

Part A. Personal Information

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|-------------|----------|
| DATE | 9/2/2021 |
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|-------------------|--|---------------------|
| Surname(s) | Moro Muñoz | |
| Forename | Antonio Matías | |
| Spanish ID number | | |
| Sex | Male | |
| Age | | |
| Researcher codes | WoS Researcher ID | E-6538-2010 |
| | SCOPUS Author ID | 7006701533 |
| | Open Researcher and Contributor ID (ORCID) | 0000-0002-0012-8894 |

A.1. Current position

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|------------------------------------|---|--|
| Professional Category | Full Professor | |
| UNESCO Code | | |
| Key Words | Nuclear Physics; Exotic nuclei; nuclear structure and reactions | |
| Name of the University/Institution | Department/Centre | Dpto. de Física Atómica, Molecular y Nuclear/ Facultad de Física |
| Universidad de Sevilla | Full Address | Apartado 1065 – 41080 Sevilla |
| | Email Address | moro@us.es |
| | Phone Number | 954559511 |
| Start date | 30/07/2020 | |

A.2. Education (title, institution, date)

| Year | University | Degree | Title |
|------|------------|----------------|-------------------|
| 1996 | Sevilla | "Licenciatura" | Degree in Physics |
| 2001 | Sevilla | PhD | PhD in Physics |

A.3. Indicators of Quality in Scientific Production (See the instructions)

- Number of JCR publications: 173 (WoS). 72 in Q1
- Citations: Total: 2500. In 2015-2019: 1110 (~220 citations/year) (Scopus)
- h-index (Scopus): 30
- Thesis supervised: 9 (PhD theses) + 2 (M.Sc. theses)
- Projects as PI : 4 (Spanish National Plan) + 2 (bilateral grants) + 1 EU (H2020)

Part B. Free Summary of CV (Max. of 3.500 characters, including spaces)

During my PhD thesis, performed during the period October 1996- April 2001 at the Department of Atomic, Molecular and Nuclear Physics (FAMN) of the University of Seville (Spain), I was introduced in the field of the theoretical description of nuclear reactions, with emphasis in those induced by weakly-bound nuclei. I continued in this field during my postdoctoral stay (2001-2004) at the U. of Lisbon (Portugal), where I worked with Drs. Raquel Crespo and Filomena Nunes in the application of the several reaction formalisms, such as the continuum-discretized coupled-channels (CDCC) and the multiple-scattering methods, to transfer and breakup reactions from low (few MeV per nucleon) to intermediate (hundreds MeV/nucleon). During that period, I started to collaborate also actively with experimental groups, such as the nuclear physics groups at the National Institute of Nuclear Research (ININ, Mexico) and at the Department of Physics of the University of Sao Paulo, Brazil, providing them with the necessary theoretical support for the modeling and interpretation of nuclear reaction measurements performed by these groups at different radioactive beam facilities, such as RIBRAS (Sao Paulo) or Notre Dame (USA). In 2004, I rejoined the Dep. of FAMN at the University of Seville, thanks to a research contract obtained

in a competitive call by the regional government (Junta de Andalucía). During this period, my collaboration with experimental groups was strengthened and extended to other groups, such as the ISOLDE facility at CERN or the Institute of Structure of the Matter (IEM, CSIC, Madrid). In 2010, after obtaining the national accreditation and being selected in a public competition, I was appointed associate professor at the University of Seville.

I have acted as principal investigator of several research grants, including 5 of the National Research Plan of Spain, 2 bilateral projects (one with Lisbon and one with Sao Paulo) and I act also as task leader and University of Seville representative of a EU project funded by the H2020 program.

Since 2009, I have supervised a total of 9 Ph.D. theses and 2 M.Sc. theses, 4 of them at the U. of Seville and 5 at other Universities, as co-supervisor (2 at Universidad Complutense de Madrid, 1 at Universidad Autónoma del Estado de México, 1 at the Univ. of Sao Paulo, and 1 at the University of Padova, this latter as co-tutele).

Since 2004, I have developed a continuous teaching activity at the University of Seville, including undergraduate and postgraduate courses (master, doctorate), such as: Atomic and Molecular Physics, Quantum Physics, Nuclear and Particle Physics (degree of Physics), General Physics (Degree of Optics and Optometry), Introduction to Nuclear Reactions (Master in Nuclear Physics and Master Erasmus in Nuclear Physics), among others.

In July 2020, after the obtention of the corresponding positive evaluation by ANECA, I was appointed full professor.

Part C. Relevant accomplishments

C.1. Publications

- 1.-Unraveling the reaction mechanisms leading to partial fusion of weakly bound nuclei, Jin Lei and A.M.Moro, Phys. Rev. Lett. 123, 232501 (2019).
- 2.-Puzzle of complete fusion suppression in weakly bound nuclei: A Trojan horse effect?", Jin Lei and A.M.Moro, Phys. Rev. Lett. 122, 042503 (2019).
3. Binding-energy independence of reduced spectroscopic strengths derived from (p,2p) and (p,pn) reactions with nitrogen and oxygen isotopes, M. Gómez-Ramos and A.M. Moro, Phys. Lett. B785, 511 (2018).
4. Investigating the ^{10}Li continuum through $^9\text{Li}(d,p)^{10}\text{Li}$ reactions, A.M. Moro, J. Casal, M. Gómez-Ramos, Phys. Lett. B793, 13 (2019).
5. Extracting three-body breakup observables from continuum-discretized coupled-channels calculations with core excitations, R. de Diego, R. Crespo, A.M. Moro, Phys.Rev. C 95, 044611 (2017).
6. Influence of target deformation and deuteron breakup in (d,p) transfer reactions, M. Gómez-Ramos, A.M. Moro, Phys.Rev. C 95, 044612 (2017).
7. Linking structure and dynamics in (p,pn) reactions with Borromean nuclei: The $^{11}\text{Li}(p,pn)^{10}\text{Li}$ case, M. Gómez-Ramos, J. Casal y A.M. Moro, Phys. Lett. B 772, 115 (2017).
8. Description of the $^{11}\text{Li}(p,d)^{10}\text{Li}$ transfer reaction using structure overlaps from a full three-body model, J. Casal, M. Gómez-Ramos, A.M. Moro, Phys. Lett. B 767, 307 (2017).
9. Scattering of the halo nucleus ^{11}Be on ^{197}Au at energies around the Coulomb barrier, V. Pesudo, V. Pesudo, M.J.G. Borge, A.M. Moro, y otros (39/3), Phys. Rev. Lett. 118, 152502 (2017).

10. Reexamining closed-form formulae for inclusive breakup: Application to deuteron- and ${}^6\text{Li}$ -induced reactions, J. Lei, A.M. Moro, Phys.Rev. C 92, 044616 (2015).

C.2. Research Projects and Grants (last 5 years)

Title: Estudios de Procesos de Dispersión Fuerte y Electrodebil con Núcleos a Energías Bajas e Intermedias (FIS2017-88410-P)

Funding institution: MINECO. National Research Plan I+D+I

Role: Principal Investigator

Starting date: 1/1/2018

Final date: 31/12/2020

Participant institutions Universidad de Sevilla

Amount: 90.750 EUR (total costs)

Title: Estructura de Núcleos, Moléculas y Hadrones y su Dinámica en Procesos de Dispersión Fuerte y Electrodebil (FIS2014-53448-C2-1-P)

Funding institution: MINECO. 2014 National Research Plan I+D+I

Role: Principal Investigator

Starting date: 1/1/2015

Final date: 31/12/2017

Participant institutions Universidad de Sevilla y Univ. De Huelva

Amount: 60.000 EUR

Title: European Nuclear Science and Application Research 2 (ENSAR2). Joint Research Activity: "Theoretical Support for Nuclear Facilities in Europe" (TheoS)

Funding institution/call: European Commission under Horizon 2020 call (H2020-INFRAIA-2014-2015).

Principal Investigator: Muhsin Harakeh

Type of participation: task leader of Work Package "TheoS" and U. Seville representative

Starting date: 1/3/2016

Final date: 29/2/2020

Participant institutions Universidad de Sevilla (5 investigadores)

Amount: 10 000 000 EUR (ENSAR); Univ. Sevilla (165.000 EUR)

Title: La Física Nuclear Fuera del Valle de Beta-Estabilidad: Sus Implicaciones en Astrofísica (P11-FQM-7632)

Funding institution/call: 2013 call of Junta de Andalucía "Excellence Projects".

Principal Investigator: Manuel Luis Lozano Leyva (Univ. de Sevilla)

Type of participation: researcher

Starting date: 26/03/13

Final date: 26/03/17 (extended 31/03/18)

Participant institutions Universidad de Sevilla y Centro Nacional de Aceleradores (CNA) (14 researchers)

Amount: : 176.918,30 euros

C.3. Contracts

C.4. Patents and other IPR

C.5 Institutional responsibilities:

Academic Secretary of the Department of Atomic, Molecular and Nuclear Physics (since June 2017)

C.6. Committees

- Member of INTC (“ ISOLDE and Neutron Time-of-Flight Experiments Committee”) at CERN: since 1/1/18.
- Member of "BPAC" committee at «Research Center for Nuclear Physics» (Osaka, Japan): 2017-2019.