

Date of the CVA

12/06/2019

Section A. PERSONAL DATA

Name and Surname	Daniel Manzano Diosdado		
DNI	75884383t	Age	39
Researcher's identification number	Researcher ID	F-5823-2013	
	Scopus Author ID		
	ORCID	0000-0003-4636-9068	

A.1. Current professional situation

Institution	Universidad de Granada		
Dpt. / Centre	Electromagnetism and Matter Physics / Faculty of Science		
Address			
Phone	(0034) 958241000 - 20569	Email	manzano.dani@gmail.com
Professional category	Junior Professor (Profesor Ayudante Doctor)	Start date	2018
UNESCO spec. code	220000 - Physics		
Keywords			

A.2. Academic education (Degrees, institutions, dates)

Bachelor/Master/PhD	University	Year
Teaching Certificate Program	Massachusetts Institute of Technology	2014
PhD	Universidad de Granada	2010
Master Fisymat	Universidad de Granada	2008
Physics Degree	Universidad de Granada	2005

A.3. General quality indicators of scientific production

ResearcherID: F-5823-2013

Total Articles in Scientific Journals: 22

Total Articles as First Author: 11

Total Articles as Single Author: 2

Total Articles Q1: 12

Total Articles D1: 1

Statistics From the Web of Knowledge (updated at 11/06/2019):

- Sum of the Times Cited: 340

- Average Citations per Article: 15.4

- Average Citations per Year: 34

- H-index: 11

Section B. SUMMARY OF THE CURRICULUM

I made my PhD at the University of Granada in the field of entanglement properties of atoms. After completing it, I moved to the University of Innsbruck to work in the Quantum Information group of Prof. Hans J. Briegel. I worked there for three years, studying transport properties of quantum systems, Stochastic Thermodynamics, quantum effects in photosynthetic complexes, and quantum learning. After my time in Innsbruck, I worked for one year at the Massachusetts Institute of Technology (MIT) under the supervision of Prof. Jianshu Cao. After my year at MIT, I moved to the Singapore University of Technology and Design (SUTD). I came back to Granada with a Marie Curie Fellowship (program Talent Hub). Currently, I have a Junior Professorship at the University of Granada.

I have worked mainly in the fields of Quantum Thermodynamics and Quantum Information.

My fields of interest are:

Quantum transport.
Stochastic Thermodynamics.
Open quantum systems.
Entanglement Theory.
Quantum Artificial Intelligence.
Quantum Computing.

Section C. MOST RELEVANT MERITS (ordered by typology)

C.1. Publications

- 1 **Scientific paper**. 2019. A short introduction to the Lindblad Master Equation Preprint. ArXiv: 1906.04478.
- 2 **Scientific paper**. D. Manzano; P.I. Hurtado. 2018. Harnessing symmetry to control quantum transport *Advances in Physics*. 67-1, pp.1.
- 3 **Scientific paper**. P.L. Garrido; et al. 2018. Editorial: Quantum systems in and out of equilibrium *Fundamentals, dynamics, and applications European Physical Journal - Special Topics*. IOP. 227, pp.201.
- 4 **Scientific paper**. D Manzano; E Kyoseva. 2016. An atomic symmetry-controlled thermal switch *Scientific Reports*. 6-31161.
- 5 **Scientific paper**. J. Thingna; D. Manzano; J. Cao. 2016. Dynamical signatures of molecular symmetries in nonequilibrium quantum transport *Scientific Reports*. 6-28027.
- 6 **Scientific paper**. D Manzano; C Chuang; J Cao. 2016. Quantum transport in d-dimensional lattices *New Journal of Physics*. 18-043044.
- 7 **Scientific paper**. HJ Briegel; et al. 2015. Projective Simulation for Classical Learning Agents: A Comprehensive Investigation *New Generation Computing*. Springer. 33, pp.69-114.
- 8 **Scientific paper**. D Manzano; PI Hurtado. 2014. Symmetry and thermodynamics of currents in open quantum systems *Physical Review B*. 90, pp.125138.
- 9 **Scientific paper**. A Makmal; et al. 2014. Quantum walks on embedded hypercubes *Physical Review A*. 90, pp.022314.
- 10 **Scientific paper**. D Manzano. 2013. Quantum Transport in Networks and Photosynthetic Complexes at the Steady State *Plos One*. Plos. 8-2, pp.e57041.
- 11 **Scientific paper**. A Asadian; et al. 2013. Heat transport through lattices of quantum harmonic oscillators in arbitrary dimensions *Physical Review E. American Physical Society*. 87, pp.012109.
- 12 **Scientific paper**. D Manzano; et al. 2012. Quantum transport efficiency and Fourier's law *Physical Review E. American Physical Society*. 86, pp.061118.
- 13 **Scientific paper**. D Manzano. 2012. Statistical measure of complexity for quantum systems with continuous variables *Physica A: Statistical Mechanics and its Applications*. Elsevier. 391, pp.6238.
- 14 **Scientific paper**. P Sánchez-Moreno; D Manzano; JS Dehesa. 2011. Direct spreading measures of Laguerre polynomials *Journal of Computational and Applied Mathematics*. Elsevier. 235, pp.1129.
- 15 **Scientific paper**. D Manzano; S López-Rosa; JS Dehesa. 2010. Complexity analysis of Klein-Gordon single-particle systems *EPL (Europhysics Letters)*. IOP Publisher. 90, pp.48001.
- 16 **Scientific paper**. D Manzano; et al. 2010. Quantum entanglement in two-electron atomic models *Journal of Physics A: Mathematical and Theoretical*. IOP. 43, pp.275301.
- 17 **Scientific paper**. P Sanchez-Moreno; D Manzano; JS Dehesa. 2010. Spreading lengths of Hermite polynomials *Journal of Computational and Applied Mathematics*. 235, pp.1129.

- 18 Scientific paper.** D Manzano; RJ Yáñez; JS Dehesa. 2010. Relativistic Klein-Gordon charge effects by information-theoretic measures New Journal of Physics. IOP Publisher. 12, pp.023014.
- 19 Scientific paper.** JS Dehesa; S Lopez-Rosa; D. Manzano. 2009. Configuration complexities of hydrogenic atoms The European Physical Journal D. 55, pp.539.
- 20 Scientific paper.** D Manzano; M Pawlowski; C Brukner. 2009. The speed of quantum and classical learning for performing the k-th root of NOT New Journal of Physics. IOP Publisher. 11, pp.113018.
- 21 Scientific paper.** S Lopez-Rosa; D Manzano; JS Dehesa. 2009. Complexity of D-dimensional hydrogenic systems in position and momentum spaces Physica A: Statistical Mechanics and its Applications. Elsevier. 388, pp.3273.
- 22 Scientific paper.** AR Plastino; D Manzano; JS Dehesa. 2009. Separability Criteria and Entanglement Measures for Pure States of N Identical Fermions Europhysics Letters. IOP Publishing. 86, pp.20005.
- 23 Scientific book or monograph.** D Manzano. 2011. Information and Entanglement Measures in Quantum Systems With Applications to Atomic Physics ISBN 978-3-8443-2906-3. LAP LAMBERT Academic Publishing.
- 24 Scientific edition.** D. Manzano; F. de los Santos; P.I. Hurtado. 2018. Quantum Systems In and Out of Equilibrium - Fundamentals, Dynamics and Applications European Physical Journal - Special Topics. IOP. 227, pp.201-322.

C.2. Participation in R&D and Innovation projects

- 1** Física estadística de los sistemas complejos: de los principios básicos a las fronteras de la física de la materia, ecología y neurociencia. (Universidad de Granada). 01/11/2016-31/03/2018.
- 2** Control of Energy Flows and Stability in Quantum Nanodevices (TAHUB/II-148) Daniel Manzano Diosdado. (Universidad de Granada). 01/10/2015-30/09/2017. 150.593 €.
- 3** Control of energy flows and stability in quantum devices Daniel Manzano Diosdado. (Massachusetts Institute of Technology and Singapore University of Technology and Design). 01/10/2014-30/09/2015.
- 4** Atomic, molecular and non-linear systems: Spectroscopy, transport phenomena and information measures. (FIS2008-02380) Jesús Sánchez-Dehesa Moreno-Cid. (Universidad de Granada). 01/01/2008-31/12/2011.
- 5** Spectroscopic properties and information theory in atomic, molecular and non-linear systems. (FIS2005-00973) MINISTERIO DE EDUCACION Y CIENCIA. Jesús Sánchez-Dehesa Moreno-Cid. (Universidad de Granada). 01/01/2006-31/12/2008.
- 6** Funciones especiales, entropías cuánticas y aplicaciones bio- y nanotecnológicas Jesús Sánchez-Dehesa Moreno-Cid. (University of Granada). From 02/01/2006.
- 7** Física Atómica y Molecular Jesús Sánchez-Dehesa Moreno-Cid. (Universidad de Granada).

C.3. Participation in R&D and Innovation contracts

C.4. Patents