CURRICULUM VITAE

JEAN-PIERRE GAZEAU

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Contents

1 Personal Data

Name:	Jean-Pierre Gazeau
Place and date of birth:	Marvejols, 48100, Lozère, France 10 October 1945
Nationality:	French
Position:	Emeritus Professor of Physics (former) University Paris Diderot (Paris 7), Université de Paris Université Paris Cité (current name...)
Research institutions:	Astroparticles and Cosmology, UMR 7164, CNRS CEA, Observatoire de Paris, CNPq, CBPF (Brazil), CRM (Montréal)
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professional:	Université Paris Cité (formerly Université Paris Diderot or Paris 7) Bâtiment Condorcet 10, rue Alice Domon et Léonie Duquet 75213 Paris, France
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Websites:	https://apc.u-paris.fr/APC_CS/en/users/gazeau http://www.crm.umontreal.ca/physmath/members/gazeau/
ResearcherID:	J-5844-2013 Other Names: Gazeau J.-P., Jean Pierre Gazeau, J.-P. Gazeau http://www.researcherid.com/rid/J-5844-2013
ORCID:	Jean Pierre Gazeau https://orcid.org/0000-0001-7681-7672
MATHSCINET:	https://mathscinet.ams.org/mathscinet/MRAuthorID/72085
SCOPUS:	https://www.scopus.com/authid/detail.uri?authorId=7004306508

2 Education

1. Graduated in Applied Mathematics from Faculty of Sciences, University of Paris (Sorbonne) (1967)
2. *Doctorat es Sciences*, University Paris 6 (Pierre-et-Marie Curie), Paris (1978)

3 Teaching and research positions

1. *Faculty of Sciences of Paris University (69-71), University Paris 7-Denis Diderot (71-19), Université de Paris (20-)*
    - 1/1/69-1979 : Assistant
    - 1/10/79-1985 : Maître-Assistant
    - 1/10/85 : Professeur des Universités (Second Class)
    - 1/10/92 : Professeur des Universités (First Class)
    - 1/10/03 : Professeur des Universités (Exceptional Class CE1)
    - 1/10/08 : Professeur des Universités (Exceptional Class CE2)
    - 1/1/13 - 31/12/19: Professeur émérite à l'université Paris Diderot
    - 1/1/20 : Professeur émérite à l'université de Paris and then à l'université Paris Cité
2. *University of California in Los Angeles (USA) 15/02/82-15/02/83, 1/10/83-31/12/83, 15/06/84-31/12/84 : Visiting Professor*
3. *University of Louvain-La-Neuve (Belgium) 1989-1990, 1990-1991, 1997-1998, 1999-2000, 2004-2005 : one-month positions of Invited Professor*
4. *Centro Brasileiro de Pesquisas Físicas (CBPF), Rio de Janeiro 01/5/13-01/5/14: visiting researcher, CNPq grant,*
5. *Centro Brasileiro de Pesquisas Físicas (CBPF), Rio de Janeiro 2014-2016: visiting researcher, high level CNPq grant "sem fronteira", 3 months per year*
6. *Centro Brasileiro de Pesquisas Físicas (CBPF), Rio de Janeiro 01/02/15-30/03/15, 04/04/16-03/07/16, 04/04/17-30/06/17, 09/01/19-30/11/19: visiting researcher, PCI grant*

7. *Northumbria University, Newcastle: Visiting Professor (2007-2009, 2010-2012)*

8. Short research positions in Namur, Montréal (UdM, Concordia), Boulder, Madison, Bologna, Oslo, Canterbury, Göteborg, Edmonton, Toronto (Field Institute), Prague (CTU, Charles University), Warsaw (Soltan Institute), Warsaw University (Math. Institute, Physics Institute), Białystok, Uniwersytet Jagielloński and Mining University (Cracow), Institute of Nuclear Physics-PAS (Cracow), Poznan, Tuebingen, Kazan, Madrid, Rabat, Grenoble, Strasbourg, Lausanne, New-York (NYU, CUNY), Rio de Janeiro (CBPF), Newcastle (Northumbria), Sao Paulo (USP, UFABC), Valladolid, Chicago (IIT), Palermo, Cosenza, Tokyo (Ochanimazu University), Vienna (Technical University, Schrödinger Institute), Tianjin (Chern Institute, Nankai University), ICTP-TWAS (Trieste), CIRM (Marseille), Tehran (Institute for Research in Fundamental Sciences), Łodz.

9. Teaching positions in developing countries: Constantine (Algeria, 72-74, 87, 88), Managua (Nicaragua, 85, 86, 87), Bujumbura (Burundi, 1989, 90, 91, 2019, 21, 22), Dhaka (Bengladesh, 07), Cotonou (Benin, 10, 11), Rabat (Maroc, 2019), Kigali ICTP (Rwanda, 2019, 20, 21, 22, 23), Ouagadougou (Burkina Faso, 2023, online).

4 Specialization

1. Main field: Theoretical and Mathematical Physics : group theoretical methods in physics, mainly in quantum physics and in aperiodic systems

2. More specific fields: Quantum field theory in curved space-time, coherent states and wavelets, quasicrystals, quantization methods.

3. Current research interest:

   (a) Number theory and numeration systems for aperiodic order (diffraction patterns, construction of adapted wavelets).
   (b) (Covariant) integral quantization, specially with coherent states, of various classical systems.
   (c) Covariant integral quantization of cosmological models.
   (d) Quantum field theory in de Sitter and Anti-de Sitter space-times, and cosmological implications.
   (e) Deformation of standard probability distributions and related entropies.
   (f) Foundations of quantum physics.

5 Teaching experience

From the very beginning (1969) of my academic career till now, I have been teaching Physics and Mathematics at all levels :

- from the basics (e.g. the whole content of the Resnick&Halliday textbook taught by me at UCLA, with lab as well as plenary lectures, or Calculus or Advanced Calculus),
- to intermediate level lectures in Classical Mechanics (Lagrangian and Hamiltonian) and Relativity, Quantum Physics (introduction to), Electromagnetism, Quantum Mechanics and Quantum Field Theory, Atomic and Molecular Physics, Signal Analysis and Wavelets (with Matlab), Mathematics for Physicists, Linear Control System (with Matlab),
- and advanced lectures in Coherent States, Quantization Methods, Group Theory and their Representations, Functional Analysis in Quantum Mechanics, Mathematical Diffraction, Quantum Field Theory on Curved Space-Time,
- and also Initiation to Physics for students in Philosophy of Sciences and Epistemology.

6 Honours, Fellowships, Responsibilities

1. Vice-President of the University Paris 7-Denis Diderot (1992-97)
2. President of the Section 29, “Elementary constituents", of the French National Committee of the Universities (2003-2007) and President of the Group VI (Section 28, Condensed Matter, Section 29, Section 30, Atomic&Molecular Physics and Optics) (2005-2007)
3. Member of the Selection Committee for the Wigner Medal (2002)
4. Fellow of the Institute of Physics (04-)
5. Member of the *Advisory Panel of the Journal of Physics A: Math. and Theoretical* (2003-)
6. Felber Medal granted by the Czech Technical University, Prague (September 1, 2005)

7. Associate member of the Mathematical Physics Laboratory of the Centre de Recherches Mathématiques of the University of Montreal (2005-)
8. Member of the Scientific Council of the Doppler Institute, Prague (2006-11)
9. Member of the Council of the Laboratory Astroparticle and Cosmology, Paris (2010-2012)
10. Chairman of the Selection Committee for the Hermann Weyl Prize (2006)
11. Member of the Scientific Council of the University Diderot Paris 7 (2008-2012)
12. Member of the *Editorial Board of the Journal of Discrete Mathematics* (2013-2016)
13. Chairman of the Standing Committee of the International Colloquium on Group Theoretical Methods in Physics (ICGTMP) (2008-2014)
14. Honorary member of the Standing Committee of the International Colloquium on Group Theoretical Methods in Physics (ICGTMP) (2015-)
15. Member of the European Science Foundation College of Expert Reviewers
16. Member of the Selection Committee for the Wigner Medal (2018-2020), and Chairman for 2018
17. Member of the Editorial Board of the MDPI Journal *Universe* (2018-)
18. Member of the Editorial Board of the MDPI Journal *Entropy* (2019-)

7 Referee/Reviewer

- Journals
  - Journal of Mathematical Physics,
  - Physical Review Letters,
  - Physical Review (A,B,D,E).
  - Annales de l'Institut Henri Poincaré,
  - Annales Henri Poincaré,
  - Journal of Physics A,

- Applied and Computational Harmonic Analysis,
- Letters in Mathematical Physics,
- Physics Letters A, Physics Letters B,
- Journal of Optics,
- Canadian Journal of Physics,
- Reports in Mathematical Physics,
- Review in Mathematical Physics,
- European Journal of Physics,
- European Physics Letters,
- Proceedings of the Royal Society of London: Mathematical, Physical and Engineering Sciences,
- Journal of Fourier Analysis and Applications,
- Journal of Geometry and Physics,
- Journal of Computational Physics,
- Mathematical Reviews,
- Physica A,
- Mathematical Physics, Analysis and Geometry,
- Annals of Physics (NY),
- Journal of Cosmology and Astroparticle Physics,
- Journal of Statistical Physics,
- Chaos and Fractal,
- International Journal of Theoretical Physics,
- Acta Cristallographica A,
- Journal of the Optical Society of America B,
- Signal Image and Video Processing,
- Foundations of Physics,
- Symmetry,
- Axioms,
- Entropy,

  - Universe,
  - Mathematics (MDPI),
  - SIGMA,
  - Applied and Computational Harmonic Analysis,
  - Transactions of the American Mathematical Society
  - Int. Journal of Quantum Chemistry
- Research projects/positions
  - For Natural Sciences and Engineering Research Council of Canada (NSERC)
  - For National Science Centre in Poland (NSCP)
  - For Austrian Science Fund
  - For Czech Science Foundation
  - For European Science Foundation (ESF)

8 Supervising or co-supervising of PhD students with year of diploma award

- C. Duchon, Paris 6, 1981,
- M. Cl. Dumont-Lepage, Namur, Belgique 1981,
- R. Murenzi, Louvain-la-Neuve, Belgique, 1990,
- M. Lesimple, Paris 6, 1990,
- A. El Gradechi, Paris 7, 1991,
- J. Renaud, Paris 7, 1994,
- D. Barache, Paris 7, 1995,
- S. Labrunie, Paris 7, 1996,
- M. Takook, Paris 6, 1997,
- S. Lafortune, Montréal and Paris 7, 2000,

- R. Krejcar, CTU Prague and Paris 7, 2000,
- M. Andrle CTU Prague and Paris 7, 2002,
- P. Y. Hsiao, Paris 7, 2002,
- T. Garidi, Paris 7, 2003,
- D. El Kharrat, Paris 7, 2004,
- J. L. Garcia de Leon, Marne-La-Vallée, 2008,
- Lúbomira Balková, CTU Prague and Paris 7, 2008,
- J. Quéva, Paris 7, 2009,
- A. Youssef, Paris 7, 2011,
- P. Siegl, CTU Prague and Paris 7, 2011,
- D. Noguera, CBPF Rio de Janeiro, 2018
- C. Habonimana, Bujumbura, 2023

9 Supervising, short, 6-month, or one-year, or more, Pre-Doctoral or Post-Doctoral visits in University Paris 7 or Paris Diderot

- Michel Hans (two-year, Post-Doc, 1986-1988)
- Stephan De Bièvre (one-year, Post-Doc, 1988)
- Romain Murenzi (6 months, Post-Doc, 1989)
- Ugo Moschella (6 months, Post-Doc, 1992)
- Marcel Novaes (6 months, Pre-Doct, 2001)
- Bernhard G. Bodmann (short, Post-Doct, 2003)
- Mario Baldiotti (short, Post-Doc, 2007)

- Rodrigo Fresneda (short, Post-Doc, 2008)
- Vladislav Kupriyanov (short, Pre-Doc, 2009)
- Katarzyna Górska (short, Post Doc, 2009)
- Mario Baldiotti (short, Post-Doc, 2010)
- Przemyslaw Małkiewicz (two-year, Post-Doc, 2014-2016)

10 Participation in Conferences

Invited speaker in more than 80 international conferences and communications in more than 90 international conferences.

Invited plenary talks over the period 2007-2023

- QT5 "Quantum Theory and Symmetries", Valladolid, July 2007
- SPIE Optics & Photonics, "Wavelets XII", San Diego, August 2007
- COPROMATH "Contemporary problems in mathematical physics", Cotonou, Benin, October 2007
- "Bose School and Conference on Current Topics in Physics", Dhaka, Bengla-Desh, December 2007
- "Combinatorial Physics", Kracow, November 2007
- "Numeration Days", Prague, May 2008
- "Symmetries and Properties of Condensed Matter Systems", CUNY, New York, May 2008
- "Aspects of Aperiodic Order", Bielefeld, July 2008
- "Quantum Information Theory", Rabat, June 2009
- "Quantum Non-stationary Systems", Brasilia, October 2009
- "Symmetry and Structural Properties of Condensed Matter", Myczkowce, Pologne, September 2009

- "Selected Topics in Mathematical and Particle Physics", Prague, May 2009
- "Functions and Operators", Krakow, June 2010
- "Mathematical aspects of the physics with non-self-adjoint operators", Prague, September 2010
- "Mathematical Foundations of Quantum Mechanics", IISER Kolkata, India, December 2010
- "8th Friedman Seminar", Rio de Janeiro, June 2011
- "Quantum Physics with Non-Hermitian Operators", Max-Planck Inst. Dresden, June 2011
- "Quantum Theories and Symmetries" (QTS 7), Prague, August 2011
- "8th International Conference on Progress in Theoretical Physics", Constantine, Algeria, October 2011
- "Quantum Fest 2011", CINVESTAV, Mexico City, November 2011
- "FLAME12", ARI Vienna, May 2012
- "65th Birthday of M. Arik", Istanbul, March 2013
- 8th Symposium on Quantum Theory and Symmetries, El Colegio Nacional, Mexico City, 5-9 August, 2013: 30mn talk on *Integral quantization: Weyl-Heisenberg versus affine group*
- IV Workshop de Física Teórica - CBPF, 07 a 09 de outubro de 2013: 50mn talk on *Integral quantization or exploring the world in the manner of a starfish*
- Invited speaker at the International Conference in Theoretical Physics in Londrina (PR), October 21 - 26, 2013: *Physical examples of integral quantizations with Weyl-Heisenberg and affine groups*
- Invited lecturer at the Joint ICTP-TWAS School on Coherent State Transforms, Time-Frequency and Time-Scale Analysis, Applications, ICTP Trieste, June 1-22 2014, *Coherent states, POVM, quantization and measurement*
- Invited lecturer at the Escola Brasileira de Cosmologia e Gravitação, *O Espaço-Tempo e o Quantum*, Rio de Janeiro, October 27-31 2014, *Coherent states, POVM, quantization and measurement*

- Invited lecturer at the XVth Escuela de Óptica Moderna y la VIth Escuela de Biofotónica, INAOEP, Cholula, Puebla, May 4-8 2015, *Coherent states, POVM, quantization and measurement*

- Invited speaker at GR100 in Rio de Janeiro, July 27-31 2015, *Smooth bouncing from affine integral quantization*

- Invited speaker at the International Workshop on Foundations of Complexity-Nonadditive Entropies and Nonextensive Statistical Mechanics, Rio de Janeiro, October 19-23 2015, *From classical to quantum descriptions of simple physical systems*

- Invited Talk at the Colloquium on Mathematical Physics "A celebration of the 70th birthday of Jean Pierre Gazeau", Rio de Janeiro, October 16 2015, *A coisa em si, não em si, e seu(s) modelo(s)*

- Invited lecturer at Escola Patricio Letelier de Física-Matemática, Ubu (ES), Brazil, February 22-26, 2016

- Invited lecturer at the meeting "Mathematics and Physics meet in La Habana" In memory and honour of Twareque Ali, Havana, Cuba, February 26 to March 3, 2017

- Invited Talk at the 6th International Workshop on "New Challenges in Quantum Mechanics: Integrability and Supersymmetry" (*verofest*), June 2017, Valladolid, Spain

- Invited Talk at the Conference on "Quantum Harmonic Analysis and Symplectic Geometry" (*Maurice de Gosson birthday*), 20-23 April 2018, Strobl, Austria

- Invited Talk at the Conference on "Estate Quantistica 2018" (*dedicated to Júlio Fabris, Richard Kerner, and Winfried Zimdahl*), 11-15 June 2018, Scalea, Italy

- 2 Invited Talks at The 2nd Edition of International Workshop on Quantum Information & Quantum Electronics September, 20th and 21st, 2018 in Al-Hoceima, Morocco

- Invited Talk at the Conference "Aspects of Time Frequency Analysis" (ATFA2019), 25-27 June 2019, Torino

- Invited Talk at The International Conference on Mathematical Methods in Physics, Marrakech (Marocco), April 1-6 2019.

- Invited Talk at GIRAGA 17, Conference on Analysis, Geometry and Applications, 09-20 December 2019, Bujumbura (Burundi).
- Invited Talk at the conference "Group Theoretical Methods in Physics: In memory of Pavel Winternitz", Montréal, July 26-28, 2021.
- Invited lecturer at the CIMPA School "Groups and Lie Algebras, Representation Theory, and their Applications", Bujumbura (Burundi) 19-30 July 2021: I*llustration of Lie Group Theory with real* 2×2 *matrices:* $SL(2,\mathbb{R})$ *Group,* $\mathfrak{sl}(2,\mathbb{R})$ *algebra, notations, definitions, properties, actions, isomorphisms, representations.*
- Invited Talk at GIRAGA 18, Conference on Analysis, Geometry and Applications, 07-20 December 2021, Yaoundé (Cameroun).
- Invited Talk at "Analytic and algebraic methods in physics XVIII", Prague, September 1-3 2021.
- Invited lecturer at "Méthodes mathématiques de la théorie quantique", Institut de Mathématiques et de Sciences Physiques Dangbo, Bénin 11-15 juillet, 2022.
- Invited Talk at the Fifteenth Biennial Quantum Structure 2022 Conference, Tropea, 27 June - 2 July 2022.
- Invited plenary speaker at the 34th International Colloquium on Group Theoretical Methods in Physics, Strasbourg, 18-22 July 2022.
- Invited lecturer (4 lessons) at the XIVth Workshop of the Gravitation and Mathematical Division of the Mexican Physics Society, DGFM-SMF, San Luis Potosi, Mexico, November 14-18, 2022.
- Invited speaker Verão Quântico 2023, Ubu/Anchieta, ES, Brazil, April 10-14, 2023.
- Invited speaker, International Workshop on Functional Analysis and Quantum Physics (FA&QP 2023): interplay, challenges, perspectives Palermo, June 5-9, 2023.
- Invited plenary talk at the Second International Workshop on Quantum Non-Stationary Systems, International Center of Physics of Institute of Physics of University of Brasília, August 28th to September 1st, 2023.

- Invited talk at "Statistical Mechanics for Complexity - A Celebration of the 80th Birthday of C. Tsallis", Centro Brasileiro de Pesquisas Físicas, Rio de Janeiro, Brazil, from November 6 to 10, 2023.

11 Organization of International Meetings

- Co-organizer of Workshops "Quantum Groups in Physics" (Prague, June 1994, 95, 96, 97, 98, 99).
- Co-organizer of Workshops on "Geometrical Methods in Physics" (Bialowieza, Pologne, July 1995, 96, 97, 99, 99, 00, 01),
- Advisory Committee of the "International Colloquium in Group Theoretical Methods in Physics", Goslar, 1996.
- Co-director (with F. Axel and F. Dénoyer) of Les Houches Winter School "Aperiodic Phenomena: from Solid State to Finance", 1998.
- Standing Committee (1997-) of the "International Colloquium in Group Theoretical Methods in Physics" and Chairman since 2008.
- Co-organizer (with J.L. Verger-Gaugry) of the Workshop "Mathematical Aspects of Quasicrystals", Paris, September 1998.
- Co-chairman (with R. Kerner) of the organizing Committee of the "24th International Colloquium in Group Theoretical Methods in Physics", Paris, July 2002.
- Co-director (with J. Nesetril and B. Rovan) of the Nato Advanced Study Institute on *Physics and Computer Science* Cargèse, Corsica, October 17-29 2005.
- Co-director (with D. Krejcirik and P. Siegl) ESF Exploratory Workshop *Mathematical aspects of the physics with non-self-adjoint operators*, Prague, 30 August - 3 September 2010.
- Advisory Committee of the "Quantum Theory and Symmetries" Conferences, Prague August 2011, and Mexico City August 2013.
- Chairman of the Organizing Committee of the Workshop *Non-Hermitian Operators in Quantum Physics* (PHHQP XI), APC, Paris Diderot, August 26-31 2012.

- Co-organizer (with S.T. Ali and J.-P. Antoine) of the session "Functional and harmonic analytic aspects of wavelets and coherent state" of the XXIVth. International Workshop on *Operator Theory and its Applications* (IWOTA 2013) at Bangalore, December 16-20 2013.
- Co-organizer (Chairman: F. Toppan) of the "31th International Colloquium in Group Theoretical Methods in Physics", Rio de Janeiro, June 2016.
- Co-organizer (with S.T. Ali, J.-P. Antoine, and F. Bagarello) of the CIRM Meeting "Coherent States and their Applications: A Contemporary Panorama", November 14-18, 2016.
- Co-organizer (with R. Beneduci) of a special session on "The role of Symmetry in the foundations of quantum physics" (SYMQP) at the 32th ICGTMP Conference in Prague, July 2018.

12 Invited seminars

Since the beginning of my academic career, I gave many seminars in France and abroad. The list is long (more than 325) and is available by e-mail to gazeau@apc.in2p3.fr

13 Publications

255 publications, including 4 author books, more than 21 chapters or invited contributions in books, and 158 articles in International Journals with Referee (41 over 2017-2024). Co-editor of 12 volumes of Proceedings of International Meetings or Schools or collective authorship.

List of publications

13.1 Books

13.1.1 Author books

[1] *Coherent states, Wavelets and Their Generalizations*,
co-auths. S.T. Ali and J.-P. Antoine,
Graduate Textbooks in Contemporary Physics (Springer, New York) (2000)
ISBN-10: 0387989080, ISBN-10: 9780-387989082

[2] *Coherent States in Quantum Physics*,
Wiley-VCH Verlag (2009)
ISBN-13: 978-3527407095

[3] *Coherent states, wavelets and their generalizations. Second edition*,
co-auths. S.T. Ali and J.-P. Antoine,
Theoretical and Mathematical Physics, Springer, New York (2014).
DOI 10.1007/978-1-4614-8535-3

[4] *The de Sitter group (dS) and its representations:*
An Introduction to Elementary Systems and Modeling the Dark Energy Universe
co-auths. M. Enayati, H. Pejhan, A. Wang,
Synthesis Lectures on Mathematics & Statistics, Springer (2022).
arXiv:2201.11457 [math-ph]

13.1.2 (Co-)Editions of Proceedings or collective book

[5] *Modern Group Theoretical Methods in Physics*,
coeds. J. Bertrand, M. Flato, M. Irac-Astaud, D. Sternheimer,
Proceedings of the conference in Honour of G. Rideau (Kluwer, Dordrecht) (1995).

[6] *Quantization, Coherent States, and Poisson Structures*,
coeds. A. Strasburger, S.T. Ali, J.-P. Antoine, A. Odzijewicz,
Proceedings of the XIV Workshop on Geometric Methods in Physics (PWN, Warszawa) (1998).

[7] *From Quasicrystals to More Complex Systems*,
coeds. F. Axel, F. Denoyer,
Proceedings of the École des Houches (Éditions de Physique & Springer, Paris) (2000).

[8] *Group 24: Physical and Mathematical Aspects of Symmetries*
coeds. R. Kerner, J.-P. Antoine, S. Metens, and J.Y. Thibon
Proceedings of the 24th International Colloquium in Group Theoretical Methods in Physics,
(Institute of Physics, Conference Series Number 173) (2003).

[9] *Physics and Theoretical Computer Sciences : From Numbers and Languages to (quantum) Cryptography*

coeds. J. Nesetril and B. Rovan
(ASI-NATO, Cargèse, October 17-29, 2005)
Volume 7 NATO Security through Science Series: Information and Communication Security, IOS Press (2007).

[10] *Geometric Methods in Physics*
coeds S.T. Ali, G.A. Goldin, K.-H. Neeb, A. Odzijewicz, M. Schlichenmaier,
Proceedings of the XXIV Workshop on Geometric Methods in Physics (Bialowieza, June 26–July 2, 2005)
J. Geom. Symmetry Phys. 5 (2006).

[11] *Special issue on coherent states: mathematical and physical aspects*,
coeds. S.T. Ali, J.-P. Antoine, and F. Bagarello
J. Phys. A: Math. Theor., **45** (2012).

[12] *Group 29: Physical and Mathematical Aspects of Symmetries*,
coeds. M. Ge and C. Bai,
Proceedings of the 29th International Colloquium in Group Theoretical Methods in Physics,
World Scientific, Nankai Series in Pure, Applied Mathematics and Theoretical Physics (2013).
ISBN 978-981-4518-54-3

[13] *Non-Selfadjoint Operators in Quantum Physics: Mathematical Aspects*,
coeds. F. Bagarello, F. H. Szafraniec, and M. Znojil,
A collective volume (12 authors), Wiley (2015).
ISBN: 978-1-118-85528-7

[14] *Group 31: Physical and Mathematical Aspects of Symmetries*,
coeds. S. Duarte, S. Faci, T. Micklitz, R. Scherer Santos, F. Toppan,
Proceedings of the 31th International Colloquium in Group Theoretical Methods in Physics,
Springer Proceedings in Mathematics and Statistics (2017).

[15] *Coherent States and their applications: A contemporary panorama*,
coeds. J.-P. Antoine and F. Bagarello,
Proceedings of the CIRM workshop November 13-18, 2016,
Springer Proceedings in Physics (SPPHY) **205** (2018);
eBook ISBN 978-3-319-76732-1; DOI 10.1007/978-3-319-76732-1;
Hardcover ISBN 978-3-319-76731-4

[16] *Joseph Fourier 250th Birthday Modern Fourier Analysis and Fourier Heat Equation in Information Sciences for the XXIst century*,
coed. F. Barbaresco, MDPI Books (2019), ISBN 978-3-03897-746-9 (Pbk); ISBN 978-3-03897-747-6 (PDF) https://doi.org/10.3390/books978-3-03897-747-6

13.2 Thesis

[17] *Nature algébrique de l'opérateur sturmien associé à l'équation de Schrödinger. Extension de certains résultats à la théorie des représentations finies de $GL(n,\mathbb{C})$ et de $U(n)$ (polynômes à treillis de Gel'fand).*
Thèse d'état/dissertation, Université Paris 6 (1978).
OCLC : 464799483
FRBNF36073442
http://catalogue.bnf.fr/ark:/12148/cb36073442d/PUBLIC

13.3 Regular articles in Journals with Referee

[18] *Noyaux de Poisson, Quaternions et Potentiel Coulombien*,
C. R. Acad. Sc. Paris, **272 B**, 501-504, (1971).

[19] *Transitions Radiatives à deux Photons entre deux états liés de l'atome d'hydrogène*,
co-auth. A. Maquet,
C. R. Acad Sc. Paris, **272 B**, 1097-1099, (1971).

[20] *Développement en ondes partielles d'un propagateur d'échange relativiste et calcul d'une intégrale coulombienne à l'aide des Groupes $O(4)$ et $SL(2,\mathbb{R})$*,
C. R. Acad Sc. Paris, **273 B**, 1074-1077, (1971).

[21] *Exponential of Gel'fand Lattices and Irreducible Representations of $U(n)$*,
co-auths. M.C. Dumont-Lepage et A. Ronveaux,
Phys. Letters, **61A**, 211-214, (1977).

[22] *Gel'fand Lattice Polynomials and Irreducible Representations of $U(n)$*,
co-auths. M.C. Dumont-Lepage et A. Ronveaux,
J. Math. Phys., **19**, 734-748, (1978).

[23] *Four Euclidean Conformal Group in Atomic Calculation : Exact Analytical Expressions for the bound-bound two-photon transition matrix elements in the H-Atom*,
J. Math. Phys., **19**, 1041-1048, (1978).

[24] *Bound states in a Yukawa potential : a Sturmian Group Theoretical Approach*,
co-auth. A. Maquet,
Phys. Rev. A, **20**, 727-739, (1979).

[25] *On the Four Euclidean Conformal Group Structure of the Sturmian Operator*,
Lett. Math. Physics, **3**, 285-292, (1979).

[26] *Spectrum of Singular Potentials via $SL(2,\mathbb{R})$ acting on Quaternions*,
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