Ernesto García Alfonso

PhD student

November 14th, 1996

Toulouse,France

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Skills

C++

Fortran 90

Wolfram Mathematica

Unix

Latex

Spanish (mother tongue)

English

French

Education

since 2021 PhD

2015–2020

Bachelor in physics. Havana University, Physics Faculty. Thesis title: Study of the Vibrational Predissociation of the NeBr2 Complex by Computational Simulation Using the Trajectory Surface Hopping Method.

Publications

2019 C. Calvo-Mola, S. López Pérez, E. García Alfonso, and J. Cerutti-Torres. *"Determination of the Planck Constans through the use of LEDS"*. Revista Cubana de Física, 36, 125.2019.

2020 Ernesto García-Alfonso, Francois Coppens, Manuel Barranco, Martí Pi, Frank Stienkemeier and Nadine Halberstadt.*"Alkali atoms attached to vortex-hosting helium nanodroplets"*. The Journal of Chemical Physics. 152, 194109. 2020.

Ernesto García-Alfonso, Maykel Márquez-Mijares, Jesús Rubayo-Soneira, Nadine Halberstadt, Kenneth C. Janda and Craig C. Martens. *"Study of the Vibrational Predissociation of the NeBr2 Complex by Computational Simulation using the Trajectory Surface Hopping Method"*. Sigma Mathematics. 8, 2029. 2020.

2022 Ernesto García-Alfonso, Maykel Márquez-Mijares, Jesús Rubayo-Soneira, Nadine Halberstadt, Kenneth C. Janda and Craig C. Martens. *"Photogfragmentation dynamics study of $ArBr_2$ ($\nu = 16\ldots,25$) using two theoretical methods: trajectory surface hopping and quasiclassical trajectories"*. Eur. Phys. J. D. 76, 79. 2022.

Ernesto García-Alfonso, Manuel Barranco, David A. Bonhommeau, Nadine Halberstadt, Martí Pi and Florent Calvo. *"Clustering, collision , and relaxation dynamics in pure and doped helium nanoclusters: Density - vs particle -based approaches"*. The Journal of Chemical Physics. 157, 014106. 2022.

PhD Courses

mm/dd/yy

- |||||||||||||||||||| First year (2021-2022)||||||||||||||||||||

(Octobre-December)/2021 Français Langue Etrangère dans Paul Sabatier III (code SGCE EMTRL1A3)

02/10-11/2022 “Introduction au Calcul Haute Performancalfonso@olympe.calmip.univ-toulouse.fr’s password: e et Prise en main du Supercalculateur Olympe” Toulouse (7h a day)

03/10/2022 Aim for innovation: be creative, innovate! Toulouse (6h)

03/31/2022 Ethique et intégrité scientifique. Toulouse (6h)

04/15-20/22 Introduction to Molecular Dynamics Simulations and Enhanced Sampling Methods (10h of classes + 10h of practical course)

05/20/2022 French Copyright law for Teaching and Research. Toulouse (3h)

03/22-June/22 Cours avancé de la théorie de la fonctionnelle de la densité et ses extensions. Toulouse (2h, twice a week. Overall 24h).

05/05-06/09/22 French course A1. École Doctoral, Toulouse, online (twice a week, 2h a day, Overall 24h)

09/05-09/22 "Machine Learning and Quantum Computing for Quantum Molecular Dynamics school” (CECAM-FR-MOSER). Gustave Eiffel Université, Paris.

- |||||||||||||||||||| Second year (2022-2023)||||||||||||||||||||

11/24/22 To supervise, to animate a teaching (3h online)

Experience

2016–2017 Participation. InSTEC Research Project (Financier: InSTEC). Physico-chemical study of atomic and molecular systems with interest for the environment. Department of Atomic and Molecular Physics. Higher Institute of Technologies and Applied Sciences (InSTEC).

2018–2021 Participation. Research Project (National Basic Sciences Program).*“Study of confinement, relaxation and energy transfer processes of atomic and molecular systems"*. Department of Atomic and Molecular Physics. Higher Institute of Technologies and Applied Sciences (InSTEC), University of Havana.

2018 Presentation Scientific day ICIMAF (“Study of the Vibrational Predissociation of the NeBr2 Complex by Computational Simulation using the Trajectory Surface Hopping Method”)

03/11-15/2019 Presentation VIII Taller Iberoamericano de Enseñanza de la Física Universitaria. (“Determination of the Planck Constans through the use of LEDS")

03/2020 Poster. XV Simposio y XIII Congreso de la Sociedad Cubana de Física. La Habana, Cuba.

12/2020–08/2021 I imparted classes corresponding to the subject Molecular Physical and Atomic Physical via Online. InSTEC.

06/2021 Lecture. XV Taller de Física de la Materia Condensada y Molecular. Cuernavaca, Morelos, Mexico.

11/2021 Lecture Réunion anuelle du GDR THEMS. Toulouse, France.

03/10-11/2022 Poster NanoX-FeRMI days. Toulouse, France.

04/18-23/2022 Lecture + Poster The 14^{th} International Conference on Quantum Fluid Clusters, Erice, Sicily, Italy.

08/6-7/2022 Lecture Molecular and Ionic Clusters. Gordon Research Seminar (GRS) , Lucca (Barga), Italy.

08/7-12/2022 Poster Molecular and Ionic Clusters. Gordon Research Conference (GRC) , Lucca (Barga), Italy.

10/19/22 Lecture at Instituto de Física Fundamental (IFF-CSIC) Departamento de Procesos Atómicos, Moleculares y en Superficies Consejo Superior de Investigaciones Científicas, Madrid Spain. *"Coulomb Explosion of Alkali Dimers on Helium Droplets. Is Really Triplet State Dominant?"*

11/7-8/22 Lecture Les Toulousaines du Calcul Atomique et Moléculaire (TouCAM), Toulouse, France

11/11/22 Poster PHOTODYNAMICS 2022, XI International Meeting of Photodynamics, La Havana,Cuba

Stay Abroad

07/2019–10/2019 Participation. Project *"Theoretical study of helium nanodroplets dynamics: alkali dopants and quantum Vortex; rare gas dopants and cluster formation"* in Toulouse, France. Participants: Nadine Halberstad, Manuel Barranco and Martí Pi from University of Barcelona.