

CURRICULUM VITAE

Luis Roca Zamora



Date and place of birth 15-03-1976 Valencia (Spain)

Nationality Spanish

Address (Office) Universidad de Murcia
Facultad de Química
Departamento de Física
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Graduate studies:

- 2000: **Graduate in Physics**, Valencia University (5-year degree)
- 2002: Advance Study Diploma (D.E.A), Valencia University. (Equivalent to **Master Thesis**: "Application of the double pion photoproduction in nuclei to the study of the ρ and σ mesons in nuclear matter". Tutor: Prof. Eulogio Oset)
- **Doctor in Physics**. Department of Theoretical Physics, Valencia university.
Title: "Chiral dynamics in decays and production of hadronic resonances and nuclear applications".
Advisor: Prof. Eulogio Oset.
Date: June 27th 2005.
Mark: Excellent *Cum Laude* (maximum grade)

Fellowships and Honours

- 1999: Undergraduate Fellowship of Collaboration with the Theoretical Physics Department, Valencia University. Granted by the Ministry of Education and Science.
- 2000: Special graduate prize of the Valencia Physics University
- 2001-2005: Research Fellowship (FPU) from the Spanish Ministry of Education and Science.
- 2006: Special PhD prize of the University of Valencia

Working experience:

- (current position) from 2010, February 15: Associate professor (Profesor Titular de Universidad). Department of Physics, University of Murcia.
- 2005, October 26 till 2010, February 14: Temporary Assistant professor (Profesor Titular de Universidad Interino). Department of Physics, University of Murcia.
- 2000-2005: Ph.D studies developed in the 'Nuclear and Hadronic Theory Group', Theoretical Physics Dept. and Instituto de Física Corpuscular (IFIC) - University of Valencia.

Teaching experience:

- Sept. 2003 - April 2004: Teaching of the undergraduate course on "Classical Mechanics". University of Valencia
- 2006-2013: Advanced quantum mechanics. Physics undergraduates. University of Murcia. (45 hours)
- 2005-2012: Physics for Environmental Sciences undergraduates. University of Murcia.
- 2005-2012: Advanced differential equations. Physics undergraduates. University of Murcia. (45 hours)

- 2011-present: Differential equations. Physics undergraduates. University of Murcia. (60 hours)
- 2012-present: Particle and Nuclear Physics. Physics undergraduates. University of Murcia. (60 hours)

Other academic activities:

- Organizer of the Spanish Physics Olympiads, section Murcia. (2012-present)
- Coordinator of the 4-th course of the undergraduate Physics studies (2013-2016)
- Secretary of the Graduate Physics Commission for the elaboration of the Title of Graduate in Physics of the Murcia University
 - Representative of the chemistry Faculty of the Murcia University at the European project for monitoring of "The implementation of the Bologna Process into Physics Studies in Europe" of the European Physical Society.
 - Secretary of the Physics section board of the University of Murcia

Teaching conferences:

- "I Jornadas sobre nuevas tendencias en la enseñanza de las ciencias y las ingenierías", Murcia, 16-18 October, 2008

Teaching courses attended:

- "Nuevas Formas de trabajar en el aula. Metodologías activas", Murcia, 14-15 May, 2008 (8 hours)
- "La carrera docente", Murcia, 28-29 May, 2008 (6 hours)
- "Evaluación de competencias", Murcia, 29 May, 2008 (4 hours)
- "Metodologías activas: estudio de casos, problemas y proyectos", Murcia, 10-11 June, 2008 (6 hours)
- "El portafolio docente", Murcia, 11-12 June, 2008 (8 hours)

International research stays:

- 1999, 12 July - 12 Sept.: Summer student at GSI, Darmstadt (Germany)
- 5 August to 5 October 2002 and 17 July to 29 August 2004: PhD stay in the Research Center for Nuclear Physics (RCNP), Osaka(Japan).
- 2006, 1 July to 30 November. Research stay at the Research Center for Nuclear Physics (RCNP), Osaka(Japan).
- 2007, 16th July to 18th September. Research stay at the Yukawa Institute for Theoretical Physics (YiTP), Kyoto(Japan).
- 24 July to 31st August, 2009 Research stay at Yukawa Institute for Theoretical Physics (YiTP), Kyoto University, Japón

Research projects

1. Title: Física Nuclear y de Hadrones a Energías Intermedias
Reference number: BFM2000-1326
Funding agency: Comisión Interministerial de Ciencia y Tecnología (CICYT)
December 20th 2000 until December 20th 2003
Main Researcher: Eulogio Oset
2. Title: Física Nuclear de Atropartículas y de Altas Energías
Reference number: GRUPOS03/216
Funding agency: Generalitat Valenciana
December 2st 2003 until December 31st 2005
Main Researcher: Jose Wagner Furtado Valle
3. Title: Física Nuclear y de Hadrones a Energías Intermedias
Reference number: BFM2003-00856
Funding agency: Comisión Interministerial de Ciencia y Tecnología (CICYT)
December 1st 2003 until November 30th 2006
Main Researcher: Eulogio Oset
4. Title: EURIDICE European network
Reference number: HPRN-CT-2002-00311
Funding agency: European Union
September 1st 2002 until August 31st 2006
Main Researcher: G.Pancheri (coordinator of the Valencia node: Antonio Pich)
5. Title: EU Integrated Infrastructure Initiative Hadron Physics Project (Network HADRON)
Reference number: RII3-CT-2004-506078
Funding agency: European Union
2004 until 2008
Main Researcher: U.G.Meissner (coordinator of the Valencia node: Eulogio Oset)
6. Title: Extensión de los límites de la teoría quiral de perturbaciones ante la presencia de estados ligados y a densidad finita. Física de quarks pesados.
Reference number: FPA2004-03470
Funding agency: CICYT. Programa nacional de partículas
December 2004 - December 2007
Main researcher: José Antonio Oller

7. Title: Física Nuclear y de Hadrones a Energías Intermedias
Reference number: GVACOMP2006-229
Funding agency: Generalitat Valenciana
January 1st 2006 until December 31st 2006
Main Researcher: Eulogio Oset
8. Title: Física Nuclear y de Hadrones a Energías Intermedias
Reference number: FIS2006-03438
Funding agency: Ministerio de Educación y Ciencia
October 1st 2006 until September 30th 2011
Main Researcher: Eulogio Oset
9. Title: Teorías cuánticas de campos efectivas para Física Hadrónica y Nuclear
Reference number: 02975/PI/05
Funding agency: Fundación Séneca
January 1st 2006 until December 31st 2008
Main Researcher: Jose Antonio Oller Berber
10. Title: Física Nuclear y de Hadrones a Energías Intermedias
Reference number: GVACOMP2007-302
Funding agency: Generalitat Valenciana
January 1st 2007 until December 31st 2007
Main Researcher: Eulogio Oset
11. Title: Extensión de los límites de la teoría quiral de perturbaciones ante la presencia de estados ligados y a densidad finita. Física de quarks pesados.
Reference number: FPA2007-62777
Funding agency: CICYT. Programa nacional de partículas
October 1st 2007 - October 4 2010
Main researcher: José Antonio Oller
12. Title: EU Integrated Infrastructure Initiative Hadron Physics Project (HadronPhysics2)
Reference number: Grant Agreement n. 227431 under the Seventh Framework Programme
Funding agency: European Union
January 1st 2009 until June 20 2012
Main Researcher: U.G.Meissner (coordinator of the Valencia node: Eulogio Oset)

13. Title: Extensión de los límites de la teoría quiral de perturbaciones ante la presencia de estados ligados y a densidad finita. Física de quarks pesados.
Reference number: FPA2010-17806
Funding agency: CICYT. Programa nacional de partículas
January 1st 2011 - January 1 2014
Main researcher: José Antonio Oller
14. Title: Física Nuclear y de Hadrones a Energías Intermedias
Reference number: FIS2011-28853
Funding agency: Ministerio de Educación y Ciencia (311000 euros)
October 1st 2011 until September 30th 2016
Main Researcher: Eulogio Oset
15. Title: EU Integrated Infrastructure Initiative Hadron Physics Project (HadronPhysics3)
Reference number: Grant Agreement n. 286283 under the Seventh Framework Programme
Funding agency: European Union
January 1st 2012 until December 31 2014
Main Researcher: U.G.Meissner (coordinator of the Murcia node: Jose Antonio Oller)
16. Title: EXTENSION DE LA TEORIA QUIRAL DE PERTURBACIONES ANTE LA PRESENCIA DE RESONANCIAS, ESTADOS LIGADOS Y A DENSIDAD FINITA
Reference number: FPA2013-40483-P
Funding agency: MINECO
October 1st 2014 - December 31 2016
Main researcher: José Antonio Oller
17. Title: Física Nuclear y de Hadrones a Energías Intermedias
Reference number: FIS2017-84038-C2-2-P
Funding agency: Ministerio de Educación y Ciencia (60000 euros)
January 1st 2018 until June 30th 2020
Main Researcher: Manuel José Vicente Vacas

Other merits

Referee of European Physical Journal A (4)

Referee of Physical Review Letters (2)

Referee of Physical Review C (2)

Referee of Physical Review D (22)

Referee of Physics Letters B (2)

5 articles quoted by the Review of Particle Physics of the Particle Data Group:

- L. Roca, J. Nieves and E. Oset, “LHCb pentaquark as a $\bar{D}^*\Sigma_c - \bar{D}^*\Sigma_c^*$ molecular state,” Phys. Rev. D **92** (2015) 9, 094003
- L. Roca and E. Oset, “Lambda(1405) poles obtained from pi0-Sigma0 photoproduction data,” Phys. Rev. C **87** (2013) 055201
- J. A. Oller, L. Roca and C. Schat, “Improved dispersion relations for $\gamma\gamma \rightarrow \pi^0\pi^0$,” Phys. Lett. B **659** (2008) 201.
- L. Roca, “Isospin violation in $J/\Psi\text{to}\phi\pi^0\eta$ decay and the $f_0 - a_0$ mixing,” Phys. Rev. D **88** (2013) 014045
- J. A. Oller and L. Roca, “Non-perturbative study of the light pseudoscalar masses in chiral dynamics,” Eur. Phys. J. A **34**, 371-386 (2007)
- J. A. Oller and L. Roca, “Two photons into $\pi^0\pi^0$,” Eur. Phys. J. A **37** (2008) 15

Publications in refereed international journals:

1. J. C. Nacher, E. Oset, M. J. Vicente and L. Roca,
“The role of $\Delta(1700)$ excitation and ρ production in double pion photoproduction,”
Nucl. Phys. A **695** (2001) 295.
2. L. Roca, E. Oset and M. J. Vicente Vacas,
“The sigma meson in a nuclear medium through two pion photoproduction,”
Phys. Lett. B **541** (2002) 77.
3. E. Oset, J. R. Pelaez and L. Roca,
“ $\eta \rightarrow \pi^0 \gamma \gamma$ decay within a chiral unitary approach,”
Phys. Rev. D **67** (2003) 073013.
4. L. Roca and E. Oset,
“The $(\pi^-, \gamma \gamma)$ reaction in nuclei and the sigma meson in the medium,”
Nucl. Phys. A **723** (2003) 129.
5. L. Roca, J. E. Palomar and E. Oset,
“Decay of axial vector mesons into V P and P gamma,”
Phys. Rev. D **70** (2004) 094006.
6. J. E. Palomar, L. Roca, E. Oset and M. J. Vicente Vacas,
“Sequential vector and axial-vector meson exchange and chiral loops in radiative Phi decay,”
Nucl. Phys. A **729** (2003) 743.
7. D. Cabrera, L. Roca, E. Oset, H. Toki and M. J. V. Vacas,
“Mass dependence of inclusive nuclear Phi photoproduction,”
Nucl. Phys. A **733** (2004) 130.
8. L. Roca, J. E. Palomar, E. Oset and H. C. Chiang,
“Unitary chiral dynamics in $J/\Psi \rightarrow VPP$ decays and the role of scalar mesons,”
Nucl. Phys. A **744** (2004) 127.
9. V. K. Magas, L. Roca and E. Oset,
“ ϕ meson width in the medium from proton induced ϕ production in nuclei,”
Phys. Rev. C **71** (2005) 065202.
10. L. Roca,
“Helicity asymmetries in double pion photoproduction on the proton,”
Nucl. Phys. A **748** (2005) 192.

11. L. Roca, E. Oset and J. Singh,
“Low lying axial-vector mesons as dynamically generated resonances”,
Phys. Rev. D **72** (2005) 014002.
12. L. Roca, S. Sarkar, V. K. Magas and E. Oset,
“Unitary coupled channel analysis of the Lambda(1520) resonance”,
Phys. Rev. C **73** (2006) 045208.
13. M. Kaskulov, L. Roca and E. Oset
“A dependence of the γ - and p -induced production of $\Lambda(1520)$ in nuclei”
Eur. Phys. J. A **28** (2006) 139.
14. L. Roca, C. Hanhart, E. Oset and U. G. Meissner,
“Testing the nature of the Lambda(1520) resonance in proton-induced production,”
Eur. Phys. J. A **27**, 373 (2006)
15. J. A. Oller and L. Roca, “Non-perturbative study of the light pseudoscalar masses in chiral dynamics,” Eur. Phys. J. A **34**, 371-386 (2007)
16. L. Roca, A. Hosaka and E. Oset,
“Quantum loops in radiative decays of the a1 and b1 axial-vector mesons,”
Phys. Lett. B **658** (2007) 17.
17. L. S. Geng, E. Oset, L. Roca and J. A. Oller,
“Clues for the existence of two $K_1(1270)$ resonances,”
Phys. Rev. D **75** (2007) 014017
18. J. A. Oller and L. Roca,
“Scalar radius of the pion and zeros in the form factor,”
Phys. Lett. B **651** (2007) 139
19. H. Nagahiro, L. Roca and E. Oset
“Radiative decay into γP of the low lying axial-vector mesons,”
Phys. Rev. D **77** (2008) 034017.
20. J. A. Oller, L. Roca and C. Schat,
“Improved dispersion relations for $\gamma\gamma \rightarrow \pi^0\pi^0$,”
Phys. Lett. B **659** (2008) 201.
21. T. Hyodo, D. Jido, L. Roca
“Structure of the $\Lambda(1405)$ baryon resonance from its large N_c behavior”
Phys. Rev. D **77** (2008) 056010.

22. E. Oset, J. R. Pelaez and L. Roca,
 “ $\eta \rightarrow \pi^0 \gamma \gamma$ decay within a chiral unitary approach revisited”
 Phys. Rev. D **77** (2008) 073001.
23. J. A. Oller and L. Roca,
 “Two photons into $\pi^0 \pi^0$,”
 Eur. Phys. J. A **37** (2008) 15
24. H. Nagahiro, L. Roca and E. Oset
 “Meson loops in the $f_0(980)$ and $a_0(980)$ radiative decays into ρ, ω ”
 Eur. Phys. J. A **36** (2008) 73
25. H. Nagahiro, L. Roca, E. Oset and B. S. Zou,
 “Role of meson loops in the $f(0)(1370)$, $f(0)(1500)$, and $f(0)(1710)$ decays into $V \gamma$,”
 Phys. Rev. D **78** (2008) 014012
26. L. Roca, T. Hyodo and D. Jido
 “On the nature of the $\Lambda(1405)$ and $\Lambda(1670)$ from their N_c behavior in chiral dynamics”
 Nucl. Phys. A **809** (2008) 65
27. L. S. Geng, E. Oset, J. R. Pelaez and L. Roca,
 “Nature of the axial-vector mesons from their N_c behavior within the chiral unitary approach,”
 Eur. Phys. J. A **39** (2009) 81.
28. H. Nagahiro, L. Roca, A. Hosaka and E. Oset,
 “Hidden gauge formalism for the radiative decays of axial-vector mesons,”
 Phys. Rev. D **79** (2009) 014015.
29. “Beam-Helicity Asymmetries in Double Pion Photoproduction off the Proton ” D. Krambrich, F. Zehr, A. Fix, L. Roca *et al*
 Phys. Rev. Lett. **103** (2009) 052002
30. D. Cabrera, D. Jido, R. Rapp and L. Roca,
 “The $a_1(1260)$ as a $\rho\pi$ resonance in nuclear matter,”
 Prog. Theor. Phys. **123** (2010) 719
31. L. Roca and E. Oset,
 “Asymmetry observables in $e^+e^- \rightarrow \pi^+\pi^-\gamma$ in the ϕ region within a chiral unitary approach”
 Phys. Rev. D **81** (2010) 014010

32. L. Roca and E. Oset,
“A description of the $f_2(1270)$, $\rho_3(1690)$, $f_4(2050)$, $\rho_5(2350)$ and $f_6(2510)$ resonances as multi- $\rho(770)$ states”
Phys. Rev. D **82** (2010) 054013
33. J. Yamagata-Sekihara, L. Roca and E. Oset,
“Nature of the $K_2^*(1430)$, $K_3^*(1780)$, $K_4^*(2045)$, $K_5^*(2380)$ and K_6^* as K^* -multi- ρ states,”
Phys. Rev. D **82** (2010) 094017
34. M. Albaladejo, J. A. Oller and L. Roca,
“Dynamical generation of pseudoscalar resonances,”
Phys. Rev. D **82** (2010) 094019
35. L. Roca,
“Pseudotensor mesons as three-body resonances,”
Phys. Rev. D **84** (2011) 094006
36. L. Roca and E. Oset,
“Scattering of unstable particles in a finite volume: the case of π ρ scattering and the $a_1(1260)$ resonance,”
Phys. Rev. D **85** (2012) 054507
37. M. Hartmann, L. Roca *et al.*
“Momentum dependence of the ϕ -meson nuclear transparency,”
Phys. Rev. C **85** (2012) 035206
38. M. Albaladejo, J. A. Oller, E. Oset, G. Rios and L. Roca,
“Finite volume treatment of π π scattering and limits to phase shifts extraction from lattice QCD,”
JHEP **1208** (2012) 071.
39. L. Roca and E. Oset,
“ $\Lambda(1405)$ poles obtained from π^0 - Σ^0 photoproduction data,”
Phys. Rev. C **87** (2013) 055201
40. L. Roca,
“Isospin violation in $J/\Psi \to \phi \pi^0 \eta$ decay and the $f_0 - a_0$ mixing,”
Phys. Rev. D **88** (2013) 014045
41. L. Roca and E. Oset,
“On the isospin 0 and 1 resonances from $\pi\Sigma$ photoproduction data,”
Phys. Rev. C **88**, 055206 (2013).

42. F. Aceti, E. Oset and L. Roca,
 “The composite nature of the $\Lambda(1520)$ resonance,”
 Phys. Rev. C **90**, 025208 (2014)
43. L. Roca, M. Mai, E. Oset and U. G. Meiner,
 “Predictions for the $\Lambda_b \rightarrow J/\psi \Lambda(1405)$ decay,”
 Eur. Phys. J. C **75**, no. 5, 218 (2015)
44. L. Roca, J. Nieves and E. Oset,
 “LHCb pentaquark as a $\bar{D}^*\Sigma_c - \bar{D}^*\Sigma_c^*$ molecular state,”
 Phys. Rev. D **92** (2015) 9, 094003
45. E. Oset *et al.*,
 “Weak decays of heavy hadrons into dynamically generated resonances,”
 Int. J. Mod. Phys. E 25, 1630001 (2016) [105 pages]
46. L. Roca and E. Oset,
 “On the hidden charm pentaquarks in $\Lambda_b \rightarrow J/\psi K^- p$ decay,”
 Eur. Phys. J. C **76** (2016) no.11, 591
47. E. Oset *et al.*,
 “Study of reactions disclosing hidden charm pentaquarks with or without strangeness,”
 Nucl. Phys. A **954** (2016) 371.
48. L. Roca and E. Oset,
 “Role of a triangle singularity in the $\pi\Delta$ decay of the $N(1700)(3/2^-)$,”
 Phys. Rev. C **95** (2017) no.6, 065211.
49. S. Sakai, L. Roca and E. Oset,
 “Charm-beauty meson bound states from $B(B^*)D(D^*)$ and $B(B^*)\bar{D}(\bar{D}^*)$ interaction,”
 Phys. Rev. D **96** (2017) no.5, 054023.
50. J. M. Dias, V. R. Debastiani, L. Roca, S. Sakai and E. Oset,
 “On the binding of the $BD\bar{D}$ and BDD systems,”
 Phys. Rev. D **96** (2017) no.9, 094007
51. J. M. Dias, L. Roca and S. Sakai,
 “Prediction of new states from $D^{(*)}B^{(*)}\bar{B}^{(*)}$ three-body interactions,”
 Phys. Rev. D **97** (2018) no.5, 056019
52. E. Oset and L. Roca,
 “Triangle singularity in $\tau \rightarrow f_1(1285)\pi\nu_\tau$ decay,” Phys. Lett. B **782** (2018) 332 doi:10.1016/j.physletb.2018.05.017 [arXiv:1803.07807 [hep-ph]].

53. L. R. Dai, L. Roca and E. Oset,
“ τ decay into a pseudoscalar and an axial-vector meson,”
Phys. Rev. D **99** (2019) no.9, 096003
doi:10.1103/PhysRevD.99.096003 [arXiv:1811.06875 [hep-ph]].
54. G. Y. Wang, L. Roca and E. Oset,
“Discerning the two $K_1(1270)$ poles in $D^0 \rightarrow \pi^+VP$ decay,”
arXiv:1907.09188 [hep-ph].

Cites in INSPIRE (19-09-2019): 2229

h-index: 30

Cites in Web of Science (19-09-2019): 1702

h-index: 27

Contributions to international conferences:

1. J. C. Nacher, E. Oset, M. J. Vicente Vacas, L. Roca
“Solving the puzzle of the $\gamma p \rightarrow \pi^+ \pi^0 n$ reaction”
Proceedings of the workshop on the Physics of excited nucleon (NSTAR2001), World Scientific, ISBN: 981-02-4760-5, pags. 189.192
2. E. Oset, L. Roca, M. J. Vicente Vacas and J. C. Nacher,
“Two pion photoproduction on nucleons and nuclei in the rho and sigma regions,”
Contributed to International Workshop on Chiral Fluctuations in Hadronic Matter, Orsay, France, 26-28 Sep 2001. arXiv:nucl-th/0112033.
3. L. Roca, E. Oset and M. J. Vicente Vacas,
“The sigma meson in a nuclear medium through two pion photoproduction,”
Contributed to Meson 2002: 7th International Workshop on Meson Production, Properties and Interaction, Cracow, Poland, 24-28 May 2002. arXiv:nucl-th/0206055.
4. L. Roca, J. C. Nacher, E. Oset and M. J. Vicente-Vacas,
“Theoretical study of polarization observables in double pion photoproduction on the proton,”
Prepared for 2nd International Symposium on the Gerasimov-Drell-Hearn Sum Rule and the Spin Structure of the Nucleon (GDH 2002), Genoa, Italy, 3-6 Jul 2002.
5. L. Roca, E. Oset and M. J. V. Vacas,
“In medium sigma meson effects in two pion photoproduction in nuclei,”
Contributed to 16th International Conference on Particles and Nuclei (PANIC 02), Osaka, Japan, 30 Sep - 4 Oct 2002. Nucl. Phys. A **721** (2003) 719 [arXiv:nucl-th/0211097].
6. L. Roca, E. Oset and M. J. Vicente-Vacas,
“Medium sigma meson effects in $\pi^0 \pi^0$ photoproduction,”
Prepared for International School of Nuclear Physics: 24th Course: Quarks in Hadrons and Nuclei, Erice, Sicily, Italy, 16-24 Sep 2002. Prog. Part. Nucl. Phys. **50** (2003) 649.
7. E. Oset, L. Roca, M. J. Vicente Vacas and J. Palomar,
“Chiral dynamics of scalar mesons: Radiative Phi decay and sigma in the medium through $\pi^0 \pi^0$ nuclear photoproduction,”
Prepared for the High-Energy Physics Workshop on Scalar Mesons: An Interesting Puzzle for QCD, Utica, New York, 16-18 May 2003. AIP Conf. Proc. **688** (2004) 3 [arXiv:nucl-th/0307034].
8. M. J. Vicente-Vacas, E. Oset and L. Roca,
“Mass and width of the sigma meson at finite density,”
Prepared for 16th International Conference on Particles and Nuclei (PANIC 02), Osaka, Japan, 30 Sep - 4 Oct 2002. Nucl. Phys. A **721** (2003) 301.

9. J. Palomar, L. Roca, E. Oset and M. J. Vicente-Vacas,
 “New contributions to $\phi \rightarrow \pi^0 \pi^0 \gamma$ and $\phi \rightarrow \pi^0 \eta \gamma$ decays,”
 Prepared for Hadron 03: 10th International Conference on Hadron Spectroscopy, Aschaffenburg, Germany, 31 Aug - 6 Sep 2003. AIP Conf. Proc. **717** (2004) 160.
10. Oset:2004ue E. Oset, J. R. Pelaez and L. Roca,
 “ $\eta \rightarrow \pi^0 \gamma \gamma$ decay within a chiral unitary approach,”
 Prepared for Hadron 03: 10th International Conference on Hadron Spectroscopy, Aschaffenburg, Germany, 31 Aug - 6 Sep 2003. AIP Conf. Proc. **717** (2004) 185.
11. U. G. . Meissner, H. W. . Hammer and A. (.). Wirzba,
 Summary of the Working Group 1: Goldstone Bosons Dynamics “Chiral Dynamics: Theory and Experiment (CD2003),” arXiv:hep-ph/0311212.
12. L. Roca, J. E. Palomar, E. Oset and H. C. Chiang,
 “Unitary chiral dynamics in J/ψ decays into $V P P$ and the role of the scalar mesons,”
 Contributed to 10th International Symposium on Meson-Nucleon Physics and the Structure of the Nucleon (MENU 2004), Beijing, China, 29 Aug - 4 Sep 2004. Int. J. Mod. Phys. A **20** (2005) 1897.
13. J. E. Palomar, L. Roca, E. Oset and M. J. V. Vacas,
 “Radiative vector meson decay,”
 Contributed to 10th International Symposium on Meson-Nucleon Physics and the Structure of the Nucleon (MENU 2004), Beijing, China, 29 Aug - 4 Sep 2004. Int. J. Mod. Phys. A **20** (2005) 1901.
14. L. Roca, J. E. Palomar, E. Oset and H. C. Chiang,
 “Unitary chiral dynamics in J/ψ decay into $V P P$ and the role of the scalar mesons,”
 11th International Conference on Hadron Spectroscopy (Hadron05), Rio de Janeiro, Brazil, 21-26 Aug 2005.
 AIP Conf. Proc. **814** (2006) 634.
15. L. Roca, E. Oset and J. Singh,
 “The low lying axial-vector mesons as dynamically generated resonances,”
 11th International Conference on Hadron Spectroscopy (Hadron05), Rio de Janeiro, Brazil, 21-26 Aug 2005.
 AIP Conf. Proc. **814** (2006) 468.
16. L. Roca, V. K. Magas, E. Oset and S. Sarkar,
 “Unitary coupled channel study of the $\Lambda(1520)$ resonance,”
 11th International Conference on Hadron Spectroscopy (Hadron05), Rio de Janeiro, Brazil, 21-26 Aug 2005.
 AIP Conf. Proc. **814** (2006) 266.

17. V. K. Magas, L. Roca and E. Oset,
 “Measuring the phi meson width in the medium from p induced phi production in nuclei,”
 Prepared for the 10th International Conference on Structure of Baryons (Baryons 2004),
 Palaiseau, France, 25-29 Oct 2004. Nucl. Phys. A **755** (2005) 495.
18. E. Oset *et al.*,
 “Chiral dynamics of hadrons in nuclei,”
 Prepared for the Workshop on in Medium Hadron Physics, Giessen, Nov 2004.
 Acta Phys. Hung. A **27** (2006) 115.
19. E. Oset, D. Cabrera, V. K. Magas, L. Roca, S. Sarkar, M. J. Vicente Vacas and A. Ramos,
 “Chiral dynamics of baryon resonances and hadrons in a nuclear medium”
 Lectures given at Workshop on Hadron Physics, Puri, India, 7-17 Mar 2005. Pramana
 66:731-752,2006.
20. E. Oset, J. R. Pelaez and L. Roca,
 “Discussion of the eta \rightarrow pi0 gamma gamma decay within a chiral unitary approach,”
 Talk given at Eta05 Workshop on Production and Decay of eta and eta-prime Mesons,
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23. E. Oset, S. Sarkar, M.J. Vicente Vacas, M. Kaskulov, L. Roca, V.K. Magas, A. Ramos,
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 Talk given at 5th International Conference on Perspectives in Hadronic Physics: Inter-
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31. E. Oset *et al.*,
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33. “Axial-vector resonance in nuclear matter,”
D. Cabrera, D. Jido, R. Rapp and L. Roca,
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28 Jun - 3 Jul 2010. Montpellier, France
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“Hadronic particles made of multi-rho(770) mesons,”
Talk at the 21st European Conference on Few Body Problems in Physics,
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37. L. Roca, E. Oset and J. Yamagata
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38. L. Roca and E. Oset,
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39. Authors: E.Oset, L.Roca et al.
Title: Selected topics on Hadrons in Nuclei.
Meeting: 24th International Nuclear Physics Conference (INPC 2010)
Published: J.Phys.Conf.Ser. 312 (2011) 022006
Place: 4-9 July 2010. Vancouver, Canada
40. E.Oset, M.Kaskulov, E.Hernandez, A.Ramos, V.K.Magas, J. Yamagata-Sekihara, S. Hirenzaki, D. Gamermann, R. Molina, L. Tolos, L.Roca
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41. Authors: L.Roca et al.
Title: Measurement of the ϕ -meson nuclear transparency in proton-nucleus collisions
Meeting: Stori11, Physics at Storage Rings
Published: PoS STORI11 (2011) 044
Place: Frascati, Rome, Italy; 9-14 Oct 2011.
42. Authors: E. Oset, A. Martinez Torres, K.P. Khemchandani, L. Roca
Title: Three body systems with strangeness and exotic systems.
Meeting: 21th European Conference on Few-Body Problems in Physics: EFB 21
Published: Few Body Syst. 50 (2011) 129-135
Place: 29 Aug - 3 Sep 2010. Salamanca, Spain

43. Authors:
 E. Oset, A. Martinez Torres, K.P. Khemchandani, L. Roca, J. Yamagata
 Title: Two, three, many body systems involving mesons.
 Meeting: International School of Nuclear Physics: 33rd Course: From Quarks and Gluons to Hadrons and Nuclei
 Published: Prog.Part.Nucl.Phys. 67 (2012) 455-460
 Place: 16-24 Sep 2011. Erice, Sicily, Italy
44. M. Hartmann, B. Kampfer, Y. T. Kiselev, V. K. Magas, E. Y. Paryev, A. Polyanskiy, L. Roca and H. Schade *et al.*,
 Title: Momentum dependence of hadronic production of the ϕ -meson and its width in nuclear matter,”
 Meeting: International Conference on Exotic Atoms and Related Topics (EXA 2011)
 Published: Hyperfine Interact. **210** (2012) 59.
 Place: 5-9 Sep 2011. Vienna, Austria
45. Authors: M. Hartmann, B. Kampfer, Yu.T Kiselev, Y. Maeda, V.K. Magas, E.Ya. Paryev, A. Polyanski, L. Roca, H. Schade, C. Wilkin and Q.J. Ye
 Title: Recent results on $pp \rightarrow \phi K + K^-$ production and the momentum dependence of ϕ -meson nuclear transparency
 Meeting: Resonance Workshop at UT Austin : Hadronic resonance production in heavy ion and elementary collisions.
 Published: EPJ Web Conf. 36 (2012) 00011
 Place: 5-7 Mar 2012. Austin, Texas, USA
46. Authors: L. Roca, E. Oset
 Title: Extraction of the $\Lambda(1405)$ poles from $\pi^0\Sigma^0$ photoproduction data
 Meeting: 9th International Workshop on the Physics of Excited Nucleons (NSTAR 2013)
 Published: Int.J.Mod.Phys.Conf.Ser. 26 (2014)
 Place: Valencia, Spain, May 27-30, 2013
47. Authors: A. Polyanskiy, M. Hartmann, B. Kampfer, Yu. T. Kiselev, V. K. Magas, E. Ya. Paryev, L. Roca, H. Schade and C. Wilkin
 Title: In-medium ϕ meson width extracted from proton-nucleus collisions
 Meeting: MESON 2012 12th International Workshop on Production, Properties and Interaction of MESONS
 Published: EPJ Web of Conferences 37, 08009 (2012)
 Place: 31 May - 5 Jun 2012. Cracow, Poland

48. Authors: E. Oset and L. Roca
Title: The two $\Lambda(1405)$ poles from photoproduction data
Meeting: Resonance Workshop at Catania (RSN@CT)
Published: EPJ Web Conf. **97** (2015) 00023.
Place: 3-7 Nov 2014. Catania, Italy
49. Authors: E. Oset *et al.*,
Title: “Two, three, many body systems involving mesons. Multimeson condensates,”
Meeting: Jagiellonian Symposium on Fundamental and Applied Subatomic Physics
Published: Acta Phys. Polon. B **47** (2016) 357
Place: 07-13 Jun 2015. Krakow, Poland
50. Authors: E. Oset, L. Roca, M. Mai and J. Nieves,
Title: “The $\Lambda_b \rightarrow J/\psi K^- p$ reaction: $\Lambda(1405)$ and hidden charm pentaquark formation,”
Meeting: 16th International Conference on Hadron Spectroscopy (Hadron 2015)
Published: AIP Conf. Proc. **1735** (2016) 040004. doi:10.1063/1.4949408
Place: 13-18 Sep 2015. Newport News, Virginia, USA
51. Authors: E. Oset *et al.*,
Title: “Reactions Looking for Hidden Charm Pentaquarks with or without Strangeness
Meeting: 8th International Winter Workshop ”Excited QCD” 2016
Published: Acta Phys. Polon. Supp. **9** (2016) 529.
Place: 06-12 Mar 2016. Costa da Caparica, Portugal
52. Authors: E. Oset *et al.*,
Title: Predictions for pentaquark states of hidden charm molecular nature and comparison with experiment
Meeting: 14th International Workshop on Meson Production, Properties and Interaction (MESON 2016)
Published: EPJ Web Conf. **130** (2016) 06004.
Place: 02-07 Jun 2016. Cracow, Poland
53. Authors: L. Roca, J. Nieves and E. Oset,
Title: “On the Double Pole Structure of the $\Lambda(1405)$,”
Meeting: 12th International Conference on Hypernuclear and Strange Particle Physics (HYP 2015)
Published: JPS Conf. Proc. **17** (2017) 071002. doi:10.7566/JPSCP.17.071002
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 Title: “The $\Lambda_b \rightarrow J/\psi K^0 \Lambda$ and Λ_b into $J/\psi \eta \Lambda$ reactions and a Hidden-Charm Pentaquark State with Strangeness,”
 Meeting: 14th International Conference on Meson-Nucleon Physics and the Structure of the Nucleon (MENU 2016). doi:10.7566/JPSCP.13.020043
 Published: JPS Conf. Proc. **13** (2017) 020043.
 Place: 25-30 Jul 2016. Kyoto, Japan
55. Authors: E. Oset *et al.*,
 Title: “Recent Developments in Chiral Unitary Theory and Triangle Singularities Involving Baryons,”
 Meeting: 11th International Workshop on the Physics of Excited Nucleons (NSTAR 2017)
 Published: Few Body Syst. **59** (2018) no.5, 85. doi:10.1007/s00601-018-1407-6
 Place: 20-23 Aug 2017. Columbia, SC, USA
56. Authors: L. Roca, E. Oset and J. Nieves,
 Title: “Hidden charm pentaquarks in $\Lambda_b \rightarrow J/\psi K^- p$ decay,”
 Meeting: 17th International Conference on Hadron Spectroscopy and Structure (Hadron 2017)
 Published: PoS Hadron **2017** (2018) 121. doi:10.22323/1.310.0121
 Place: 25-29 Sep 2017. Salamanca, Spain

Talks given in conferences or workshops:

1. “ ρ photoproduction in nuclei”
 XII Eurodaφne collaboration meeting, Valencia (Spain) 28-30 July 2001
2. “The sigma meson in a nuclear medium through two pion photoproduction”
 7th International Workshop on Meson Production, Properties and Interaction, Cracow (Poland), 24-28 May 2002
3. “ $2\pi^0$ production in nuclei”
 4th Crystall Ball meeting, Pavia (Italy), July 1-2, 2002.
4. “Theoretical study of polarization observables in double pion photoproduction on the proton”
 2nd International Symposium on the Gerasimov-Drell-Hearn Sum Rule and the Spin Structure of the Nucleon (GDH 2002), Genoa (Italy), 3-6 Jul 2002.

5. "In medium sigma meson effects in two pion photoproduction in nuclei"
16th International Conference on Particles and Nuclei (PANIC 02), Osaka (Japan), 30 Sep - 4 Oct 2002.
6. " $\eta \rightarrow \pi^0 \gamma \gamma$ decay within a chiral unitary approach"
2nd Euridice Collaboration meeting, Orsay (France), 6-8 February 2003.
7. " $\eta \rightarrow \pi^0 \gamma \gamma$ decay within a chiral unitary approach"
Workshop on Chiral Dynamics of Hadrons and Hadrons in a Medium, Valencia (Spain), 28-30 June 2003.
8. "New contributions to $\phi \rightarrow \pi^0 \pi^0 \gamma$ and $\phi \rightarrow \pi^0 \eta \gamma$ decays"
10th International Conference on Hadron Spectroscopy (HADRON 03), Aschaffenburg (Germany), 31 Aug - 6 Sep 2003.
9. " $\eta \rightarrow \pi^0 \gamma \gamma$ decay within a chiral unitary approach"
10th International Conference on Hadron Spectroscopy (HADRON 03), Aschaffenburg (Germany), 31 Aug - 6 Sep 2003.
10. " $\eta \rightarrow \pi^0 \gamma \gamma$ decay within a chiral unitary approach"
4th International Workshop on Chiral Dynamics 2003: Theory and Experiment, Bonn (Germany), 8-13 Sep 2003
11. "Mass dependence of inclusive nuclear ϕ production"
3rd Euridice Collaboration meeting, Vienna (Austria), 12-14 February 2004.
12. "Unitary chiral dynamics in J/Ψ decays into VPP and the role of the scalar mesons"
10th International Symposium on Meson-Nucleon Physics and the Structure of the Nucleon (MENU 2004), Beijing (China), 29 Aug - 4 Sep 2004.
13. "Unitary Chiral Dynamics in $J/\Psi \rightarrow VPP$ decays and the role of scalar mesons"
Euridice spectroscopy group meeting, Barcelona (Spain), 16-18 September 2004.
14. "The sigma meson in a nuclear medium through two pion photoproduction"
Thirty years of many body in Spain", Peñíscola(Castellón), 24-25 September 2004.
15. "Unitary chiral dynamics in J/Ψ decay into VPP and the role of the scalar mesons"
XI International conference on hadron spectroscopy (HADRON 05), Rio de Janeiro (Brazil), 21-26 August 2005
16. "Low lying axial-vector mesons as dynamically generated resonances"
XI International conference on hadron spectroscopy (HADRON 05), Rio de Janeiro (Brazil), 21-26 August 2005
17. "Testing the nature of the $\Lambda(1520)$ in photoproduction"
XI International conference on hadron spectroscopy (HADRON 05), Rio de Janeiro (Brazil), 21-26 August 2005

18. "Pseudoscalar meson masses in unitarized chiral perturbation theory"
IVth International Conference on Quarks and Nuclear Physics (QNP06), Madrid, 5-10 June 2006
19. "Radiative η and ϕ decays"
2nd Eta-net Workshop. Peñíscola (Spain). 9-11 May 2007
20. "Dispersion relations in $\gamma\gamma \rightarrow \pi\pi$ "
Workshop on Hadron Dynamics (Hadron08). Almuñécar (Spain). 25-28 September 2008
21. "Scalar mesons in $\gamma\gamma \rightarrow \pi\pi$ "
Workshop on Bound states and Resonances in Effective Field Theories. Trento (Italy). September 29 - October 3, 2008
22. "Scalar radius of the pion and $\gamma\gamma \rightarrow \pi\pi$ "
International Workshop on Effective Field Theories: from the Pion to the Upsilon. Valencia (Spain)
1-6 February, 2009
23. "Non-perturbative chiral study of the quark mass ratio"
Light quark masses and Hadron Physics. Madrid (Spain)
2-5 June, 2009
24. "Axial-vector resonance in nuclear matter"
Chiral10 International Workshop on Chiral Symmetry in Hadrons and Nuclei. Valencia (Spain)
21-24 June, 2010
25. "Hadronic particles made of multi- $\rho(770)$ mesons "
The 21st European Conference on Few Body Problems in Physics (EFB21). Salamanca (Spain)
29 August-2 September, 2010
26. "Hadronic resonances made of many vector mesons"
International conference on the structure of baryons (BARYONS'10). Osaka (Japan)
7-11 December 2010
27. "Hadronic resonances made of multi-vector mesons"
XIV International Conference on Hadron Spectroscopy (HADRON'11). Munich (Germany)
13-17 June 2011

28. "Extraction of the $\Lambda(1405)$ poles from $\pi\Sigma$ photoproduction"
The 9th International Workshop on the Physics of Excited Nucleons (Nstar 2013). Peñíscola (Spain)
27-30 May, 2013
29. "On the double pole structure of the $\Lambda(1405)$ "
12th International Conference on Hypernuclear and Strange Particle Physics (HYP2015). Sendai (Japan)
7-12 September, 2015
30. "Hidden charm pentaquarks in $\Lambda_b \rightarrow J/\psi K^- p$ decay"
XVII International Conference on Hadron Spectroscopy and Structure (HADRON17). Salamanca, Spain
September 25th-29th 2017
31. " $\Lambda(1405)$: theory review"
International Workshop on Partial Wave Analyses and Advanced Tools for Hadron Spectroscopy, PWA11/ATHOS6. Rio de Janeiro (Brasil)
September 2-6th 2019

Poster presentations in conferences or workshops:

1. "New developments on the double pion photoproduction on the proton"
16th International Conference on Particles and Nuclei (PANIC 02), Osaka (Japan), 30 Sep-4 Oct 2002.
2. "Helicity asymmetries in double pion photoproduction on the proton"
Gordon Research Conference on Photonuclear Reactions, Tilton (USA), August 1-6, 2004

Given Seminars:

1. "Nacidos de las estrellas: el origen de los elementos"
V Jornada de Física. Murcia (Spain), 26 May 2006
2. "Axial-vector mesons as dynamically generated resonances"
Nara Women's University. Nara (Japan), 2 October 2006
3. " ¿Volvemos a la energía nuclear?"
Debate. Aula CAM of Murcia. 5 March 2007
4. "Dynamically generated axial-vector mesons"
Yukawa Institute for Theoretical Physics (YITP). Kyoto (Japan), 27 July 2007
5. "Divide y vencerás. El atomismo en la Física moderna" I Jornadas de Filología y Ciencia.
Universidad de Murcia. 1-3 Diciembre 2009

6. "Fukushima: ventajas y peligros de la energía nuclear"
Conferencia. Ciclo: "Los desafíos de la Ciencia... en la crisis"
Centro Cultural Las Claras de Cajamurcia.
29 February, 2012

Attendances to other workshops and schools:

1. Escuela de Doctorado en Física Nuclear: "Métodos relativistas en núcleos", Salamanca, 10-14 Septiembre 2001
2. International Workshop on Chiral Fluctuations in Hadronic Matter, Orsay (France), 26-28 Sep 2001
3. Pushing the limits of QCD, Benasque (Huesca), 8-25 July 2002
4. Pentaquark 2004, 20-23 July, SPring-8 (Japan)