

Catalina Oana Curceanu *Curriculum Vitae*

Personal data

Name:

Catalina Oana Curceanu

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Studies and qualifications

- **1980 – 1984:** Scientific high-school (mathematics and physics), Bucharest, Romania.
- **1984 – 1988:** Faculty of Physics, University of Bucharest; specialization in Nuclear Physics and Elementary Particle Physics. **B. SC. Degree**, obtained with the highest qualification (10/10), having obtained mark 10 in all exams.
- **1988 – 1989:** Master of Science at the Faculty of Physics, University of Bucharest; specialization in Nuclear Physics and Elementary Particle Physics. **M. Sc. Degree**, obtained with the highest qualification (10/10), having obtained mark 10 in all exams.
- **1993 – 1999:** Ph.D. at the Institute of Physics and Nuclear Engineering of Bucharest, with a thesis entitled “*Study of exotic mesons in the antiproton-proton annihilation*”, with research activity in the framework of the OBELIX experiment at CERN (Geneva). **Ph.D. in Physics, Summa cum Laude.**
- **July 2000: Degree in Physics** at the University of “Tor Vergata” of Roma (Italy), obtained with “110/110 e lode”, with a thesis entitled “*Production and study of kaonic hydrogen at the DAΦNE electron-positron collider*”.

Employment history

- **1989 – 1990: Researcher**, Nuclear Power Plant of Zero Power, Pitesti, Romania;
- **1990 – 1996: Associated Researcher**, staff, IFIN-HH, Bucharest, Romania;
- **1996 – 2003: Researcher, staff**, IFIN-HH, Bucharest, Romania;

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- **1992 – 2003: Researcher**, Laboratori Nazionali di Frascati dell'INFN, LNF-INFN (Italy), with various types of contracts;
- **2004 – 2005: Researcher**, staff, Laboratori Nazionali di Frascati dell'INFN, LNF-INFN (Italy)
- **2006 – present: Experienced Researcher (Primo Ricercatore)** and group leader, staff, Laboratori Nazionali di Frascati dell'INFN, LNF-INFN (Italy).

Research activity:

- I) *Professional experience and responsibilities*
- II) *Formation and Dissemination activities*
- III) *Organization of international conferences*
- IV) *Invited talks*
- V) *Editorial and scientific review activities*

I) Professional experience and responsibilities

1.1 International collaborations

- ***Research in the field of hadronic and nuclear physic: studies of kaonic atoms and of the antikaon-nucleon/nuclei interactions***
 - DEAR Responsible of measurement strategy, of Monte Carlo and data analyses (1997 – 2003)
 - SIDDHARTA *Responsible for INFN and LNF* (LNF-INFN) (2004-2010)
 - SIDDHARTA-2 Responsible for data analyses and measurement Spokesperson (2010-present)
 - AMADEUS Co-spokesperson (2005-present)
 - KAONNIS National responsible for INFN (2010-present)
- ***Experimental Quantum Physics***
 - VIP and VIP2 Spokesperson (2004-present)
 - National responsible for INFN (2004-2017)
 - FQXi financed project PI, 2015 - 2017
 - JTF financed project PI, 2015 - 2018

1.2 European financed projects

- **January 2004 – December 2008:** LNF Responsible for the JRA10 SIDDHARTA activity within (I3) HadronPhysics project in EU FP6.
- **May 2008 – December 2008:** *Coordinator of the European FP6 - Researchers' Night 2008 (Eyes on Scientists) project.*
- **January 2009 – March 2015:** INFN responsible for the WP9 LEANNIS (Network: Low Energy Antikaon-Nucleon/Nuclei Interaction Studies), WP24 JointGEM (Joint Research Activity on TPC-GEM) and WP28 SiPM (Joint Research Activity on Silicon PhotoMultipliers) in the EU projects HadronPhysics2 e HadronPhysics3 of FP7.
- **January 2009 - March 2015:** Responsible with dissemination activities for the HadronPhysics2 e HadronPhysics3 EU projects in FP7.
- **June 2011 – June 2015:** Italian representative for the project: EU COST MP1006 (European Cooperation in Science and Technology): Fundamental Problems in Quantum Physics; STSM (Short Time Scientific Missions) and Gender Balance responsible.
- **since October 2016:** Italian Representative, STSM responsible Managing Committee member for the project: EU COST Action (European Cooperation in Science and Technology): CA15220, Quantum Technologies in Space.
- **January 2018 - present:** PI for the FETOPEN financed project: TEQ project in quantum technologies (Testing the Large Scale Limit of Quantum Mechanics), Deputy Coordinator

1.3 International project/grants

- **1 September 2015 – 31 August 2017** PI for the project: ““Events” as we see them: experimental test of the collapse models as a solution of the measurement-problem” financed by the Foundational Question Institute (FQXI).
- **2 November 2015 – 1 August 2018:** PI for the project: “Hunt for the “impossible atoms”: the quest for a tiny violation of the Pauli Exclusion Principle. Implications for physics, cosmology and philosophy” financed by the John Templeton Foundation.
- **July 2013 – June 2018:** *INFN participant in the project financed by the Croatian Science Foundation*, HRZZ 1680, on hadron physics.
- **Four mini-grants from FQXi: 2017, two in 2018 and one in 2019**

1.4 Italian financed projects

- **January 2010 – December 2011:** LNF-INFN responsible in the project PRIN2008 “*Problemi aperti in meccanica quantistica: aspetti teorici e sperimentali della transizione dal microscopico al macroscopico*” (*Quantum Mechanics*)
- **January 2012 – December 2015:** INFN coordinator for the industrial leadership projects PED4PV– Pulsed Electron Deposition for Photovoltaic, and CIGS Thin Films.

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- **January 2012 – December 2015:** Project coordinator “Problemi Aperti della Meccanica Quantistica – Sistemi di Rivelatori SSD e Modelli di Riduzione Dinamica” (Open problems in quantum mechanics), financed by Centro Fermi, Roma, Italy.
- **January 2016 – present:** Project coordinator “Problemi aperti della Meccanica Quantistica – Nuovi sviluppi teorici, ricerche sperimentale innovative”(Open problems in quantum mechanics – 2) financed by Centro Fermi, Roma (Italy).
- **January 2017 – present:** Project coordinator for the Italy-Japan project of big relevance, StrangeMatter, Financed by the Italian Ministry for Foreign Affairs
- **November 2018 – present:** PI for the Italian project SICURA financed by Regione Lazio per Progetti di Gruppi di ricerca

Financial management

During the last 10 years I managed funding for research activities related to various projects (see above) for more than 5 Million Euro.

II) *Educational and Dissemination activities (main activities only)*

- **Tutor/coordinator** of 10 B. Sc. theses, 5 M. Sc. Theses and 12 Ph D theses for Italian Universities and International Universities. Coordinator of Post Doc researchers: 10 post-docs
- **January 2010 – present:** *Coordinator Winter Stage at LNF* for high-school students (<http://www.lnf.infn.it/edu/stageInf/2015/invernali/>)
- **January 2011 – present:** *Scientific Responsible* with formation activities at LNF-INFN for schools (<http://www.lnf.infn.it/edu/percorsi-formativi/2014/>)
- **2011 – present:** *LNF-INFN responsible* for the exchange students with the DOE (USA), within the DOE/INFN students exchange program
- **March 2011 – present:** *Director of the course: Incontri di Fisica (IdF)*, for high-school science teachers, at LNF-INFN (<http://www.lnf.infn.it/edu/incontri/2017/>)
- **March 2011 – present:** *Scientific coordinator* for the International Masterclass INSPYRE at LNF-INFN (es: <http://edu.lnf.infn.it/inspyre2018/>)
- **10-12 July 2013:** *Organizer of the Summer Camp* “Ballando con le particelle. La fisica moderna per ragazzi curiosi” (http://www.lnf.infn.it/edu/stageInf/2013/prog_AISTAPsumcamp13.html)
- **4-5 August 2014:** *Organizer of the* Mini-stage in Modern Physics: Challenges and Opportunities (<http://www.lnf.infn.it/edu/stageInf/2014/summer-mini-stage/>)
- **Since 2015:** *Scientific Director* of the international school: INSPYRE “International School on modern Physics and Research” at the LNF-INFN– for 2017 edition: <http://edu.lnf.infn.it/inspyre-2017/>

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- **“International Year of Light”, LNF-INFN, 21/06/2015 presentation:** <http://edu.lnf.infn.it/programma-seminari-divulgativi-2015/gennaio/> and video at: <https://www.youtube.com/watch?v=JRAig1qShMg> – more than 19000 visualizations
- **Organizer of formation stage on electronics design for silicium based detectors:** 12-14 Ottobre 2015 (LNF-INFN)
- **2015 – present: Science Cnferences for elementary and medium schools: *Le Meraviglie dell’Universo per ragazzi curiosi. Magic Kids*,** at the Casa di Pia library in Frascati
- **2015, 2016, 2017, 2018 : Lectures on *Relatività, meccanica quantistica e cosmologia*,** for l’Associazione Tuscolana di Astronomia, Livio Gratton, <http://lnx.ataonweb.it/wp/2016/01/2451/> (for 2016)
- **25 Nov. 2015: FISICAST Radio Scienza:** – interview on: Chi ha “rubato” l’antimateria?: <http://www.radioscienza.it/2015/11/25/chi-ha-rubato-lantimateria> and on Schroedinger’s cat: <http://www.radioscienza.it/2017/04/18/il-gatto-di-schroedinger/>
- **25 Novembre 2015: Conference: *Dai Buchi Neri all’Adroterapia. Un viaggio nella Fisica Moderna*,** within the event: *Nelle stanze segrete:* <http://www.libreriaassaggi.it/2015/11/06/nelle-segrete-stanze-v-con-barucca-caminiti-curceanu/>, Libreria Assaggi, Roma
- **Tens of lectures in schools in Italy, Romania, Australia**
- **26 February 2016: Speaker at Congress "Una rivoluzione copernicana nel XX secolo: la fisica quantistica",** organized by Rotary Roma Sud Est and Club Rotary Roma Centenario.
- **9 April 2016: speaker at the event: TEDxRoma, Game Changers,** <http://tedxroma.com/> e <http://tedxroma.com/portfolio-items/catalina-curceanu/> with a talk on: *Sinfonia quantistica nei computer di domani: dal bit al qubit*
- **Science blog: <http://scientia.ro/blogurile-scientia/blog-catalina-curceanu.html>** with hunderds of scientific articles published
- **Videoconference for ScienceHub, 16 April 2016,** https://www.youtube.com/watch?v=ucZu_IPoaKk&feature=youtu.be - 7 mysteries of modern physics
- **Speaker in various events organized by MENSA Lazio;** the last talk: "La ricerca delle onde gravitazionali: la storia, la scoperta e il futuro", 30 april 2016, Roma.
- **Mattinees di scienza: *Bim-Bum-Bang: Dal Big Bang alla terapia dei tumori con gli acceleratori di particelle*, 15 April 2016, LNF-INFN; *Circuitiamo? Dietro le quinte delle grandi scoperte della Fisica Moderna*, LNF-INFN, 6 may 2016.**
- **Video Lecture on Parallel Universes:** <https://www.youtube.com/watch?v=lBs-N5SnJfw> with more than 30000 views
- **Speaker at the TEDxBrasov event: May 2017:** <http://tedxbrasov.com/catalina-oana-curceanu/>

III) *Conferences, Workshops, Training Schools organizer – last 5 years*

- International Workshop “*Strangeness in the Universe? Theoretical and experimental progress and challenges*”, ECT* Trento, 21-25 October 2013 (**Chair**);
- International Workshop “*Quantum mechanics tests in Particle Atomic, Nuclear and Complex Systems: 50 years after Bell’s renowned theorem*” ECT*, Trento (Italy) 24-25 February 2014, (**Organizer**);
- 13th International Workshop on *Meson Production, Properties and Interaction* MESON 2014, KRAKÓW, POLAND, 29 May - 3 June 2014 (**Organizer**);
- Workshop “*Questioning fundamental physics principles*”, CERN, 6-9 May 2014 (**Organizer**);
- Workshop “*Achievements and Perspectives in Low-Energy QCD with Strangeness*”, ECT*, Trento (Italy), 27-31 October 2014 (**Chair**);
- Workshop “*Fundamental Problems in Quantum Physics*”, Erice (Italy), 23-27 March 2015, (**Chair**);
- Workshop “*Is quantum theory exact? The endeavor for the theory beyond standard quantum mechanics*” – FQT2015, Frascati (Italy), 23-25 September 2015, (**Chair**);
- Workshop “*Frontiers in hadron and nuclear physics with strangeness and charm*”, ECT*, Trento (Italy), 19-23 October 2015, (**Chair**);
- 12th International Conference on *Hypernuclear and Strange Particle Physics*, HYP2015, Sendai (Japan), 7-12 September 2015 (**IAC member**);
- 14th International Workshop on *Meson Production, Properties and Interaction* MESON 2012, Krakow, POLAND, 2-7 June 2016 (**Organizer**);
- Meeting “*Strangeness, Gravitational waves and neutron stars*”, Frascati (Italy), 10 June 2016 (**Organizer**);
- Workshop “*Testing the limits of the quantum superposition principle in nuclear, atomic and optomechanical systems*”, ECT*, Trento (Italy), 11-16 September 2016, (**Organizer**);
- Training school for graduating students, PhD students and young researchers. “*Are spin-statistics connection and quantum theory exact? The endeavor for the theory beyond the standard quantum mechanics*” , 19-21 December 2016, LNF-INFN, Frascati (Italy) (**Chair**);
- Workshop Quantum Foundations, “*The physics of “what happens” and the measurement problem*”, 24-26 May 2017, LNF-INFN Frascati, Italy (**Chair**);
- Conference “*Is quantum theory exact? The quest for spin-statistics connection and related items*”, 2-6 July 2018, Frascati, Italy (**Chair**);
- HYP2018. The 13th International Conference on Hypernuclear and Strange Particle Physics, 24-29 June 2018, Portsmouth, VA – USA (**IAC Member**);

I am member of Local Organizing Committee and member of IAC for:

Channeling 2004, Frascati, Italia; *DAΦNE2004: Physics at Meson Factories*, Frascati, Italia; *Comunicare Fisica 2005*, Frascati, Italia; *Channeling 2006*, Frascati, Italia; *Frascati Spring School 2007*, Frascati, Italia; *HADRON07*, Frascati, Italia; *Comunicare Fisica 2010*, Frascati, Italia; *Channeling 2010*, Ferrara, Italia; *Channeling 2012*, Alghero, Italia; *Channeling 2014*, Capri, Italia; *EDIT2015*, Frascati; *Channeling 2016*, Desenzano del Garda.

IV) Representative invited talks during last 10 years

I have given about 80 talks (at least 40 invited), among these in the last 10 years the most representatives ones are:

- 1) **Towards Ultimate Quantum Theory**, “*Quantum Mechanics Underground*”, Vaxjo, 11-14 June 2018, Sweden
- 2) **Quantum 2017, From Foundations of Quantum Mechanics to Quantum Information and Quantum Metrology & Sensing Conference**, “*Quantum mechanics under X Rays in the Gran Sasso underground laboratory*”, 7-13 May 2017, Torino (Italy)
- 3) **Gravitational decoherence Conference**, Hereaus, “*Whispers in the cosmic silence. Underground experiments to chart the landscape of (gravity induced?) collapse models*”, Bad Honnef, Germany, 26-28 June 2017
- 4) **Precision Physics, Quantum Electrodynamics and Fundamental Interactions**, “*Stars, gravity and quantum mechanics investigations from the exotic atoms studies to the impossible atoms hunting*” IESC Cargese (France), 1-5 May 2017
- 5) **Eighth International Workshop DICE2016**, “*Underground tests of quantum mechanics. Whispers in the cosmic silence?*”, Castello Pasquini/Castiglione (Tuscany, Italy), September 12-16, 2016
- 6) **KITPC**, Beijing - China, Clustering effects of nucleons in nuclei and quarks in multi-quark states, “*From strange atoms and strange nuclei to the stars. Experiments with low-energy kaons at the DAFNE Collider in Italy*”, Beijing (China), 6 April 2016 (22 March – 22 April)
- 7) **HYP2015** – XII International Conference on Hypernuclear and Strange Particle Physics, “*Strangeness in the Universe? Low-energy kaon-nuclei interactions studies with AMADES at DAFNE*”, Sendai (Japan), 7-12 September 2015.
- 8) **QTFT 2015** Conference, “*The X-ray machine for the Quantum Mechanics examination*”, Vaxjo (Sweden), 8-11 June 2015.

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- 9) **Quantum 2014** Workshop, “*Hunting the impossible atoms: Pauli Exclusion Principle Violation and spontaneous collapse of the wave function at test*”, Torino (Italy), 25 – 30 May 2014.
- 10) **Hadrons in Nuclei, YITP** Conference, “*Advances and perspectives in the low-energy kaon-nucleon/nuclei interactions studies at the DAΦNE Collider*”, Kyoto (Japan) 30 October – 2 November 2013.
- 11) **INPC2013**, International Nuclear Physics Conference, “*Unveiling the strangeness secrets: low-energy kaon-nucleon/nuclei interaction studies at DAFNE*”, Firenze (Italy), 3-7 May 2013.
- 12) **HYP2012-XI** International Conference on Hypernuclear and Strange Particle Physics, “*Unlocking the secrets of the antikaon-nucleon/nuclei interactions at low energies. The SIDDHARTA and the AMADEUS experiments at the DAΦNE Collider*”, Barcelona (Spain), 1-5 October 2012.
- 13) **NDIP2011**, 6th International Conference Nouveaux Développements En Photodétection, “*Experimental tests of the trigger prototype for the AMADEUS experiment based on SciFi read by SiPM*”, Lyon (France), 4 – 8 July 2011.
- 14) **EFB21**, European Few Body Conference, “*Low energy kaon-nucleon/nuclei interaction studies at DAFNE (SIDDHARTA and AMADEUS)*”, Salamanca (Spain), 29 August - 3 September 2010.

V) *Editorial and scientific review activities*

- **Editor proceedings various conferences**
- **Rapporteur for various conferences**
- **Referee for:** *European Journal of Physics* and *Foundation of Physics*.
- **Scientific referee** (international projects evaluation boards) for: Austrian Academy of Sciences; Czech Academy of Sciences; Roumanian Ministry of Education and Science; MIUR – Italy; Ministry of education and sciences of Kazakistan; PSI (Switzerland)
- **Scientific referee for the *National Science Foundation* (NSF), USA.**
- **Scientific Referee and member in academic council for Ph D:** *Jagiellonian University, Cracovia (Polonia); Vienna University (Austria), Technical University (Vienna, Austria)*

International Awards

- *The 2010 Celebrity of the year in science*, awarded by Accademia di Romania.
- **2012: The American Romanian Academy of Arts and Sciences “Prof. Dr. Mircea Sabau ARA Award” for Excellence in Physics/Chemistry** in the recognition of the distinguished contribution to the advancement of the Arts and Sciences in the spirit of the free exchange of values and ideas, Bari, Italy, June 2012.
- **2015: Third prize of the 50^a Edizione “Carnevale della Fisica” per disseminazione scientifica (Genova)**
- **2015: The American Romanian Academy of Arts and Sciences “ARA Award for Excellence in Science”**, Frascati (Roma, Italy)
- **September 2015: Award from the Foundational Question Institute (FQXI) for the project: “ “Events” as we see them: experimental test of the collapse models as a solution of the measurement-problem”** (1 September 2015 – 31 August 2017)
http://fqxi.org/grants/large/awardees/view/___details/2015/curceanu
- **November 2015: Award from the John Templeton Foundation for the project: “Hunt for the “impossible atoms”: the quest for a tiny violation of the Pauli Exclusion Principle. Implications for physics, cosmology and philosophy”**
<https://www.templeton.org/grant/hunt-for-the-impossible-atoms-the-quest-for-a-tiny-violation-of-the-pauli-exclusion-principle-implications-for-physics-cosmology-and-philosophy>
- **2016: Australian Institute of Physics (AIP) Women in Physics Lecturer award for 2016.**
- **March 2016: The 7th Technology Incentive Award in RIKEN** (with TES group)
- **2017 Visiting International Scholar Awards (VISA), University of Wollongong (Australia),**
<http://www.uow.edu.au/research/researchgrants/visaprogram/UOW190234.html>
- **2017 and 2018: Mini-grant from the FQXi** <http://fqxi.org/grants/mini/winners>
- **2017: EPS, European Physical Society Emmy Noether Distinction for Women in Physics**
- **December 2017: 2017 “Tuscolanae Science award” prize**, by the Associazione Tuscolana di Astronomia
- **June 2018: Award 100** from the Ministry for Romanians abroad
- **2018: Thomas Lyle Award** from Melbourne University (Australia)
- **2018: George Southgate Fellowships** from the Adelaide University (Australia)
- **November 2018: Order of Knight of Romania for Cultural Merit**
- **2019 Fundamental Physics Innovation Award** of the American Physics Society, Gordon and Betty Moore Foundation

Member of Academies and Associations

- **Since 2014:** *member of the scientific council of ATA* (Associazione Tuscolana di Astronomia Livio Gratton).
- Since **January 2016:** *member of the Foundational Question Institute* (FQXi).
- **January 2016 – December 2017:** *member of the NUPECC per Long Range Plan board* (Working Group 5 – Fundamental Interactions and Symmetries).

Visiting Scientist

- **Visiting Scientist at RIKEN** (Wako, Saitama Giappone), 18 Gennaio 2010 – 18 Febbraio 2010
- **Visiting Scientist a RIKEN** (Wako, Saitama Giappone), 12 Marzo 2016 – 29 Marzo 2016
- **Visiting Scientist a IKTP (Kavli Institute for Theoretical Physics), Chinese Academy of Science** (Beijing, China), 29 Marzo 2016 – 7 Aprile 2016
- **2016 Women in Physics Lecturer, Australian Institute of Physics:** 8 – 31 August 2016, Australia.
- **15 July – 15 September 2017: Visiting International Scholar** (VISA), University of Wollongong (Australia)
- **1-10 August 2018 Visiting researcher** at Osaka University, RIKEN and Sendai University
- **11 August – 4 September 2018: Lyle Fellow** at University of Melbourne (Australia)
- **1 – 26 December 2018: George Southgate fellow** at the Adelaide University (Australia)
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Languages skills

- **Italian:** fluent
- **English:** fluent
- **French:** intermediate
- **German:** beginner
- **Hungarian:** beginner
- **Rumanian** mother tongue

Other activities

- I am author/coauthor of more than 350 publications in refereed journals (some under name Petrascu): for the full list see:
http://inspirehep.net/search?ln=it&ln=it&p=find+a+curceanu+or+petrascu%2C+c&of=hb&action_search=Cerca&sf=earliestdate&so=d&rm=&rg=25&sc=0
- I have organized more than 40 international workshops and conferences (about 12 at ECT*)
- I gave more than 50 invited talks and colloquia in international workshops and conferences
- I realize intensive dissemination and educational activities
- I am author of a dissemination book published with Springer Editor (Dai Buchi Neri all'Adroterapia. Un Viaggio nella fisica moderna -
<http://www.springer.com/fr/book/9788847052406>

List of publications in the last 5 years

- 1) **C. Curceanu** *et al.*, "Experimental Tests of Quantum Mechanics: Pauli Exclusion Principle and Spontaneous Collapse Models", Springer Proc. Phys. **145** (2014) 181.
- 2) A. Scordo, **C. Curceanu** *et al.*, "Study of the $\Lambda(1405)$ Resonance Through its Neutral and Charged Decay Channels by AMADEUS at DAFNE", Few Body Syst. **55** (2014) 741.
- 3) M. Cargnelli, **C. Curceanu** *et al.*, "X-ray spectroscopy of kaonic atoms at SIDDHARTA", EPJ Web Conf **73** (2014) 05009.
- 4) M. Bazzi, **C. Curceanu** *et al.*, "L-series X-ray yields of kaonic ^3He and ^4He atoms in gaseous targets", Eur. Phys. J. **A50** (2014) 91.
- 5) H. Ohnishi, **C. Curceanu** *et al.*, "A Search for Phi Meson Nucleus Bound State Using Antiproton Annihilation on Nucleus", Acta Phys. Polon. **B45** (2014) 3, 819.
- 6) T. Ishiwatari, **C. Curceanu** *et al.*, "Kaonic Atoms – Results of the SIDDHARTA Experiment", Acta. Phys. Polon. **B45** (2014) 3, 787.
- 7) F. Sakuma, **C. Curceanu** *et al.*, "A Search for Deeply-bound Kaonic Nuclear States by in-flight $^3\text{He}(K-,n)$ Reaction at J-PARC", Acta Phys. Polon. **B45** (2014) 3, 767.
- 8) **C. Curceanu** *et al.*, "Unprecedented Studies of the Low-energy Negatively Charged Kaons Interactions in Nuclear Matter in AMADEUS", Acta Phys. Polon **B45** (2014) 3, 753.
- 9) H. Shi, **C. Curceanu** *et al.*, "The yield of kaonic hydrogen X-rays in the SIDDHARTA experiment", EPJ Web Conf. **66** (2014) 09016.
- 10) T. Hashimoto, **C. Curceanu** *et al.*, "A search for the K -pp bound state in the $^4\text{He}(K\text{-in-flight},n)$ reaction at J-PARC", EPJ web Conf. **66** (2014) 09008.
- 11) **C. Curceanu** *et al.*, "Unveiling strangeness secrets: low-energy kaon-nucleon/nuclei interactions studies at DAΦNE", EPJ web Conf **66** (2014) 09004.
- 12) T. Ishiwatari, **C. Curceanu** *et al.*, "New precision era of experiments on strong interaction with strangeness at DAΦNE/LNF-INFN", EPJ Web Conf. **66** (2014) 05016.
- 13) O. Vazquez Doce, **C. Curceanu** *et al.*, "Studies of the $\Lambda(1405)$ antikaon-nucleon interactions with the KLOE Drift Chamber", PoS Hadron2013 (2013) 183.
- 14) M. Ferrario, **C. Curceanu** *et al.*, "IRIDE: Interdisciplinary research infrastructure based on dual electron linacs and lasers", Nucl. Instrum. Meth. **A740** (2014) 138.

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- 15) V.V. Barmin, **C. Curceanu** *et al.*, "Observation of a narrow baryon resonance with positive strangeness forms in K^+ Xenon collisions", *Phys. Rev.* **C89** (2014) 045204.
- 16) H. Shi, **C. Curceanu** *et al.*, "Testing the Pauli Exclusion Principle for electrons at LNGS", *Phys.Procedia* **61** (2015) 552.
- 17) Y. Sada, **C. Curceanu** *et al.*, "Search for the $K^- pp$ bound state via the in-flight ${}^3\text{He}(K^-, n)$ reaction", *EPJ Web Conf.* **81** (2014) 02016.
- 18) J. Marton, **C. Curceanu** *et al.*, "Kaonic atoms - studies of the strong interaction with strangeness", *EPJ Web Conf.* **81** (2014) 01017.
- 19) T. Hashimoto, **C. Curceanu** *et al.*, "Search for the $K^- pp$ bound state via the ${}^3\text{He}(K^-, n)$ reaction at 1 GeV/c", *J.Phys.Conf.Ser.* **569** (2014) no.1, 012080.
- 20) M. Iliescu, **C. Curceanu** *et al.*, "Progress and perspectives in the low-energy kaon-nucleon/nuclei interaction studies at the DAΦNE collider", *J.Phys.Conf.Ser.* **569** (2014) no.1, 012004.
- 21) **C. Curceanu** *et al.*, "Strangeness in the Universe? Advances and perspectives in the low-energy kaon-nucleon/nuclei interaction studies at the DAΦNE collider", DOI: 10.3204/DESY-PROC-2014-04/21 ; Conference: C14-08-24 (2014) 269.
- 22) T. Hashimoto, **C. Curceanu** *et al.*, "Search for the deeply bound $K^- pp$ state from the semi-inclusive forward-neutron spectrum in the in-flight K^- reaction on helium-3", *PTEP* **6** (2015) 061D01.
- 23) A. Pichler, **C. Curceanu** *et al.*, "Search for a violation of the Pauli Exclusion Principle with electrons", *PoS EPS-HEP2015* (2015) 570.
- 24) T. Yamaga, **C. Curceanu** *et al.*, "Spectroscopic Study of Hyperon Resonances below $\bar{K}N$ Threshold via the (K^-, n) Reaction on Deuteron", *JPS Conf.Proc.* **8** (2015) 021016.
- 25) L. Gruber, **C. Curceanu** *et al.*, "Recovery Time Measurements of Silicon Photomultipliers Using a Pulsed Laser", *PoS EPS-HEP2015* (2015) 249.
- 26) M. Poli Lener, **C. Curceanu** *et al.*, "Performances of an Active Target GEM-Based TPC for the AMADEUS Experiment", *Mod.Instrum.* **4** (2015) 32.
- 27) **C. Curceanu** *et al.*, "X rays on quantum mechanics: Pauli Exclusion Principle and collapse models at test", *J.Phys.Conf.Ser.* **631** (2015) no.1, 012068.

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- 28) C. Curceanu *et al.*, "Experimental search for the "impossible atoms" Pauli Exclusion Principle violation and spontaneous collapse of the wave function at test", J.Phys.Conf.Ser. **626** (2015) no.1, 012027.
- 29) K. Piscicchia, C. Curceanu *et al.*, "Investigation of the low energy kaons hadronic interactions in light nuclei by AMADEUS", Hyperfine Interact. **234** (2015) no.1-3, 9.
- 30) J. Remillieux, C. Curceanu *et al.*, "High energy channelling and the experimental search for the internal clock predicted by Louis de Broglie", Nucl.Instrum.Meth. **B355** (2015) 193.
- 31) I. Tucakovic, C. Curceanu *et al.*, "Low-energy kaon-nucleon/nuclei interaction studies at DAΦNE by AMADEUS", EPJ Web Conf. **95** (2015) 04072.
- 32) A. Pichler, C. Curceanu *et al.*, "VIP 2: Experimental tests of the Pauli Exclusion Principle for electrons", Hyperfine Interact. **233** (2015) no.1-3, 121.
- 33) J. Marton, C. Curceanu *et al.*, "High sensitivity tests of the Pauli Exclusion Principle with VIP2", J.Phys.Conf.Ser. **631** (2015) no.1, 012070.
- 34) C. Curceanu, B.C. Hiesmayr, K. Piscicchia, "X-rays help to unfuzzy the concept of measurement", Journal of Advanced Physics, **4** Number 3 (2015) 263.
- 35) C. Curceanu *et al.*, "Unprecedented studies of the low-energy negatively charged kaons interactions in nuclear matter by AMADEUS", Acta Phys.Polon. **B46** (2015) no.1, 203.
- 36) J. Zmeskal, C. Curceanu *et al.*, "Measurement of the strong interaction induced shift and width of the $1s$ state of kaonic deuterium at J-PARC", Acta Phys.Polon. **B46** (2015) no.1, 101.
- 37) K. Piscicchia, C. Curceanu *et al.*, "Beyond Quantum Mechanics? Hunting the 'Impossible' Atoms - Pauli Exclusion Principle Violation and Spontaneous Collapse of the Wave Function at Test", Acta Phys.Polon. **B46** (2015) no.1, 147.
- 38) J. Marton, C. Curceanu *et al.*, "Strong interaction studies with kaonic atoms", EPJ Web Conf. **113** (2016) 03009.
- 39) P. Moskal, C. Curceanu *et al.*, "Potential of the J-PET detector for studies of discrete symmetries in decays of positronium atom - a purely leptonic system", Acta Phys.Polon. **B47** (2016) 509.
- 40) M. Bazzi, C. Curceanu *et al.*, "K-series X-ray yield measurement of kaonic hydrogen atoms in a gaseous target", Nucl.Phys. **A954** (2016) 7.

PDF Eraser Free

- 41) **C. Curceanu et al.**, "Spontaneously emitted X-rays: an experimental signature of the dynamical reduction models", *Foundations of Physics*, **46** (2016) 263.
- 42) J. Marton, **C. Curceanu et al.**, Low-energy Antikaon Interaction with Nuclei: The AMADEUS Challenge, *JPS Conf.Proc.* **18** (2017) 011034
- 43) M. Bazzi, **C. Curceanu et al.**, "Absolute Energy Calibration of X-ray TESs with 0.04 eV Uncertainty at 6.4 keV in a Hadron-Beam Environment", *J.Low.Temp.Phys.* **184** (2016) no.3-4, 930-937
- 44) R. Kaltenbaek, **C. Curceanu et al.**, "Macroscopic quantum resonators (MAQRO): 2015 Update", *EPJ Quantum Technology* (2016) 3:5, DOI 10.1140/epjqt/s40507-016-0043-7.
- 45) O. Vazquez Doce, **C. Curceanu et al.**, "K⁻ absorption on two nucleons and ppK⁻ bound state search in the Σ^0 p final state", *Phys.Lett.* **B758** (2016) 134-139
- 46) H. Shi, **C. Curceanu et al.**, "Precision X-ray spectroscopy of kaonic atoms as a probe of low-energy kaon-nucleus interaction", *EPJ Web Conf.* **126** (2016) 04045.
- 47) H. Shi, **C. Curceanu et al.**, "Searches for the Violation of Pauli Exclusion Principle at LNGS in VIP(-2) experiment", *J.Phys.Conf.Ser.* **718** (2016) no.4, 042055.
- 48) Y. Sada, **C. Curceanu et al.**, "Structure near K⁻+ p threshold in the in-flight $^3\text{He} (K^-, \Lambda p)n$ reaction", *PTEP* 2016 (2016) no.5, 051D01.
- 49) A. Pichler, **C. Curceanu et al.**, "Application of photon detectors in the VIP2 experiment to test the Pauli Exclusion Principle", *J.Phys.Conf.Ser.* **718** (2016) no.5, 052030.
- 50) **C. Curceanu et al.**, "The X-ray machine for the examination of quantum mechanics", *Int.J.Quant.Inf.* **14** (2016) no.04, 1640017.
- 51) T. Yamaga, **C. Curceanu et al.**, "Study of the elementary (K⁻,n) reactions to search for the K⁻ NN bound state via the $^3\text{He}(K^-,n)$ reaction at J-PARC, AIP Conf.Proc. **1735** (2016) 040007.
- 52) J. Marton, **C. Curceanu et al.**, "SIDDHARTA results and implications of the results on antikaon-nucleon interaction", *AIP Conf.Proc.* **1735** (2016) 080014.
- 53) K. Piscicchia, S. Wycech and **C. Curceanu**, "On the K⁻ $^4\text{He} \rightarrow \Lambda \pi^- ^3\text{He}$ resonant and non-resonant processes", *Nucl. Phys.* **A954** (2016) 75.
- 54) M. Bazzi, **C. Curceanu et al.**, K⁻-series X-ray yield measurement of kaonic hydrogen atoms in a gaseous target, *Nucl. Phys.* **A954** (2016) 7

PDF Eraser Free

- 55) D. Kaminska, **C. Curceanu et al.**, "A feasibility study of ortho-positronium decays measurement with the J-PET scanner based on plastic scintillators", *Eur. Phys. J.* **C76** (2016) 445.
- 56) A. Scordo, **C. Curceanu et al.**, "Shedding New Light on Kaon-Nucleon/Nuclei Interaction and Its Astrophysical Implications with the AMADEUS Experiment at DAFNE", *AIP Conf.Proc.* **1735** (2016) 080015.
- 57) S. Okada, **C. Curceanu et al.**, "First application of superconducting transition-edge-sensor microcalorimeters to hadronic-atom x-ray spectroscopy", *PTEP* 2016 (2016) no.9, 091D01.
- 58) A. Scordo, **C. Curceanu et al.**, "Investigation of the low-energy kaons hadronic interactions in light nuclei by AMADEUS", *EPJ Web Conf.* **130** (2016) 01016.
- 59) P. Moskal, **C. Curceanu et al.**, "Studies of discrete symmetries in a purely leptonic system using the Jagiellonian Positron Emission Tomograph", *EPJ Web Conf.* **130** (2016) 07015.
- 60) M. Pawlik-Niedźwiecka, **C. Curceanu et al.**, "J-PET detector system for studies of the electron-positron annihilations", *EPJ Web Conf.* **130** (2016) 07020.
- 61) H. Tatsuno, **C. Curceanu et al.**, "Future projects of light kaonic atom X-ray spectroscopy", *EPJ Web Conf.* **130** (2016) 01018.
- 62) M. Iliescu, **C. Curceanu et al.**, "Kaonic atoms and strangeness in nuclei: SIDDHARTA-2 and AMADEUS experiments", *J.Phys.Conf.Ser.* **770** (2016) no.1, 012034.
- 63) M. Skurzok, **C. Curceanu et al.**, "Search for Deeply Bound Kaonic Nuclear States with AMADEUS", *EPJ Web Conf.* **165** (2017) 010461125
- 64) K. Piscicchia, **C. Curceanu et al.**, "Low-energy Antikaon-Nucleon Absorption Studies by AMADEUS", *Acta Phys.Polon.Supp.* **10** (2017) 1125
- 65) **C. Curceanu et al.**, "Quantum mechanics under X-rays in the Gran Sasso underground laboratory", *Int.J.Quant.Inf.* **15** (2017) no.08, 1740004.
- 66) K. Piscicchia, **C. Curceanu et al.**, "Low-energy Antikaon-Nucleon/Nuclei Interaction Studies by AMADEUS", *Acta Phys.Polon.* **B48** (2017) 1875.
- 67) M. Mahhomed, **C. Curceanu et al.**, "A Method to Produce Linearly Polarized Positrons and Positronium Atoms with the J-PET Detector", *Acta Phys.Polon.* **A132** (2017) 1486.

PDF Eraser Free

- 68) L. Rahzynski, **C. Curceanu et al.**, Introduction of total variation regularization into filtered backprojection algorithm, *Acta Phys.Polon.* **B48** (2017) 1611.
- 69) S. Niedzwiecki, **C. Curceanu et al.**, “J-PET: a new technology for the whole-body PET imaging”, *Acta Phys.Polon.* **B48** (2017) 1567.
- 70) E. Czerwinski, **C. Curceanu et al.**, “Commissioning of the J-PET detector for studies of decays of positronium atoms”, *Acta Phys.Polon.* **B48** (2017) 1757.
- 71) K. Dulski, **C. Curceanu et al.**, “Analysis procedure of the positronium lifetime spectra for the J-PET detector”, *Acta Phys.Polon.* **A132** (2017) no.5, 1637.
- 72) M. Skurzok, **C. Curceanu et al.**, “Time calibration of the J-PET detector”, *Acta Phys.Polon.* **A132** (2017) no.5, 1641.
- 73) A. Scordo, **C. Curceanu et al.**, “VOXES, a new high resolution X-ray spectrometer for low yield measurements with diffused sources”, *Acta Phys.Polon.* **B48** (2017) 1715.
- 74) O. Vazquez Doce, **C. Curceanu et al.**, “Study of the $\Sigma^0 p$ Final State from K^- Absorptions”, *JPS Conf.Proc.* **17** (2017) 082001.
- 75) **C. Curceanu et al.**, “Strangeness in the Universe? Low-Energy Kaon-Nuclei Interaction Studies with AMADEUS at the DAΦNE Collider”, *JPS Conf.Proc.* **17** (2017) 081003.
- 76) K. Inoue, **C. Curceanu et al.**, “Spectroscopic Study of Hyperon Resonance Below $K^- N$ Threshold via the $d(K^-, n)$ Reaction”, *JPS Conf.Proc.* **17** (2017) 072003.
- 77) J. Zmeskal, **C. Curceanu et al.**, “Probing Strong Interaction with Kaonic Atoms — from DAΦNE to J-PARC”, *JPS Conf.Proc.* **17** (2017) 071001.
- 78) R. Del Grande, **C. Curceanu et al.**, “Investigating the low-energy K^- interactions in nuclear matter with AMADEUS”, *J.Phys.Conf.Ser.* **841** (2017) no.1, 012023.
- 79) **C. Curceanu et al.**, “Underground tests of quantum mechanics. Whispers in the cosmic silence?”, *J.Phys.Conf.Ser.* **880** (2017) no.1, 012045.
- 80) J. Marton, **C. Curceanu et al.**, “VIP-2 at LNGS: An experiment on the validity of the Pauli Exclusion Principle for electrons”, *J.Phys.Conf.Ser.* **873** (2017) no.1, 012018.
- 81) T. Hashimoto, **C. Curceanu et al.**, “Beamline Test of a Transition-Edge-Sensor Spectrometer in Preparation for Kaonic-Atom Measurements”, *IEEE Trans.Appl.Supercond.* **27** (2017) no.4, 2100905.
- 82) S. Kawasaki, **C. Curceanu et al.**, “Spectroscopic Experiment of $\Lambda(1405)$ via the In-flight $d(K^-, n)$ Reaction at J-PARC K1.8BR”, *JPS Conf.Proc.* **13** (2017) 020018.

- 83) H. Shi, **C. Curceanu** *et al.*, “Experimental studies of the kaon-nucleus interaction at low energy with x-ray spectroscopy of kaonic atoms”, *J.Phys.Conf.Ser.* **800** (2017) no.1, 012007.
- 84) K. Piscicchia, **C. Curceanu** *et al.*, “Investigation of the low-energy kaons hadronic interactions in light nuclei by AMADEUS”, *EPJ Web Conf.* **137** (2017) 09005.
- 85) O. Vazquez Doce, **C. Curceanu** *et al.*, “Experimental results on multi-nucleonic K^- absorptions in light nuclei”, *EPJ Web Conf.* **137** (2017) 09010.
- 86) L. Raczyński, **C. Curceanu** *et al.*, “Calculation of time resolution of the J-PET tomograph using the Kernel Density Estimation”, *Phys.Med.Biol.* **62** (2017) 5076.
- 87) R. Del Grande, **C. Curceanu** *et al.*, “Investigating the low-energy $K(-)$ interactions in nuclear matter with AMADEUS”, *Phys.Conf.Ser.* **841** (2017) no.1, 012023.
- 88) **C. Curceanu** *et al.*, “Test of the Pauli Exclusion Principle in the VIP-2 Underground Experiment”, *Entropy* 2017, **19**(7), 300.
- 89) K. Piscicchia, **C. Curceanu** *et al.*, “CSL Collapse Model Mapped with the Spontaneous Radiation”, *Entropy* 2017, **19**(7), 319
- 90) **C. Curceanu** *et al.*, “Quantum mechanics under X-rays in the Gran Sasso underground laboratory”, *Int.J.Quant.Inf.* **15** (2017) no.08, 1740004.
- 91) **C. Curceanu** *et al.*, “Low-energy Kaon--Nuclei Interaction Studies at DAΦNE: SIDDHARTA-2 and AMADEUS”, *Acta Phys.Polon.* **B48** (2017) 1855.
- 92) B. Jasinska, **C. Curceanu** *et al.*, “Human Tissues Investigation Using PALS Acta Phys.Polon. **B48** (2017) 1737
- 93) K. Piscicchia, **C. Curceanu** *et al.*, “First measurement of the $K - n \rightarrow \Lambda \pi -$ non-resonant transition amplitude below threshold”, *Phys.Lett.* **B782** (2018) 339.
- 94) H. Shi, **C. Curceanu** *et al.*, “Experimental search for the violation of Pauli Exclusion Principle”, *Eur.Phys.J.* **C78** (2018) no.4, 319.
- 95) M. Skurzok, **C. Curceanu** *et al.*, “Search for Deeply Bound Kaonic Nuclear States in the AMADEUS Experiment”, *Acta Phys.Polon.* **B49** (2018) 705.
- 96) A. Scordo, **C. Curceanu** *et al.*, “VOXES: a high precision X-ray spectrometer for diffused sources with HAPG crystals in the 2–20 keV range”, *JINST* **13** (2018) no.04, C04002.

PDF Eraser Free

- 97) K. Piscicchia, **C. Curceanu** *et al.*, “Low energy interaction studies of negative kaons in light nuclear targets by AMADEUS”, EPJ Web Conf. **181** (2018) 01005.
- 98) Eryk Czerwinski, **C. Curceanu** *et al.*, “Studies of discrete symmetries in decays of positronium atoms”, EPJ Web Conf. **181** (2018) 01019.
- 99) A. Scordo, **C. Curceanu** *et al.*, “The kaonic atoms research program at DAΦNE: from SIDDHARTA to SIDDHARTA-2”, EPJ Web Conf. **181** (2018) 01004.
- 100) K. Piscicchia, **C. Curceanu** *et al.*, “Low-energy antikaon-nuclei interactions studies by AMADEUS: from QCD with strangeness to neutron stars”, EPJ Web Conf. **166** (2018) 00020.
- 101) A. Gajos, **C. Curceanu** *et al.*, “Feasibility Study of the Time Reversal Symmetry Tests in Decay of Metastable Positronium Atoms with the J-PET Detector”, Adv.High Energy Phys. **2018** (2018) 8271280.
- 102) K. Piscicchia, **C. Curceanu** *et al.*, “Experimental constrains on the Continuous Spontaneous Localization model from spontaneous radiation emission”, PoS CORFU2017 (2018) 201.
- 103) E. Milotti, **C. Curceanu** *et al.*, “On the Importance of Electron Diffusion in a Bulk-Matter Test of the Pauli Exclusion Principle”, Entropy **20** (2018) no.7, 515.
- 104) J. Raj, **C. Curceanu** *et al.*, “A feasibility study of the time reversal violation test based on polarization of annihilation photons from the decay of ortho-Positronium with the J-PET detector”, Hyperfine Interact. **239** (2018) no.1, 56.
- 105) K. Dulski, **C. Curceanu** *et al.*, “Commissioning of the J-PET detector in view of the positron annihilation lifetime spectroscopy”, Hyperfine Interact. **239** (2018) no.1, 40.
- 106) P. Moskal, **C. Curceanu** *et al.*, “Feasibility studies of the polarization of photons beyond the optical wavelength regime with the J-PET detector”, Eur.Phys.J. **C78** (2018) no.11, 970.
- 107) K. Piscicchia, **C. Curceanu** *et al.*, “Low Energy Antikaon-Nucleon/Nuclei Interaction Studies by AMADEUS”, Acta Phys.Polon.Supp. **11** (2018) 609-616.
- 108) K. Shi, **C. Curceanu** *et al.*, “Search for the violation of Pauli Exclusion Principle at LNGS”, EPJ Web Conf. **182** (2018) 02118.
- 109) R. Del Grande, **C. Curceanu** *et al.*, “Studies of low-energy K- nuclear interactions by AMADEUS”, EPJ Web Conf. **182** (2018) 02035.

PDF Eraser Free

- 110) C. Curceanu *et al.*, “The kaonic atoms research program at DAΦNE: overview and perspectives”, J.Phys.Conf.Ser. **1138** (2018) no.1, 012011.
- 111) M. Tuchler, C. Curceanu *et al.*, “A charged particle veto detector for kaonic deuterium measurements at DAΦNE”, J.Phys.Conf.Ser. **1138** (2018) no.1, 012012.
- 112) C. Tripl, C. Curceanu *et al.*, “A New Silicon Drift Detector System for Kaonic Atom Measurements”, J.Phys.Conf.Ser. **1138** (2018) no.1, 012013.
- 113) S. Ajimura, C. Curceanu *et al.*, ““K – pp” a K^- -Meson Nuclear Bound State, Observed in $^3\text{He}(K^- , \Lambda p)n$ Reactions”, Phys.Lett. **B789** (2019) 620-625.
- 114) C. Broggini, C. Curceanu *et al.*, “Experimental nuclear astrophysics in Italy”, Riv.Nuovo Cim. **42** (2019) 3.
- 115) R. Del Grande, C. Curceanu *et al.*, “ Λp correlated production from low energy K – ^{12}C interactions by AMADEUS”, EPJ Web Conf. **199** (2019) 03010.
- 116) K. Piscicchia, C. Curceanu *et al.*, “Low Energy Antikaon-nucleon/nuclei interaction studies by AMADEUS”, EPJ Web Conf. **199** (2019) 01014.
- 117) R. Del Grande, C. Curceanu *et al.*, “K – multi-nucleon absorption cross sections and branching ratios in Λp and $\Sigma^0 p$ final states”, Eur.Phys.J. **C79** (2019) no.3, 190.
- 118) P. Mokal, C. Curceanu *et al.*, “Feasibility study of the positronium imaging with the J-PET tomograph”, Phys.Med.Biol. **64** (2019) no.5, 055017.

Frascati, April 17th, 2019

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