

CURRICULUM VITAE 2011

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ESTUDIOS

LICENCIATURA EN FISICA: FACULTAD DE CIENCIAS, UNIVERSIDAD NACIONAL
AUTONOMA DE MEXICO
1971-1975.

MAESTRIA EN FISICA UNIVERSIDAD AUTONOMA METROPOLITANA 1976-1978.

Ph. D. IN PHYSICS: UNIVERSITY OF WISCONSIN MILWAUKEE 1979-1982.

DISTINCIONES ACADEMICAS, PROFESIONALES Y CIENTIFICAS

BECA ALEXANDER VON HUMBOLDT. UNIVERSIDAD DE KONSTANZ. 1991-1992

1984-1987. CANDIDATO DEL SISTEMA NACIONAL DE INVESTIGADORES.

1987-1993. INVESTIGADOR NIVEL I DEL SISTEMA NACIONAL DE
INVESTIGADORES.

1993-1999 INVESTIGADOR NIVEL II DEL SISTEMA NACIONAL DE
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1999-2002 INVESTIGADOR NIVEL II DEL SISTEMA NACIONAL DE
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2002-2006 INVESTIGADOR NIVEL III DEL SISTEMA NACIONAL DE
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2006-2010 INVESTIGADOR NIVEL III DEL SISTEMA NACIONAL DE INVESTIGADORES.

2002-2003 MIEMBRO DE LA COMISION DE PREMIOS DE LA ACADEMIA MEXICANA DE CIENCIAS.

ASOCIACIONES ACADEMICAS

-SOCIEDAD MEXICANA DE FISICA.1977-

-ACADEMIA DE LA INVESTIGACION CIENTIFICA.

-CENTRO LATINOAMERICANO DE FISICA MEXICO.(socio fundador).

EXPERIENCIA EN INVESTIGACION

1975/06/16-1979/05/31 PROFESOR ASISTENTE
UNIVERSIDAD AUTONOMA METROPOLITANA.

1982/10/16-1987/05/11 PROFESOR DE FISICA (TITULAR A) UNIVERSIDAD AUTONOMA METROPOLITANA.

1987/05/12-1990/ PROFESOR DE FISICA (TITULAR B)
UNIVERSIDAD AUTONOMA METROPOLITANA.

1990//-A LA FECHA PROFESOR DE FISICA (TITULAR C)
UNIVERSIDAD AUTONOMA METROPOLITANA.

1991/-1992 INVESTIGADOR VISITANTE. UNIVERSIDAD DE KONSTANZ. ALEMANIA.

EXPERIENCIA DOCENTE

He impartido mas de 100 cursos (no diferentes) en la UAMI.

MATERIA	TRIMESTRES
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LICENCIATURA

FUNDAMENTOS DE FISICA 88I,89I,98O,99I,99O,00O.

TEMAS SELECTOS DE FISICA 02O,03P

FISICA I 82O,83I,85O,86I,86O,87I,88I,89P,89O,92P,92O,93P,95P,95P,96P,98O, 99I,08O.

FISICA II 82O,84P,87P.

FISICA III 84O,94P.

FISICA IV 85I,95I,97O, 03O.

MECANICA I 94I

MECANICA CUANTICA I 85P,01I, 04I

MECANICA CUANTICA II 85 O , 04P

TEORIA CLASICA DE CAMPO I 86P, 08P.

TEORIA CLASICA DE CAMPO II 86O.
INTRODUCCION A LA RELATIVIDAD ESPECIAL 93P,98I,01P,02I, 03I,05O.
SEMINARIO DE FISICA AVANZADA 93O,94O,95O, 04O,05P.
FUNCIONES ESPECIALES Y TRANSFORMADAS INTEGRALES 96I
SEMINARIO DE PROYECTO DE INVESTIGACION I 03O,04I,04P,05O.
SEMINARIO DE PROYECTO DE INVESTIGACION I I 04I, 04O
VARIABLE COMPLEJA 96O, 03I
LABORATORIO DE SIMULACION 00I
ONDAS ELECTROMAGNETICAS 98P
METODOS MATEMATICOS AVANZADOS 00P
INTRODUCCION A LA FISICA MODERNA 01O
INTRODUCCION A LA GRAVITACION Y ASTROFISICA I 05I
TEMAS SELECTOS DE MECANICA CUANTICA 08I

MAESTRIA:

COSMOLOGIA 83O,87P,88P,93I,94O.
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RELATIVIDAD ESPECIAL 87O, 94P.
GRAVITACION II 88I, 99P,00P,00P,02I.
MECANICA CUANTICA 88P, 99P.

DOCTORADO

PROYECTO DE INVESTIGACION I 94P,96I,96O.
PROYECTO DE INVESTIGACION II 94O, 96P,97I.
PROYECTO DE INVESTIGACION III 95I, 96O,97P,01I
PROYECTO DE INVESTIGACION IV 95P,97I,97O,01P
PROYECTO DE INVESTIGACION V 95O,97P, 98I,01O
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PUESTOS ACADEMICOS Y ADMINISTRATIVOS DESEMPEÑADOS.

Coordinador del tronco común en Física UAMI.(1985/04/07-1986/02/02).

Coordinador de la Maestría en Física. UAMI.(1988/12/2-1990//)

Jefe de Area de Gravitación y Astrofísica. UAMI.(1986/02/02-1988/12/02) .

Representante de los profesores del departamento de Física ante Consejo Académico.

Representante de los profesores de la división de CBI ante Colegio Académico.

Coordinador de la Licenciatura en Física UAMI, desde septiembre de 2000.

Miembro de la comisión de Posgrado en Física de la UAMI desde julio de 1999.

Coordinador del Seminario del Departamento de Física UAMI desde Septiembre 2010.

TRABAJOS DE INVESTIGACION ORIGINAL PUBLICADOS

- 1 OBREGON O J AND PIMENTEL L O EXACT COSMOLOGICAL SOLUTIONS WITH PARTICLE CREATION IN JBD THEORY. GEN. REL. GRAV. 9,(1978)585-595.
- 2 PARKER L AND PIMENTEL L O GRAVITATIONAL PERTURBATION OF THE HYDROGEN SPECTRUM PHYS. REV. D25,(1982)3180-3190.
- 3 LEEN T K, PARKER L AND PIMENTEL L O REMOTE QUANTUM MECHANICAL DETECTION OF GRAVITATIONAL RADIATION GEN. REL. GRAV. 15,(1983)761-776.
- 4 PIMENTEL L O EXACT COSMOLOGICAL SOLUTION IN THE SCALAR TENSOR THEORY WITH COSMOLOGICAL CONSTANT. ASTROPHYS. SPACE SCI.112,(1985)175-183.
- 5 PIMENTEL L O. EXACT SELF CREATION COSMOLOGICAL SOLUTIONS, ASTROPHYS. SPACE SCI. 116,(1985)395-399.
- 6 NOWOTNY E AND PIMENTEL L O. QUANTIZED FIELDS IN CURVED SPACETIME, AND THE PROBLEM OF SELF CONSISTENT COSMOLOGICAL MODELS, NUOVO CIMENTO 94B,(1986)63-79.
- 7 PIMENTEL L O AND OBREGON O A SCALAR TENSOR THEORY AND THE NEW INTERACTION ASTROPHYS. SPACE SCI., 126, 231-234,(1986).
- 8 PIMENTEL L O AND MACIAS A KLEIN GORDON AND WEYL EQUATIONS IN THE GOEDEL UNIVERSE. PHYS. LETT A117, 325-327,(1986).
- 9 PIMENTEL L O COSMOLOGICAL MODELS IN THE SCALAR-TETRADIC THEORY A ASTROPHYS. SPACE SCI. 312, 387-391,(1987)
- 10 PIMENTEL L O AND STEIN-SCHABES J INFLATION IN ANISOTROPIC SCALAR-TENSOR THEORIES. PHYS. LETT. B216, 27 (1989).
- 11 PIMENTEL L O MORE SOLUTIONS WITH LOCAL ROTATIONAL SYMMETRY IN WHICH DIRAC EQUATION SEPARATES. PHYS. LETT A. 137,(1989)93-95.
- 12 PIMENTEL L O. ENERGY MOMENTUM TENSOR IN THE GENERAL SCALAR-TENSOR THEORY. Class. Quantum Grav. 6,(1989)L63-L65.
- 13 PIMENTEL L O AND MORALES N. COSMIC STRINGS IN A SCALAR-TENSOR THEORY. Revista Mexicana de física , 36,(1990)S199-S203.
- 14 PIMENTEL L O. Anisotropic Cosmological models in $N=2, D=5$ supergravity. Class. Quantum Grav. 9,(1992)377-381.
- 15 CHAUVET P AND PIMENTEL L O. COSMOLOGICAL MODELS IN THE SCALAR-TETRADIC THEORY B Gen. Rel. Grav. 24, (1992)243-258.
- 16 PIMENTEL L O .The Klein-Gordon Equation in Some Anisotropic Cosmologies. Gen. Rel. Grav. 24,(1992)985-989.

- 17 PIMENTEL L O .Weyl Equation in Some Anisotropic Stiff Fluid Universes. International Journal of Theoretical Physics. 32,(1993)979-984.
- 18 PIMENTEL L O "BIRKHOFF THEOREM IN N=2, D=5 SUPERGRAVITY". Phys. Rev. D 47,(1993) 4780-4781.
- 19 PIMENTEL L O AND SOCORRO J "BIANCHI VI₀ MODELS IN N=2, D=5 SUPERGRAVITY", Gen. Rel. Grav. 25, (1993) 1159-1164.
- 20 PIMENTEL L O "GENERATING IMPERFECT FLUIDS", NUOVO CIMENTO B, 109 (1994) 247-254.
- 21 PIMENTEL L O "EXACT SOLUTIONS IN BRANS-DICKE THEORY WITH BULK VISCOSITY". International Journal of Theoretical Physics., 33,(1994)1335-1340.
- 22 PIMENTEL L O AND OBREGON O, "QUANTUM COSMOLOGY FOR A QUADRATIC THEORY OF GRAVITY" Classical and Quantum Gravity, 11,(1994)2219-2223.
- 23 PIMENTEL L O, Camacho A and Macias, A. "WEYL EQUATION IN GOEDEL TYPE UNIVERSES". Mod. Phys. Lett. 9,(1994) 3703-3706.
- 24 PIMENTEL L O AND DIAZ-RIVERA L M "EFFECTS OF BULK VISCOSITY ON COSMOLOGICAL EVOLUTION". NUOVO CIMENTO B109, (1994) 1317-1321.
- 25 PIMENTEL L O "COSMIC STRINGS FROM N=2, D=5 SUPERGRAVITY". Mod. Phys. Lett. A10, (1995) 1997-2000.
- 26 PIMENTEL L O "ELECTROMAGNETIC FIELD IN SOME ANISOTROPIC STIFF FLUID UNIVERSES". Mod. Phys. Lett. A10, (1995) 2095-2101.
- 27 PIMENTEL L O AND SOCORRO J. "BIANCHI V MODELS IN N=2, D = 5 SUPERGRAVITY". Int. J. of Th. Phys. 34,(1995) 701-706.
- 28 PIMENTEL L O "INHOMOGENEOUS COSMOLOGICAL MODEL IN BD THEORY". Phys. Rev. D53 (1996) 1808-1810.
- 29 Esposito G, Morales-Tecotl H A y PIMENTEL L O " ESSENTIAL SELF-ADJOINTNESS IN 1-LOOP QUANTUM COSMOLOGY". CLASS. Quantum Grav. 13 (1996) 957-963.
- 30 SOCORRO J, VILLANUEVA V AND PIMENTEL L O "CLASSICAL SOLUTION IN FIVE DIMENSIONAL INDUCED MATTER THEORY AND ITS RELATION TO AN IMPERFECT FLUID", Int. J. of Mod. Phys A11, (1996)5495-5504.
- 31 CHAUVET P AND PIMENTEL L O. "INFLATIONARY MODEL WITHOUT A BIG BANG" Phys. Rev. D54,(1996)7158-7162.
- 32 PIMENTEL L O, OBREGON O AND ROSALES J "GENERAL QUANTUM COSMOLOGICAL SOLUTION FOR A QUADRATIC THEORY OF GRAVITATION" Classical and Quantum Gravity, 14 ,(1997)379-384.

- 33 PIMENTEL L O " NEW EXACT VACUUM SOLUTIONS IN BRANS-DICKE THEORY ", Mod. Phys. Lett. A12,(1997)1865-1870.
- 34 PIMENTEL L O " INHOMOGENEOUS COSMOLOGY SOLUTIONS WITH REGULAR SPACE-TIME CURVATURE", Mod. Phys. Lett. A14, (1999)43-49.
- 35 PIMENTEL L O Y DIAZ-RIVERA L M "COASTING COSMOLOGY WITH TIME DEPENDENT COSMOLOGICAL CONSTANT". International Journal of Modern Physics A14, (1999)1523-1529.
- 36 DIAZ-RIVERA L M AND PIMENTEL L O " COSMOLOGICAL MODELS WITH DYNAMICAL LAMBDA IN SCALAR-TENSOR THEORIES". PHYS. REV. D60, (1999), 12501+14 PGS.
- 37 PIMENTEL L O "Nonsingular Inhomogeneous String Cosmology", Gen. Rel. Grav. 31 (1999) 761-765.
- 38 CAMPOS R G AND PIMENTEL L O " A DISCRETE SCHEME FOR THE DIRAC AND KLEIN-GORDON EQUATIONS". Phys. Lett. A266, (2000) 98-105.
- 39 PIMENTEL L O AND MORA C, QUANTUM COSMOLOGY AND WORMHOLES IN SOME SCALAR-TENSOR THEORIES. Mod. Phys. Lett. A15, (2000)333-342.
- 40 CAMPOS R G AND PIMENTEL L O " HYDROGEN ATOM IN A FINITE LINEAR SPACE".J. Comp. Phys. 160 (2000) 179-194.
- 41 PIMENTEL L O "Bianchi I Quantum Cosmology in the Bergmann-Wagoner Theory", Gen. Rel. Grav. 33(2001) 781-790
- 42 PIMENTEL L O AND MORA C, " THIRD QUANTIZATION OF BRANS-DICKE COSMOLOGY", Phys. Lett. A 280 (2001) 191-196. (gr-qc/0009026).
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- 47 Diaz-Rivera, L.M. and Pimentel, L.O. "REQUIRED CONDITIONS FOR LATE TIME ACCELERATION AND EARLY TIME DECELERATION IN GENERALIZED SCALAR-TENSOR THEORIES", Int. Jou. Mod. Phys. A vol 8 (2003) 651-672.
- 48Pimentel L O, Diaz-Rivera y Mora C. "Cosmology with a time dependent cosmological constant", Rev. Mex. Fis. 49 S2, 85-90 (2003).
- 49 L. O. Pimentel y C. Mora Soluciones cosmologicas en teorias de cuerdas con potencial de auto interacción dilatónico. Rev. Mex. Fis. 49 S2, 102-105 (2003).
- 50 Berbena, S, R., Berrocal, A. V., Socorro, j y Pimentel, L. O. "The Einstein-Hamilton-Jacobi equation: Searching the solutions for barotropic FRW", Revista Mexicana de Física 53, 115 (2007).

51 Pimentel, L.O. y Mora, C. "Noncommutative Quantum Cosmology", *Gen. Rel. Grav.* **37**(2005) 817-821.

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53 [Hugo A. Morales-Tecotl](#), [Omar Pedraza](#), [Luis O. Pimentel](#) ([Mexico City U., Iztapalapa](#)) .
Low-energy effects in brane worlds: Liennard-Wiechert potentials and Hydrogen Lamb shift. Nov 2006. 26pp.
Published in **Gen.Rel.Grav.39:1185-1202,2007**.
e-Print: [physics/0611241](#)

54 [Eli Santos](#) ([Mexico City U., Iztapalapa](#) & [Chiapas Autonoma U.](#)) , [Abdel Perez-Lorenzana](#) ([CINVESTAV, IPN](#)) , [Luis O. Pimentel](#) ([Mexico City U., Iztapalapa](#)) .
Radion stabilization from the vacuum on flat extra dimensions.
May 2007. 24pp.
Published in **Phys.Rev.D77:025023, 2008**.
e-Print: [arXiv:0705.0051](#) [hep-ph]

55 M. Maceda. A. Macias, L.O. Pimentel, "Homogeneous Noncommutative Quantum Cosmology", **Phys.Rev.D78 :064041, 2008**.

56 [J. Socorro](#), [Luis O. Pimentel](#), [C. Ortiz](#), [M. Aguero](#) **Scalar field in the Bianchi I: Non commutative classical and Quantum Cosmology.** Oct 2009. 17pp. Published in **Int.J.Theor.Phys.48:3567-3585,2009**.
e-Print: [arXiv:0910.2449](#) [gr-qc].

57 R. Linares, H. A. Morales-Tecotl, Omar Pedraza, and Luis O. Pimentel
Brane world regularization of point particle classical self-energy
PHYSICAL REVIEW D 84, 126007 (2011)

PROCEEDINGS

- 1 OBREGON O AND PIMENTEL L O THE FIFTH FORCE AND THE SCALAR-TENSOR THEORIES OF GRAVITATION PROCEEDINGS OF THE 6TH SILARG.RIO DE JANEIRO 1987. WORLD SCIENTIFIC SINGAPORE.
- 2 MORALES A. N. y PIMENTEL L. O. COSMIC STRINGS OF SCALAR FIELDS: BRANS-DICKE CASE. PROCEEDINGS OF THE 7TH SILARG. COCOYOC MEXICO 1991. WORLD SCIENTIFIC SINGAPORE.

- 3 PIMENTEL L O. EXACT SOLUTIONS TO THE WHEELER-DE WITT EQUATION IN R^2 THEORY. PROCEEDINGS OF THE 1993 WORKSHOP ON PARTICLES AND FIELDS. MERIDA 1993. HUERTA, PEREZ URRUTIA eds. World Scientific 1994.
- 4 PIMENTEL L O. SUPERCOSMOLOGICAL MODELS IN $N=2, D=5$. VII JA SWIECA SUMMER SCHOOL. SAO PAULO 1993. Eboli Rivelles eds. World Scientific 1994.
- 5 CHAUVET P AND PIMENTEL L O. INFLATIONARY MODEL WITHOUT A BIG BANG. VII JA SWIECA SUMMER SCHOOL. SAO PAULO 1993. Eboli Rivelles eds. World Scientific 1994. page 341.
- 6 PIMENTEL L O Y DIAZ-RIVERA. GRACEFUL EXIT WITH VISCOSITY. PROCEEDINGS OF THE FIRST MEXICAN SCHOOL ON GRAVITATION AND MATHEMATICAL PHYSICS. GUANAJUATO 1994. MACIAS, MATOS, OBREGON, QUEVEDO eds. WORLD SCIENTIFIC 1996. page 341-344.
- 7 PIMENTEL L O Y OBREGON O. QUANTUM COSMOLOGY FOR A QUADRATIC THEORY OF GRAVITY. PROCEEDINGS OF THE FIRST MEXICAN SCHOOL ON GRAVITATION AND MATHEMATICAL PHYSICS. GUANAJUATO 1994. MACIAS, MATOS, OBREGON, QUEVEDO eds. WORLD SCIENTIFIC 1996. page 357-360.
- 8 PIMENTEL L O. BIANCHI V IN $N=2, D=5$. PROCEEDINGS OF THE SEVENTH MARCEL GROSSMAN MEETING ON GENERAL RELATIVITY. EDS. R T JANTZEN, G MAC KEISER AND R RUFFINNI. WORLD SCIENTIFIC P. C. 1996. SINGAPUR. PAGES 735-737.
- 9 PIMENTEL L O. CYLINDRICAL SOLUTIONS IN $N=2, D=5$. PROCEEDINGS OF THE SEVENTH MARCEL GROSSMAN MEETING ON GENERAL RELATIVITY. EDS. R T JANTZEN, G MAC KEISER AND R RUFFINNI. WORLD SCIENTIFIC P. C. 1996. SINGAPUR. PAGES 738-740.
- 10 PIMENTEL L O, CAMACHO A Y MACIAS A. WEYL EQUATION IN GOEDEL TYPE UNIVERSES. PROCEEDINGS OF THE SEVENTH MARCEL GROSSMAN MEETING ON GENERAL RELATIVITY. EDS. R T JANTZEN, G MAC KEISER AND R RUFFINNI. WORLD SCIENTIFIC P. C. 1996. SINGAPUR. PAGES 741-743.
- 11 PIMENTEL L O. NON-DIAGONAL SINGULARITY-FREE COSMOLOGICAL SOLUTION. PROCEEDINGS OF THE CAM 95 MEETING . EDS. F KHANNA AND L VINET. LES PUBLICATIONS CRM 1997. MONTREAL . PAGES 183-189.
- 12 PIMENTEL L O Y DIAZ-RIVERA. COASTING COSMOLOGIES WITH TIME DEPENDENT COSMOLOGICAL CONSTANT. RECENT DEVELOPMENTS IN GRAVITATIONAL PHYSICS, PROCEEDINGS OF THE FIRST MEXICAN SCHOOL ON GRAVITATION AND MATHEMATICAL PHYSICS. TLAXCALA 1996. A.Garcia, C.Laemmerzahl, A.Macias, T.Matos, D.Nunez. SCIENCE NETWORK PUBLISHING KONSTANZ 1998. ISBN 3-9805735-0-8. PUBLICADO ELECTRONICAMENTE. PUEDE SER CONSULTADO POR INTERNET <http://kaluza.physik.uni-konstanz.de/2MS/> .
- 13 PIMENTEL L O , OBREGON O. AND ROSALES J J. GENERAL QUANTUM COSMOLOGICAL SOLUTION IN A PURE QUADRATIC GRAVITY. RECENT DEVELOPMENTS IN GRAVITATIONAL PHYSICS, PROCEEDINGS OF THE SECOND MEXICAN SCHOOL ON GRAVITATION AND MATHEMATICAL PHYSICS. TLAXCALA 1996. A.Garcia, C.Laemmerzahl, A.Macias, T.Matos, D. Nuñez.

SCIENCE NETWORK PUBLISHING KONSTANZ 1998. ISBN 3-9805735-0-8. PUBLICADO ELECTRONICAMENTE. PUEDE SER CONSULTADO POR INTERNET <http://kaluza.physik.uni-konstanz.de/2MS/> .

14 LUIS O. PIMENTEL AND MORA C, QUANTUM COSMOLOGY IN SOME SCALAR-TENSOR THEORIES. PROCEEDINGS OF THE Eight Marcel Grossmann Meeting (World Scientific 1998), PGS 1029-1031.

15 LUIS O. PIMENTEL AND MORA C, QUANTUM COSMOLOGY IN BERGMANN-WAGONER THEORY. PROCEEDINGS OF THE 19TH TEXAS SYMPOSIUM. NUCLEAR PHYSICS B(PROC. SUPPL.)JANUARY 2000.NORTH HOLLAND.CD EDITION.

16 L. O. Pimentel and C. Mora, "Classical and quantum cosmology with and without self-interacting scalar field in Bergmann--Wagoner theory" in : *Exact Solutions and Scalar Fields in Gravity: Recent Developments* . A. Macias, J.L. Cervantes--Cota, and C. L"ammerzahl eds. (Kluwer Academic/ Plenum Publishers 2001) pp. 195-203.

17 C. Mora and L. O. Pimentel, "Uncertainty Relation in a third--quantized Brans--Dicke cosmology". *Proc. of the Ninth Marcel Grossman Meeting on General Relativity* , Rome, 2000, V.G. Gurzadyan, R. Jantzen and R. Ruffini, eds. (World Scientific, Singapore, 2002), pp. 1--3. (in print).

18 L. O. Pimentel and C. Mora, "quantum cosmology in the Bergmann--Wagoner theory". *Proc. of the Ninth Marcel Grossman Meeting on General Relativity* , Rome, 2000, V.G. Gurzadyan, R. Jantzen and R. Ruffini, eds. (World Scientific, Singapore, 2002), pp. 1--3. (in print).

19 S. Del Campo, S Lepe and L. O. Pimentel , " Quantum Cosmology in some extended scalar-tensor theories". In *Developments in mathematical and experimental physics. Volume A: Cosmology and Gravitation*. Eds. A. Macias, F. Uribe and E. Diaz. (Kluwer 2002), pp 193-200.

20. NON-COMMUTATIVITY IN CLASSICAL AND QUANTUM COSMOLOGY.

By [L.O. Pimentel \(Mexico City U., Azcapotzalco\)](#), [C. Mora \(CINVESTAV, IPN\)](#),. 2005. 7pp. Published in **AIP Conf.Proc.758:252-258,2005** Also in *Mexico City 2004, Gravitation and cosmology* 252-258

21. Photons creation in a Bianchi I cosmology.
Luis O. Pimentel, (Mexico City U., Azcapotzalco) . 2008. 3pp.
Published in AIP Conf.Proc.1026:306-308,2008.

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[Eli Santos](#), ([Chiapas Autonoma U.](#) & [Mexico City U., Azcapotzalco](#)) , [A. Perez-Lorenzana](#), ([CINVESTAV, IPN](#)) , [L.O. Pimentel](#), ([Mexico City U., Azcapotzalco](#)) , [Omar Pedraza](#), ([Chiapas Autonoma U.](#) & [CINVESTAV,](#)

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TRABAJOS PRESENTADOS EN CONGRESOS

1 -La radiación de fondo de la luz proveniente de las galaxias calculada para una solución exacta de la teoría de JBD.XIX Congreso Nacional de Investigación en Física. Mazatlán Sin. 1976. (con O. Obregon).

2 Creación de Partículas en la Cosmología de JBD.XX Congreso Nacional de Investigación en Física. Acapulco Gro. 1977. (con O. Obregon).

3 Detección remota de ondas gravitacionales. XXV Congreso Nacional de Investigación en Física. Xalapa Ver. 1982.

4 Soluciones Cosmológicas Exactas en la Teoría Escalar-Tensorial. XXVII Congreso Nacional de Investigación en Física. San Luis Potosí. 1985. .

5 Ecuaciones de Klein-Gordon y Dirac en el espacio de Godel.XXVII Congreso Nacional de Investigación en Física. San Luis Potosí. 1985.(con A. Macias).

6 THE FIFTH FORCE AND THE SCALAR-TENSOR THEORIES OF GRAVITATION. 6TH SILARG.RIO DE JANEIRO 1987. WORLD SCIENTIFIC SINGAPORE.

7The fifth force and the Scalar-Tensor Theories of gravitation. Segundo Minicurso-taller Sobre Física Fundamental. Humacao, Puerto Rico.1986.

8 Espacio-tiempo Homogéneo en una Hipersuperficie. XIX Congreso Nacional de Investigación en Física. Colima Col. 1986.

9 Modelos Cosmológicos en la teoría escalar-tetradica B.XXX Congreso Nacional de Investigación en Física. Mérida Yuc.1987. (con P. Chauvet).

10 Klein-Gordon and Weyl Equation in a Godel Universe. Winter School of Physics. Cosmology and Elementary particles. 16-25 de marzo de 1988.Rio Piedras, Puerto Rico. Universidad de Puerto Rico.

11 Inflación en las teorías Escalares-Tensoriales.XXXI Congreso Nacional de Investigación en Física. Monterrey N.L. 1988.(con J. Stein-Schabes)

12 Soluciones Clásicas en Supergravedad con $N=2$, $D=5$. Dia de la Gravitacion.1992.

13 Supercosmological models in $N=2$, $D=5$. Andre Swieca Summer School Brazil. 1993.

- 14 Cosmología cuántica en teorías cuadráticas puras. 1a. reunión anual de la división de Gravitación y Fisicamatemática. 1993.
- 15 Generación de soluciones exactas con fluidos imperfectos. VII Reunión anual de la División de Partículas y campos. 1993. **Plática invitada.**
- 16 Soluciones exactas a la ecuación de Wheeler DEWitt en teoría R^2 pura. IV Taller de Partículas y campos. Mérida 1993.
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