Photo

Curriculum Vitae

Personal information

- ***Personal***

– Prof MERAD Mahmoud

– Professor, , University of Oum El Bouaghi, Algeria.

– E-mail: meradm@gmail.com

– Mobile:0796556005

- ***Researcher identity***

  – Google Scholar: https://scholar.google.com/citations?user=qUAlWTwAAAAJ&hl=en

  – ReaserchGate: https://www.researchgate.net/profile/Mahmoud-Merad ORCID: https://orcid.org/0000-0001-7547-6933

Education

– **Ph.D.'s degree** in theoretical physics

– **Master's degree** in theoretical physics

– **License's degree** in theoretical physics

Functions and Affiliations

– **Professor,** .....

– **Associate professor,** .....

– **Head of Department of Economics**, ...

Teaching modules

Teaching in Graduation

• SEP235, classical mechanics 4th year (Physical license)

• SEP236, quantum mechanics 4th year (Physics license)

• SEM323, (Maths License) 4th Year

• SEP239, Wave vibrations and optics 2nd year (Physics license)

• SEP201, Analytical mechanics 2nd year (D.E.S physics)

• Electricity, 1st year (SETI)

• Physics, 1st year (LMD)

• Physics, 1st year (GTU)

• Complex Analysis, Maths 3rd Year (D.E.S Physics)

• Quantum mechanics, 2nd year (D.E.S, Physics)

• Analysis II, 2nd year (D.E.S; Physics)

• Quantum mechanics II, 3rd year (D.E.S) and LMD

• Group theory 4th year physics

• Atomic physics 2nd year SETI

• Mechanics 1st year physical license LMD

• Waves and vibrations, 2nd year license in physics LMD

• Relativity, 3rd year physical license LMD

• Didactics of physics 1st year Master

. Particle physics 3rd year LMD

Statistical physics 3rd year LMD

Mathematical methods for physics

Quantum mechanics, 1st year Master

Post-Graduation Teaching

Quantum Field Theory,

Relativistic and non-relativistic quantum mechanics

Gauge Theory

International publications

1)Exact path integral treatment for step potential in relativistic two component theory. T Boudjedaa, L Chetouani and **M. Merad,** IL NUOVO CIMENTO, 114 B,(1999) 1261.

2) Boundary conditions for one-dimensional Feshbach-Villars equation.

M.Merad, L. Chetouani and A.Bounames,Physics Letters A.vol.267 **(**2000) ,225.

3) Path integral for the coulomb problem in the Feshbach-Villars formalism

M. Merad T. Boudjedaa, and L Chetouani, Chinese journal of physics , 38(2000) 1019.

4) Exact path integral for a neutron in the magnetic field of a line current.

M. Merad T. Boudjedaa, and L Chetouani, Journal of the Korean Physical Society, 38 (2001).

5) Path integral treatment for spinless relativistic equation in the two component theory. **M. Merad,** T. Boudjedaa, and L Chetouani, Turkish Journal of physics, 25,(2001) 159.

6) Particle on conical surface, **M. Merad**, T. Boudjedaa, and L Chétouani, European Physical Journal C, 26 (2002) 299.

7) Solution of Duffin-Kemmer-Petiau equation for the step potential. L.Chetouani, **M.Merad**, T.Boudjedaa and A.Lecheheb. International Journal of Theoretical Physics 43(2004) 1147

8) Non Commutative Green function for Feshbach-Villars equation. L.Chetouani, **M.Merad**, T.Boudjedaa and A.Lecheheb. Acta Physica Slovaca vol 55 (2005) 379.

9) Propagator via Bohm Mechanics », A.Tilbi and **M.Merad ,** Publications de l'université de Haute Alsace,France 2006.

10)Duffin-Kemmer-Petiau Green Function For Spin 0 And 1 In Barrier Potential. B.Boutabia-Cheraitia, T.Boudjedaa and **M.Merad,** Publications de l'université de Haute Alsace,France 2006.

11) Quantization on the circle. **M.Merad**, Canadian journal of physics . 84(2006) 335.

12) **DKP** particle in time-dependent, **M. Merad**, H. Bada and A. Lecheheb, Czechoslovak Journal of Physics, 56(2006) 765,

13) Path integral treatment for a Coulomb system constrained on D-dimensional sphere and hyperboloid. 322 (2007)1233, **Annals of Physics.** A. Lecheheb, **M. Merad** and T. Boudjedaa.

14) The Kanai–Caldirola propagator in the de Broglie–Bohm theory, *A Tilbi, T Boudjedaa, **M Merad** and L Chetouani , Physica scripta .* **75** (2007) 474.

15) Wave functions for a Duffin-Kemmer-Petiau particle in a time-dependent potential, **M. Merad** and S. Bensaid, Journal of math physical. **48** (2007) 073515 .

16) DKP Equation with Smooth Potential and Position-Dependent Mass, **M.Merad** International journal of theoretical Physics 46 (2007) 2105.

17) The DKP oscillator in a noncommutative space, M. Falek and **M. Merad** Communication in Theoretical Physics 50(2008) 587.

18) The time-dependent linear potential in the presence of minimal length, M. Falek and M **M. Merad** , *Physica scripta*. 79 (2009) 015010.

19) Bosonic oscillator in the presence of minimal lengths, M. Falek and **M. Merad**. : Journal of Math physics . 50 (2009) 023508.

20) Generalization of Bosonic oscillator in the presence of minimal lengths, M. Falek and **M. Merad**. :Journal of Math physics . 51 (2010) 033516.

21) Duffin-Kemmer-Petiau equation in Robertson-Walker space-time, M. Falek and **M. Merad**., Central European Journal of Physics, 8(2010)408.

22) Exact Solution to the Scalar DKP Equation in (1+3)-dimensional Robertson–Walker Space-Time, M. Falek and **M. Merad**. International Journal of Modern Physics A , 25, (2010) 2747.

23) Spinless Relativistic Particle in the Presence of, A Minimal Length, **M. Merad**, F. Zeroual and H. Benzair Electronic Journal of Theoretical Physics 7 (2010) 41.

24) Relativistic oscillators in a Non Commutative space: Path integral appraoch.
H.Benzair, **M. Merad**., T.Boudjedaa and A.Makhlouf, Zeitschrift für Naturforschung A.
Vol. 67a (2012) .

25) Relativistic equation in electromagnetic fields with a generalized uncertainly principle, **M. Merad** , F. Zeroual and M. Falek, Modern PhysicsLetters A, Vol 27,15 (2012) 1250080.

26) Path Integral for Dirac oscillator with generalized uncertainty principle. .
H.Benzair,T.Boudjedaa and **M. Merad**; Journal of Math physics 53, 123516 (2012).

27) Duffin-Kemmer-Petiau Equation in curved space-time, M. Falek *and **M. Merad**,*. AIP Conference Proceedings 8 1444 (1), 367-369 (2012) http://dx.doi.org/10.1063/1.4715455.

28) *Spinorial Relativistic Particle in the Presence of A Minimal Length*, F. Zeroual *and **M. Merad**,* AIP Conference Proceedings 8 1444 (1), 453-456 (2012); http://dx.doi.org/10.1063/1.4715475

29) Noncommutative Path Integral for Spinless Relativistic Equation in the Two-Component Theory ; H Benzair, **M Merad**, T Boudjedaa, Modern Physics Letters A 28 (32) 2013

30) Path integral of a relativistic spinning particle in (1+ 1) dimension with vector and scalar linear potentials in the presence of a minimal length, H Benzair, **M Merad**, T Boudjedaa, International Journal of Modern Physics A 29 (07)2014

31) Klein Paradox for the Bosonic Equation in the Presence of Minimal Length

M Falek, **M Merad**, M Moumni, Foundations of Physics, Found Phys ;45:507 (2015).

32) Particles of Spin Zero and 1/2 in Electromagnetic Field with Confining Scalar Potential in Modified Heisenberg Algebra, A Tilbi, **M Merad**, T Boudjedaa, Few-Body Systems 56 (2-3), 139-147(2015).

33) On Fractional Duffin–Kemmer–Petiau Equation, N Bouzid, **M Merad**, D Baleanu , Few-Body Systems 57 (4), 265-273 .(2016)

34) Space–time transformation for the propagator in de Broglie–Bohm theory

A Tilbi, T Boudjedaa, **M Merad**, Pramana 87 (5), 66 (2016)

35) Propagator of Dirac oscillator in 2D with the presence of the minimal length uncertainty H Benzair, T Boudjedaa, **M Merad**, The European Physical Journal Plus 132 (2), 94 (2017)

36) Duffin–Kemmer–Petiau oscillator with Snyder-de Sitter algebra

M Falek**, M Merad**, T Birkandan , Journal of Mathematical Physics 58 (2), 023501 (2017)

37) Space-Time Fractional DKP Equation and Its Solution, N.Bouzid, **M Merad,** Few-Body Systems 58 (3), 131 (2017)

38) Energy-dependent harmonic oscillator in noncommutative space: A path integral approach, A Benchikha, **M Merad**, International Journal of Modern Physics A 32 (32), (2017)1750194

39)Energy-dependent harmonic oscillator in noncommutative space

A Benchikha, **M Merad**, T Birkandan, Modern Physics Letters A 32 (20), (2017) 1750106

40) Electron propagator with vector and scalar energy-dependent potentials in (2+1)-dimensional space–time, H Benzair, **M Merad**, T Boudjedaa, International Journal of Modern Physics A, (2018)1850186,

41) Schwinger mechanism on de Sitter background

B Hamil, **M Merad**, International Journal of Modern Physics A 33 (30), (2018) 1850177

42) Dirac and Klein-Gordon oscillators on anti-de Sitter space

B Hamil, **M Merad**, The European Physical Journal Plus 133 (5), (2018) 174

43) Relativistic Oscillators in Generalized Snyder Model,

MH Moussa and **M Merad**, Few-Body Syst 59, 44 (2018)

44) Exact Solution of Klein–Gordon and Dirac Equations with Snyder–de Sitter Algebra,

M Merad and MH Moussa, Few-Body Systems 59 (1), 5 (2018)

45) Bosonic oscillator under a uniform magnetic field with Snyder-de Sitter algebra; M Falek, **M Merad**, M Moumni; Journal of Mathematical Physics 60 (1), 013505(2019)

46) Dirac Equation in the Presence of Minimal Uncertainty in Momentum, B Hamil and **M Merad**, Few-Body Systems 60 (2), 36(2019).

47) Applications of the extended uncertainty principle in AdS and dS spaces, B Hamil,

M Merad, T Birkandan, The European Physical Journal Plus 134 (6), 278, (2019)

48) Fermionic Schwinger model for spinning Feshbach–Villars particle in magnetic field, T Boudjedaa**, M Merad**; International Journal of Modern Physics A 34 (19), 1950101(2019)

49) Bosonic Oscillator on the de Sitter and the Anti-de Sitter Spaces. MH Moussa,

M Merad, A Merad, Few-Body Systems 60 (3), 53 (2019)

50) DKP Equation with Energy Dependent Potentials; O Langueur, **M Merad**, B Hamil, Communications in Theoretical Physics 71 (9), 1069 (2019).

51) Relativistic oscillators in new type of the extended uncertainty principle, A Merad, M Aouachria, **M Merad**, T Birkandan; International Journal of Modern Physics A 34 (32), 1950218 (2019).

52)Bosonic Schwinger model for spinning Feshbach–Villars particle in step potential

T Boudjedaa, M Merad

International Journal of Modern Physics A 35 (04), 2050010(2020)

53)Pair creation in curved Snyder space

B Hamil, M Merad, T Birkandan

International Journal of Modern Physics A 35 (04), 2050014(2020)

54)Spinless Relativistic Particle in the Presence of Minimal Uncertainty in the Momentum

A Merad, M Aouachria, M Merad

Few-Body Systems 61, 1-10(2020)

55)Erratum:“Bosonic oscillator under a uniform magnetic field with Snyder-de Sitter algebra”[J. Math. Phys. 60, 013505 (2019)]

M Falek, M Merad, M Moumni

Journal of Mathematical Physics 61 (6), 069901(2020)

56)The Duffin-Kemmer-Petiau oscillator in the presence of minimal uncertainty in momentum

B Hamil, M Merad, T Birkandan

Physica Scripta 95 (7), 075309(2020)

57)Exact Solutions of the DKP Oscillator in 3D Spaces with Extended Uncertainty Principle

M Falek, M Moumni, M Merad

arXiv preprint arXiv:2006.15593(2020)

58) Relativistic oscillators in the context of MS noncommutative model

B Hamil, A Merad, M Merad

Europhysics Letters 131 (1), 10003(2020

59)The Effects of the Modified (Anti-) Snyder Model on the Thermodynamic Properties of an Ideal Gas

B Hamil, M Merad, T Birkandan

International Journal of Thermophysics 41, 1-14(2020

60) Path integral for quantum dynamics with position-dependent mass within the displacement operator approach

H Benzair, M Merad, T Boudjedaa

Modern Physics Letters A 35 (30), 2050246(2020)

61) Bound-state solutions of the two-dimensional Dirac equation with Aharonov–Bohm-Coulomb interaction in the presence of extended uncertainty principle

B Hamil, M Merad, T Birkandan

Physica Scripta 95 (10), 105307(2020)

62) Path integral approach to the *D*-dimensional quantum mechanics of the nonrelativistic Snyder–de Sitter model

H Benzair, T Boudjedaa, M Merad

International Journal of Modern Physics A 35 (28), 2050180(2020)

63) Feshbach–Villars equation in a -Minkowski spacetime

B Hamil, M Merad

Modern Physics Letters A 35 (37), 2050307(2020)

64) Effects of extended uncertainty principle on the relativistic Coulomb potential

B Hamil, M Merad, T Birkandan

International Journal of Modern Physics A 36 (03), 2150018(2021)

65)Three-dimensional DKP oscillator in a curved Snyder space

B Hamil, M Merad, T Birkandan

International Journal of Modern Physics A 36 (08n09), 2150058(2021)

66) Particle creation in the context of the emergent universe

B Hamil, M Merad, T Birkandan

Revista mexicana de física 67 (2), 219-225(2021)

67) Coulomb potential in the presence of minimal uncertainty in momentum

B Hamil, M Merad

Indian Journal of Physics 95, 1079-1084(2021)

68) A Two-Body Problem for a Class of Coupling Potentials with Harmonic Oscillator Interaction in Noncommutative Phase Space: Path Integral Approach

H Benzair, M Merad, T Boudjedaa

Few-Body Systems 62, 1-10(2021)

69) The GUP for non-relativistic Feynman propagator with energy-dependent mass

H Benzair, T Boudjedaa, M Merad

International Journal of Geometric Methods in Modern Physics 18 (08), 2130002 (2021)

70) DKP equation with smooth barrier

O Langueur, M Merad, A Rassoul

International Journal of Modern Physics A 36 (26), 2150187(2021)

71) The Dunkl–Duffin–Kemmer–Petiau Oscillator

A Merad, M Merad

Few-Body Systems 62, 1-12(2021)

72) Dunkl–Duffin–Kemmer–Petiau equation in (2+ 1) dimensions: The Dunkl–Bosonic oscillator spinless under Landau levels and Coulomb potential

A Merad, M Merad, T Boudjedaa

International Journal of Modern Physics A 37 (11n12), 225007(2022)

73) Relativistic particles in electromagnetic field with confining scalar potential in doubly special relativity

D Seffai, M Merad, B Hamil

Indian Journal of Physics 96 (7), 2211-2219(2022)

74) Correction to: The Dunkl–Duffin–Kemmer–Petiau Oscillator

A Merad, M Merad

Few-Body Systems 63 (2), 53(2022)

75) The Dunkl-Duffin-Kemmer-Petiau Oscillator (vol 62, 98, 2021)

A Merad, M Merad

FEW-BODY SYSTEMS 63 (2) (2022)

76) Bound states of a relativistic spinning particle in an inhomogeneous magnetic field and its thermodynamic properties

H Hamdi, H Benzair, M Merad, T Boudjedaa

The European Physical Journal Plus 137 (9), 1-14(2022)

Interests and Qualifications

— **Interests:**

Area of research and/or specialty: In theoretical physics and mathematical physics

- Quantification methods: Integral Path, Direct Method etc....

- Noncommutative Geometry

- Field theory via the two versions Feynman and Schwinger

- Time-dependent spinor and tensor relativistic systems

- Fractional Derivatives and Deformed Algebras

Direction of theses

- Supervised and defended master's theses:

1) Benzair Hadjira: "Supersymmetric path integral for Feshbach-Villars" (June 2004, University of Ouargla).

2) Bada Hassan: "Semi-classical treatment for non relativistic problems

and exact solutions of relativistic problems of spin 0 and 1 »

(March 2005, Oum El Bouaghi University Center)

3) Falek Mokhtar: "Treatment of some relativistic problems and nonrelativistic in commutative and non-commutative space"

(May 2006, University Center Oum El Bouaghi)

4)Bensaid Souad: "Integral Path Formulation in the non-commutative space and in the commutative space with constraint." (2006 Oum el Bouaghi University Center)

5) Bouhrour Nardjis: "Integral Path for the particle on the sphere" (June 2006, University of Jijel)

6) Tiab Lamia: "Exact solution of some fundamental problems via:

-The Theory of Feshbach-Villars with two components and a case with variable mass - The theory of DKP of spin 0 and 1" (2007, University Center Oum El Bouaghi)

Supervised and defended doctoral theses:

1)- Treatment of certain problems via the Duffin-Kemmer-Petiau theory

Falek Mokhtar University of jijel 13/10/2011.

2)- Integral formulation of sypersmetric path in distorted relativistic quantum mechanics, Benzair Hadjira, University of jijel 07/04/2013

3) -Dynamic study of certain relativistic problems in the presence of a minimal distance, Zeroual Farida, University of Oum el Bouaghi 01/17/2013

4)- Treatment of some relativistic and non-relativistic problems

with fractional derivatives, Bouzid Naima, University of Oum el Bouaghi 2017-03-19

5) -Treatment of Certain Problems of Quantum Mechanics in the Framework of Deformed Algebras, Hadj Moussa M'hamed, Oum el Bouaghi 20/06/2019.

6) Study of the dynamics of relativistic particles in interaction with a certain class of potentials

O Languor, Oum-El-Bouaghi 2020

Publications Nationales

-Traitement du Potentiel Woods -Saxon dans la théorie relativiste à Deux Composantes, **M.Merad**, *Annale Académie de Constantine. vol.1(A) pages 9-12,(1999).*

Communications nationales

1) Mécanique Quantique sur le cercle: **M.Merad**.4eme Congres National de la physique et ses applications(SIDI FREDJ ,le 21-23 Novembre 2000).

2) Path integral for Feshbach-Villars particle spin ½: Foldy- Wouthysen transformation: O. Atmani, T.Boudjedaa and **M. Merad**, The Sixth Constantine High Energy Physics School, Avril 2002.

3) Propagator via Bohm Mechanics, A. Tilbi and **M. Merad**, Journées Algéro-Françaises, Ouargla, décembre 2004.

4) Green's Duffin-Kemmer-Pétiau Function for particles of spin 0 and 1 in scalar potential of Woods-Saxon , B.Boutabia-Cheraitia, T.Boudjedaa and **M.Merad**, Journées Algéro-Françaises, Ouargla, décembre 2004.

5) Path Integral supersymetric of Feshbach-Villars Equation, H. Benzair, **M. Merad** and T.Boudjedaa, Journées Algéro-Françaises, Ouargla, décembre 2004.

6) Duffin Kemmer Petiaux Oscillator with de Sitter Algebra, M. Hadj Moussa and **M Merad,** -Workshop Systèmes Dynamiques Distribués Université d'Oum El Bouaghi 14 /11/ 2018. SDEDA 2018.

7) Exact solution of thee D dimensional Klein Gordon Oscillator with Snyder de Sitter algebra, Z Hemame, M Falek and **M Merad,** -Workshop Systèmes Dynamiques Distribués Université d'Oum El Bouaghi 14 /11/ 2018. SDEDA 2018.

8)Nikiforov Uvarov methode and polynomial solutions of hypergeometric equation , M.Falek and **M Merad,** -Workshop Systèmes Dynamiques Distribués Université d'Oum El Bouaghi 14 /11/ 2018. SDEDA 2018.

9) Klein Gordon energy dependent Oscillator in non commutative space ,A Benchikha and **M Merad,** -Workshop Systèmes Dynamiques Distribués Université d'Oum El Bouaghi 14 /11/ 2018. SDEDA 2018.

Communications internationales

1) Path integral treatment for relativistic spinless particle in a noncommutative phase space. H. Benzair and **M. Merad**
8th INTERNATIONAL CONFERENCE ON PROGRESS IN THEORETICAL PHYSICS ICPTP2011 23-25 October 2011 Mentouri University Constantine ALGERIA.

2) Duffin-Kemmer-Petiau Equation in curved space-time,
M. Falek *and **M. Merad**,* The 8th International Conference on progress in theoretical Physics,Constantine **23-25 October 2011**

3) Spinorial Relativistic Particle in the Presence of A Minimal Length*.,*
F. Zeroual *and **M. Merad**,* The 8th International Conference on progress in theoretical Physics,Constantine **23-25 October 2011**.

4)The propagator of relativistic particles with electromagnetic fields in a non-commutative space, H Benzair**, M Merad**, Colloque international sur les premières Journées de Mathématiques et Applications de Mila « JMAM 2013 », 19-21 octobre 2013

Ouvrages

Title: Path integral methods in generalized uncertainty principle

Authors: Benzair Hadjira , **Mahmoud Merad** and Boudjedaa Tahar

Book title: Quantum Mechanics (ISBN 978-953-51-4131-0)

InTech Europe, Janeza Trdine 9, 51000 Rijeka, Croatia

ANIMATIONS SCIENTIFIQUES

1) Responsable scientifique d'ouverture de Magister (Président du CPM Année 2001/2002/2003) Option : Physique Théorique ;

2) Membre du Comité Pédagogique de Magister option : Optélectronique, Année 2001/2002

3) Membre du Comité Pédagogique National de Physique **CPN** (2004)

4) -Participation à l'école doctorale dans le cadre des Journées Algéro-Françaises. « Physique-Chimie » Université de Jijel décembre 2004.

-Participation à l'école doctorale Ecole doctorale « Physique Théorique » Université de Jijel ;

-Deuxième école de physique théorique de Jijel: Théorie quantique des champs, méthodes et applications ; 28 May - 1 June 2006, Jijel, Algérie

-3ème école de physique théorique de Jijel: Gravitation ; théorie et expérience

26sptembre – 3 octobre 2009, Jijel, Algérie

-4ème Ecole de Physique Théorique de Jijel/ 4th Jijel School on theoretical physics, Topics in quantum physics and path integrals, September 25 -29, 2016

-*6ème Ecole : Equations Différentielles Abstraites,* Université d'Oum El Bouaghi, 17 – 21 avril 2011

-Workshop Analyse Des Systèmes Dynamiques Distribués Et Contrôle Université d'Oum El Bouaghi 09-13 Mai 2010.

-Workshop Systèmes Dynamiques Distribués Université d'Oum El Bouaghi 26 /09/ 2012.

- Conférence nationale sur les Systèmes dynamiques, équations différentielles et applications, The 1st National Conference on Dynamical Systems, Differential Equations and Applications Oum El Bouaghi 10-11/03/2015.

-First International Conference on New Materials and Active Devices

Premier Congrès International sur les Nouveaux Matériaux et les Composants Actifs

(NMCA'2011) Oum El-Bouaghi (Algeria), May 23rd - 25th 2011

-Second International Conference on New Materials and Active Devices

Deuxième Congrès International sur les Nouveaux Matériaux et les Composants Actifs

(NMCA'2014) Oum El-Bouaghi (Algeria), May 25th - 26th 2014

-Workshop Systèmes Dynamiques Distribués Université d'Oum El Bouaghi 14 /11/ 2018.

REFERE dans :

1) journal of mathematical physics

2) Physica scripta

3) International Journal of Theoretical Physics

4) central european journal of physics

5) Communication in theoretical physics

6) International Journal of the Physical Sciences

7) Indian journal of physics

8) Fondations of physics

9) annalen der physic

10) Advances in High Energy Physics

11) Few-Body Systems

12) International Journal of Modern Physics A

13) The European Physical Journal Plus

Member of the editorial board :

Journal of New Technology and Materials (JNTM)

Expérience dans la Recherche

Période	Titre du projet	Nom du chef de Projet
2000	Mécanique quantique spinorielle relativiste et path integral » agrée le 01/01/2000 sous le Code D2501/-/05/99.	L Chetouani
2003	Formalisme de quantification : Fondement et Application » agrée le 01/01/2003 sous le code D0401/01/03.	M Merad
2004	« Le principe d'action de Schwinger formalisme et application » agrée le 01/01/2004 sous le Code D1801/01/04.	T. Boudjedaa
2006	La non différentiabilité et le comportement macroscopique des particules » agrée le 01/01/2006 sous le code D0401/80/06	M. Merad
2009	Dynamique des bosons scalaires et vectoriels dans le cadre de l'incertitude minimale, agrée le 01/01 2009 sous le code D03020090010.	M. Merad
2011	Projet PNR agrée 02/05/ 2011, *Théorie de la* déformation *et quantification des champs. Code 8/u04/4981*	M. Merad
2013	*Formulation de La Mécanique Quantique Relativiste et non Relativiste dans le cadre des Algèbres Déformées,* agrée le 01/01 2012 sous le code :D03020120002	M. Merad

2018	*Etude de certains problèmes d'évolutions Fractionnaires issus de la physique quantique* , agrée le 01/01 2018 sous le code :COOLO3UN040120180001	A. Merad
2023	Résolution de quelques problèmes da la physique mathématiques dans le cadre de la théorie fractionnaire, *agrée le 01/01 2023 sous le code :* **C00L03UN040120230005**	A. Merad
2023	Théorie quantique des champs et relations de quantification modifiées, *agrée le 01/01 2023 sous le code :* **B00L02UN040120230003**	M. Merad