



<b>Part A. PERSONAL INFORMATION</b>		<b>CV date</b>	03/05/2023
First and Family name	PILAR GARCIA ESTEVEZ		
Social Security, Passport, ID number	7818560-D	Age	65
Researcher numbers	Researcher ID	F-5423-2016	
	Author ID	15737449500	
	ORCID code	https://orcid.org/0000-0001-9026-3979	

### A.1. Current position

Name of University/Institution	UNIVERSIDAD DE SALAMANCA		
Department	FISICA FUNDAMENTAL / FACULTAD DE CIENCIAS		
Address and Country	PLAZA DE LA MERCED S/N 37008 SALAMANCA		
Phone number	620132530	E-mail	<a href="mailto:pilar@usal.es">pilar@usal.es</a>
Current position	Full Professor	From	21/11/2011
Key words	Integrability, Painleve property, Lie symmetries, rogue waves, solitons, chiral molecules		

### A.2. Education

Degree/PhD	University	Year
MsSc. and BSc. Physics	Universidad de Salamanca Premio extraordinario	1979
Ph.D. Physics	Universidad de Salamanca Premio extraordinario	1982

### A.3. JCR articles, h Index, thesis supervised

Overall number of publications: 75 papers

Overall number of citations: 1198 (SCOPUS) 1793 (Google Scholar).

h-index: 19 (SCOPUS) 24 (Google Scholar).

PhD thesis supervised: 3

(Spanish) Número de Sexenios de investigación: **6**; Fecha último Sexenio: **5 de junio 2019**.

### Part B. CV SUMMARY (max. 3500 characters, including spaces)

Pilar García Estevez is a full professor at the Department of Fundamental Physics, Salamanca University. She has great experience in symmetry reductions, exact and computational solutions of 2D and 2D+1 dimensions problems in condensed matter including nonlinear interactions. Her research results have been published in more than 71 papers in peer-reviewed journals. In addition, she has supervised 3 PhD thesis students. She has been the leader or participant of more than 20 research projects funded by various public and private institutions.

### Part C. RELEVANT MERITS

#### C.1. Publications (including books)

##### Papers published in the last ten years

1) Estévez PG, Lejarreta JD and Sardón C,  
"Integrable 1+1 dimensional hierarchies arising from reduction of a non-isospectral problem in 2+1 dimensions"

**Applied Mathematics and Computation** **224**, 311-324, 2013. **Q1**

2) Estévez PG, and Sardón C  
"Miura-reciprocal transformations for non-isospectral Camassa-Holm hierarchies in 2+1 dimensions"

**Journal of Nonlinear Mathematical Physics** **20**, 552-564, 2013. **Q2**

- 3) Estévez PG et al  
“*Lie symmetries for Lie systems: Applications to systems of ODEs and PDEs*”  
**Applied Mathematics and Computation** **273**, 435-452,2016. **Q1**  
<http://dx.doi.org/10.1016/j.amc.2015.09.078>
- 4) Estévez PG et al  
“*Lump solitons in a higher-order nonlinear equation in 2+1 dimensions*”.  
**Physical Review E** **93**, 062219 (7pp), 2016. **Q1**  
DOI:10.1103/PhysRevE.93.062219
- 5) J Villarroel, J. Prada and Estévez, P.G.  
“*Discrete spectrum of 2+1 dimensional Nonlinear Schrödinger equation and dynamics of lumps*”.  
**Advances in Mathematical Physics** **2016**, 8620473, 11pp 2016. **Q3**  
doi:110.1133/2016/8620473
- 6) Estévez P.G., Lejarreta J.D. and Sardón C.  
“*Symmetry computation and reduction of a wave model in  $2+1$  dimensions*”  
**Nonlinear Dynamics** **87**, 13-23, 2017. **Q1**  
doi:10.1007/s11071-016-2997-5
- 7) Villarroel J., Prada J. and Estévez P.G.  
“*Weakly decaying solutions of Nonlinear Schrodinger equation in the plane*”  
**J. Phys. A: Math. Theor.** **50** 495203 (32pp) 2017. **Q1**  
doi.org/10.1088/1751-8121/aa8da3
- 8) Albares P., Estévez, P.G., R. Radha and R. Saranya  
“*Generalized Nizhnik Novikov Veselov Equation Revisited: Lax pair, Lumps and Rogue waves*”  
**Nonlinear Dynamics** **90**,2305-2315 2017. **Q1**  
DOI 10.1007/s11071-017-3804-7
- 9) Albares P., Conde J.M. and Estévez, P.G.  
“*Classical Lie symmetries and reductions for a generalized NLS equation in  $2+1$  dimensions*”  
**Journal of Nonlinear Mathematical Physics** **24**, 48-60, 2017. **Q2**  
DOI:10.1080/14029251.2017.1418053
- 10) P. Albares, E. Diaz, Jose M. Cerveró, F. Dominguez-Adame, E. Diez, and P. G. Estévez  
“*Solitons in a nonlinear model of spin transport in helical molecules*”  
**Phys. Rev. E** **97**, 022210, 2018. **Q1**  
DOI: 10.1103/PhysRevE.00.002200
- 11) E. Diaz, P.Albares, P. G. Estévez, J. M. Cerveró, C. Gaul, E. Diez and F. Dominguez-Adame  
“*Spin dynamics in helical molecules with non-linear Interactions*”  
**New Journal of Physics** **20**, 043055, 2018. **Q1**  
DOI: doi.org/10.1088/1367-2630/aabb91
- 12) Albares P., Conde J.M. and Estévez, P.G.  
“*Spectral problem for a two-component nonlinear Schrödinger equation in 2+1 dimensions: Singular manifold method and Lie point symmetries*”  
**Applied Mathematics and Computation** **355**, 585-594 2019. **Q1**  
DOI: doi.org/10.1016/j.amc.2019.03.013
- 13) Albares P., Estévez, P.G. and Lejarreta J.D  
Derivative nonlinear Schrödinger equation Singular manifold method and Lie symmetries  
**Applied Mathematics and Computation** **400**, 126089, 2021 **Q1**  
DOI: <https://doi.org/10.1016/j.amc.2021.126089>
- 14) Cerveró J.M. and Estévez, P.G. }  
A Review in Ermakov Systems and Their Symmetries  
**Symmetry** **13** 493. 2021, **Q1**



DOI: <https://doi.org/10.3390/sym13030493>

15) Albares P. and Estévez P.G.  
Miura-Reciprocal Transformation and Symmetries for the Spectral Problems of KdV and mKdV  
**Mathematics** **9** {926, 2021, **Q1**  
DOI: <https://doi.org/10.3390/math9090926>

16) Albares P. and Estévez P.G.  
A Comprehensive Study of the Complex mKdV Equation through the Singular Manifold Method  
**Mathematics** **11** 859, 2023, **Q1**  
DOI: <https://doi.org/10.3390/math11040859>

## C.2. Research projects and grants (Only last five years)

### Role Investigator.

1. Title: : Estudio experimental de la degeneración sintonizable de espín y de valle en nanosistemas con rotura de simetría  
Funding Agency: MINISTERIO DE CIENCIA E INNOVACION  
**Ref: PID2019-106820RB-C22** 01/06/2020 - 31/05/2023. 156.090 €.
2. Title: Desarrollo de nuevos sensores ópticos y de nuevas técnicas de caracterización en los espectros visible y de Terahercios  
Funding Agency: CONSEJERÍA DE EDUCACIÓN Y CULTURA DE LA JUNTA DE CASTILLA Y LEÓN  
**Ref: SA121P20.** 01/01/2021 - 31/12/2023. 264.000 €.
3. Title: TECNOLOGÍAS BASADAS EN MATERIALES HÍBRIDOS AVANZADOS: GRAFENO, MATERIALES 2D Y AISLANTES TOPOLÓGICOS..  
Funding Agency: Junta de Castilla y León.  
**Ref: SA256P18** 23/11/2018 to 30/06/2021. 120.000€.
4. Title Sistema de caracterización de propiedades eléctricas de materiales  
Funding Agency: Junta de Castilla y León  
**Ref: UIC134USAL03.** 01/01/2019 to 30/10/2019. 406.822€.
5. Title: Fabricación y estudio de las propiedades de transporte de nanodispositivos basados en grafeno y materiales híbridos avanzados.  
Funding Agency: Ministerio de Economía y Competitividad.  
**Ref: MAT2016-75955.** 01/01/2016 to 31/12/2020. 60.500€.

## C.3. Contracts (Only last five years)

## C.4. Patents

## C.5. Long research stays (last five years only)

## C6. Organizational and Advisory roles at Conferences (last five years only)

Member of the organizing committee of The 2<sup>nd</sup> JNMP conference on Nonlinear Mathematical Physics. Santiago de Chile. (2019)

## C7. Editorial boards

Member of the Editorial Board of Symmetry

Member of the editorial board of Open Communications in Nonlinear Mathematical Physics

## C8. Mentoring and Thesis supervised



I have supervised **3 PhD Thesis**:

- 1) *Propiedad de Painlevé para ecuaciones diferenciales no lineales: Integrabilidad y Simetrías*  
**Pilar Ruiz Gordo**, Universidad de Salamanca 1994  
**Premio Extraordinario de Doctorado.**
- 2) *Lie systems, Lie symmetries and reciprocal transformations*  
**Cristina Sardón Muñoz**, Universidad de Salamanca 2015  
**Premio Extraordinario de Doctorado.** *Doctorado Internacional*
- 3) *Integrability, rational solitons and symmetries for nonlinear systems in biology and material physics*  
**Paz Albares Vicente**, Universidad de Salamanca 2021  
[doi.org/10.14201/OVI0453](https://doi.org/10.14201/OVI0453)  
**Premio Extraordinario de Doctorado.** *Doctorado Internacional*

### **C.9. Other services to the community in the last ten years (in Spanish)**

Directora del Departamento de Física Fundamental de la Universidad de Salamanca desde abril de 2015 hasta mayo de 2019