8, 085019 \(2013\).](#)
17. **“Rotating hairy black hole and its microscopic entropy in three spacetime dimensions”**
F. Correa, A. Faúndez and C. Martínez.
[Physical Review D **87**, no. 2, 027502 \(2013\).](#)
16. **“Exact meron Black Holes in four dimensional $SU(2)$ Einstein-Yang-Mills theory”**
F. Canfora, F. Correa, A. Giacomini and J. Oliva.
[Physics Letters B **722**, 364 \(2013\).](#)
15. **“Spectral singularities in \mathcal{PT} -symmetric periodic finite-gap systems”**
F. Correa and M. S. Plyushchay.
[Physical Review D **86**, 085028 \(2012\).](#)
14. **“Self-isospectral tri-supersymmetry in \mathcal{PT} -symmetric quantum systems with pure imaginary periodicity”**
F. Correa and M. S. Plyushchay.
[Annals of Physics **327**, 1761 \(2012\).](#)
13. **“Hairy Black Hole Entropy and the Role of Solitons in Three Dimensions”**
F. Correa, C. Martinez and R. Troncoso.
[Journal of High Energy Physics **1202**, 136 \(2012\).](#)
12. **“Scalar solitons and the microscopic entropy of hairy black holes in three dimensions”**
F. Correa, C. Martinez and R. Troncoso.
[Journal of High Energy Physics **1101**, 034 \(2011\).](#)
11. **“Supersymmetries of the spin-1/2 particle in the field of magnetic vortex, and anyons”**
F. Correa, H. Falomir, V. Jakubsky and M. S. Plyushchay.
[Annals of Physics **325**, 2653 \(2010\).](#)
10. **“Hidden superconformal symmetry of spinless Aharonov-Bohm system”**
F. Correa, H. Falomir, V. Jakubsky and M. S. Plyushchay.
[Journal of Physics A: Mathematical and Theoretical **43**, 075202 \(2010\).](#)
9. **“The Bogoliubov/de Gennes system, the AKNS hierarchy, and nonlinear quantum mechanical supersymmetry”**
F. Correa, G. V. Dunne and M. S. Plyushchay.
[Annals of Physics **324**, 2522 \(2009\).](#)
8. **“Aharonov-Bohm effect on AdS_2 and nonlinear supersymmetry of reflectionless Poschl-Teller system”**
F. Correa, V. Jakubsky and M. S. Plyushchay.
[Annals of Physics **324**, 1078 \(2009\).](#)
7. **“Finite-gap systems, tri-supersymmetry and self-isospectrality”**
F. Correa, V. Jakubsky and M. S. Plyushchay.
[J. Phys. A **41**, 485303 \(2008\).](#)

6. **“Self-isospectrality, special supersymmetry, and their effect on the band structure”**
F. Correa, V. Jakubsky, L. M. Nieto and M. S. Plyushchay.
[Physical Review Letters](#). **101**, 030403 (2008).
5. **“Hidden nonlinear $su(2|2)$ superunitary symmetry of $N = 2$ superextended 1D Dirac delta potential problem”**
F. Correa, L. M. Nieto and M. S. Plyushchay.
[Physics Letters B](#) **659**, 746 (2008).
4. **“Peculiarities of the hidden nonlinear supersymmetry of Pöschl-Teller system in the light of Lamé equation”**
F. Correa and M. S. Plyushchay.
[Journal of Physics A: Mathematical and Theoretical](#) **40**, 14403 (2007).
3. **“Hidden nonlinear supersymmetry of finite-gap Lamé equation”**
F. Correa, L. M. Nieto and M. S. Plyushchay.
[Physics Letters B](#) **644**, 94 (2007).
2. **“Hidden supersymmetry in quantum bosonic systems”**
F. Correa and M. S. Plyushchay.
[Annals of Physics](#) **322**, 2493 (2007).
1. **“On Hidden broken nonlinear superconformal symmetry of conformal mechanics and nature of double nonlinear superconformal symmetry”**
F. Correa, M. A. del Olmo and M. S. Plyushchay.
[Physics Letters B](#) **628**, 157 (2005).

Refereed proceedings contributions

- iv) **“Algebraic integrability of \mathcal{PT} -deformed Calogero models”**
F. Correa and O. Lechtenfeld.
[Journal of Physics: Conference Series](#) **2038** 012007 (2021).
- iii) **“The tetrahexahedric Calogero model”**
F. Correa and O. Lechtenfeld.
[Phys. Part. Nucl. Lett.](#) **14**, no. 2, 304 (2017).
- ii) **“The tetrahexahedric angular Calogero model”**
F. Correa and O. Lechtenfeld.
[J. Phys. Conf. Ser.](#) **804**, no. 1, 012011 (2017).
- i) **“Darboux-Crum transformations, Jordan states and \mathcal{PT} -symmetry”**
F. Correa.
[Phys. Part. Nucl. Lett.](#) **14**, no. 2, 395 (2017).