

# CURRICULUM VITÆ

Roberto Massimo Mario Soldati

## Formation

- Born in Bologna on 7 October 1952.
- Degree in Physics, Bologna University, 20 July 1976, *110/110 cum laude*, Thesis: *Inequalities among Green's Functions in Quantum Statistical Mechanics*, Supervisors: Marco Toller and Renzo Leonardi.

## Academic Career

- Fellowship in Theoretical Physics at the Trento University from January 1977 until October 1979.
- Appointed Professor in Theoretical Physics at the Trento University 1979 – 1986.
- N.A.T.O. Research Fellow in Theoretical Physics at the LPTHE, Orsay, Paris XI from February 1980 until March 1981.
- Assistant Professor in Theoretical Physics (Relativity and Quantum Mechanics) at the Trento University from 1981 until 1986.
- Associate Professor in Theoretical Physics (Statistical Mechanics and Quantum Field Theory) at the Bologna University since May 1986.
- *Honoris Causa* Professor in Physics at the Sankt Petersburg State University (Russia) 13 December 2005.

## Teaching Activity

- Teaching activity in Applied Mechanics, Relativity, Quantum Mechanics, Quantum Field Theory and Statistical Mechanics.
- Regular teaching activity started in October 1976 in Trento, Applied Mechanics for Engineers, then Quantum Mechanics and Relativity for undergraduate students in Trento until 1986, professor of Statistical Mechanics and Quantum Field Theory in Bologna since March 1986. Regular teaching at the Ph.D. program of the Physics Dept. of Bologna since 1988 until 2015 in advanced quantum field theory.
- Invited teacher for a series of lectures at Leningrad State University (URSS) in 1990, IPN Orsay (France) in 1995, Universidad Nacional de La Plata (Argentina) in 1998, Universidade Federal Rio de Janeiro UFRJ (Brasil) in 2002, Sankt Petersburg State University (Russia) in 2005.

## Scientific Research Activity

- Research activity in Statistical Mechanics, Quantum Mechanics, Relativity, Quantum Field Theory.

- Local Coordinator for Bologna from 1994 until 2003 in the PRIN Project *Fisica teorica delle interazioni fondamentali* (National Coordinator Prof. Roberto Petronzio)
- National Coordinator of the PRIN project *Teorie di gauge e della gravità* in 2003.
- Local Coordinator for Bologna of the *Iniziativa Specifica Pisa-13* I.N.F.N. from 1998 until 2011 (National Coordinator Prof. Ruggero Ferrari).
- Author of 64 published paper in highly qualified Journals with referee and author of a book published by World Scientific (Singapore), yielding more than 1.200 citations in INSPIRES-hep and nearly 1800 citations in Google Scholar, the difference being due mainly to the WS book, the citations of which are not registered in INSPIRES-hep.
- Regular collaboration as a referee on behalf of Physical Review D, Physical Review Letters, Nuclear Physics B, Physics Letters B, Journal of Physics A, Europhysics Letters, Journal of High Energy Physics, Nature Communications.
- Visiting professor at the following Universities and Research Centers: CERN (CH), Cambridge (UK), IPN Paris XI Orsay (FR), Paris VI Jussieu (FR), Haifa (ISR), M.I.T. Boston (USA), Leningrad State U. (USSR), Stechlov Mathematical Institute, Moscow (USSR), La Plata (ARG), Buenos Aires (ARG), INR Irkutsk (East Siberia, CSI), Barcelona (SPA), Center for Theoretical Physics, Aspen, Co (USA), CBPF Rio de Janeiro (BRA), Centro Atomico de Bariloche (ARG), UF Rio de Janeiro (BRA), Freie Universität Berlin (GFR), UE Rio de Janeiro (BRA), USP Sao Paulo (BRA), UFP Recife (BRA), Universidad de Santiago de Chile (CHI), Université Catholique Louvaine-la-Neuve (BE), UFP Joao Pessoa (BRA), UFRGN Natal (BRA).
- Advisor of the following students:
  - Giuseppe Nardelli (Degree 1984) Associate Professor, Sacro Cuore Catholic University of Brescia (Italy).
  - Paola Giacconi (Ph. D. 1988) International High School teacher in Bologna and I.N.F.N. associate, Sezione di Bologna (Italy).
  - Davide Ventura (Degree 1989) International High School teacher in Bologna (Italy).
  - Giovanni Angeli (Degree 1992) Senior Software Engineer and External Consultant for public and private Companies (Italy).
  - Simone Ginzburg (Degree 1992) Public Sector & Governance, Eurecna S.p.A., Sarajevo (Bosnia).
  - Fabio Maltoni (Degree 1994) Full Professor in Theoretical Physics, Louvain-La-Neuve (Belgium).
  - Michele Morara (Degree 1996) Researcher and Patent Inventor at Battelle, Columbus, Ohio (U.S.A.)
  - Lorenzo Sorbo (Degree 1998) Tenure Track at Amherst, Massachusetts (U.S.A.)
  - Alberto Zannoni (Degree 1999) private internet contractor, Elevel s.r.l. Unip. Ravenna (Italy).
  - Annamaria Panza (Ph. D. 2000) Head of Audit Assignment Inspection Général Hub Italy at BNL BNP Paribas in Roma (Italy).
  - Guido Pupillo (Degree 2001) Director of the Laboratoire de Physique Quantique,

IPCMS & ISIS, Strasbourg (France).

Luca Vecchi (Degree 2005) Research Fellow Associate,  
I.N.F.N. Padova and I.S.A.S. Trieste (Italy).

Marco Feliciangeli (Degree 2007) Teaching Assistant at Université Catholique de  
Louvain-la-Neuve (Belgium).

Fabrizio Sgrignuoli (Degree 2009) Contract Researcher at LENS, University of  
Florence (Italy).

Pietro Longhi (Degree 2010) Postdoc at the Uppsala University (Sweden)

Caterina Specchia (Degree 2013) Ph.D. student, ETH, Zürich (Suisse).

Riccardo Martini (Degree 2015) Ph.D. student, Jena University (Germany).

### **Academic Assignments**

- Coordinator of the Ph. D. program (Dottorato di Ricerca) of the Physics Department of the Bologna University during the Years 2005-2008.
- Member of the Committees for permanent Research Positions in Theoretical Physics: Istituto Nazionale di Fisica Nucleare, Sezioni di Bologna, Padova e Milano; Università di Torino; Università di Perugia; Università di Trento; Università di Napoli; Istituto Nazionale di Fisica Nucleare, Sezione di Genova.
- Member of the Committees for Associate Professorships in Theoretical Physics at Università di Trento; Università di Genova; Università Cattolica del Sacro Cuore di Brescia.
- Member of the Committees for the Ph.D. title at the Universities of Bologna, Genova, Pisa, Trento, Leningrad (URSS), La Plata (ARG), Paris XI (FRA), Santiago (CHI).
- Member of the National Committee for the I.N.F.N. PostDoc fellowships for foreigner theoretical physicists, Frascati (2000).

### **Membership to Scientific and Editorial Committee**

- Editor of The Scientific World Journal as part of the journal's High Energy Physics subject area.
- Member of the Athens Institute for Education and Research (ATINER) belonging to the Physics Research Unit, Athens (Greece).

### **Further Activities**

- Scientific divulgation activity in High Schools concerning Special Relativity, Quantum Mechanics and High Energy Physics.

In Faith

Bologna, 21 June 2016

## LIST OF PUBLICATIONS

### A. Papers on International Journals

- [1] A. Bassetto, R. Soldati, M. Toller, S. Zerbini : *The second virial coefficient from the scattering operator in classical mechanics*, Lett. Math. Phys. **1** (1977) 401.
- [2] G. Cognola, R. Soldati, S. Zerbini : *The second virial coefficient from the scattering operator in quantum mechanics*, Lett. Nuovo Cim. **20** (1977) 573.
- [3] G. Cognola, R. Soldati, L. Vanzo, S. Zerbini : *Classical non-abelian gauge theories in the space of the reference frames*, Jour. Math. Phys. **20** (1979) 2613.
- [4] G. Cognola, R. Soldati, M. Toller, L. Vanzo, S. Zerbini : *Theories of gravitation in the space of the reference frames*, Nuovo Cimento **B54** (1979) 325.
- [5] R. Soldati, S. Zerbini : *Spinning test particle in the manifold of the reference frames*, Lett. Nuovo Cimento **27** (1980) 575.
- [6] G. Cognola and R. Soldati : *Gravitational theories with De Sitter constant vacuum solutions*, Gen. Rel. and Grav. **13** (1981) 923.
- [7] G. Cognola, R. Soldati, L. Vanzo, S. Zerbini : *On the Lagrangian formulation of a charged spinning test particle in an external electromagnetic field*, Phys. Lett. **B104** (1981) 67.
- [8] A. Bassetto, I. Lazzizzera, R. Soldati : *Boundary conditions and spurious singularities in classical gauge theories*, Phys. Lett. **B107** (1981) 278.
- [9] G. Cognola, R. Soldati, L. Vanzo, S. Zerbini : *Lagrangian formulation for a spinning test particle in a curved space time with torsion*, Phys. Rev. **D25** (1982) 3109.
- [10] G. Cognola, R. Soldati, L. Vanzo, S. Zerbini : *Lagrangian dynamics of a classical spinning particle with dipole moments*, Nuovo Cimento **B76** (1983) 109.
- [11] A. Bassetto, I. Lazzizzera, R. Soldati : *Absence of Gribov copies in the space-like planar gauge*, Phys. Lett. **B131** (1983) 177.
- [12] A. Bassetto, I. Lazzizzera, R. Soldati : *Canonical quantization of Yang-Mills theories in space-like axial and planar gauges*, Nucl. Phys. **B236** (1984) 319.
- [13] A. Bassetto, M. Dalbosco, I. Lazzizzera, R. Soldati : *Yang-Mills theories in the light-cone gauge*, Phys. Rev. **D31** (1985) 2012.
- [14] A. Bassetto, M. Dalbosco, R. Soldati : *Difficulties with the renormalization of the Yang-Mills theory in the light-cone gauge*, Phys. Lett. **B159** (1985) 311.
- [15] A. Bassetto, M. Dalbosco, R. Soldati : *One-loop renormalization of the Yang-Mills theory with Dirac fermions in the light-cone gauge*, Phys. Rev. **D33** (1986) 617.
- [16] G. Nardelli, R. Soldati : *The temporal gauge within the Dirac constrained Dynamics*, Nuovo Cimento **A91** (1986) 319.
- [17] A. Bassetto, R. Soldati : *A test of Wilson loop exponentiation in the planar gauge*, Nucl. Phys. **B276** (1986) 517.
- [18] A. Bassetto, M. Dalbosco, R. Soldati : *Renormalization of the Yang-Mills theories in the light cone gauge*, Phys. Rev. **D36** (1987) 3138.
- [19] A. Bassetto and R. Soldati : *Limit properties of Feynman integrals in noncovariant algebraic gauges*, Phys. Rev. **D37** (1988) 3065.
- [20] G. Nardelli, R. Soldati : *The gluon self energy in the planar gauge with the Leibbrandt-Mandelstam prescription*, Phys. Lett. **B206** (1988) 495.

- [21] A. Bassetto, G. Nardelli, R. Soldati : *Local and non local counterterms in algebraic non covariant gauges*, Mod. Phys. Lett. **A3** (1988) 1663.
- [22] A. Bassetto, G. Nardelli, I. Lazzizzera, R. Soldati : *Residual gauge freedom and BRST conditions in a Hamiltonian formulation of algebraic noncovariant gauges*, Phys. Lett. **B228** (1989) 235.
- [23] A. Andrianov, A. Bassetto, R. Soldati : *Consistent quantization of massive chiral electrodynamics in four dimensions*, Phys. Rev. Lett. **63** (1989) 1554.
- [24] A. Bassetto and R. Soldati : *Comment on “Multiloop integrals, counterterms, and renormalization of Yang-Mills theories in the light-cone gauge”*, Phys. Rev. **D41** (1990) 3277.
- [25] G. Nardelli, R. Soldati : *Euclidean Wilson loop and axial gauge*, Int. Jour. Mod. Phys. **A5** (1990) 3171.
- [26] G. Cognola, P. Giacconi and R. Soldati : *Effective actions with vector-axial-vector couplings on Riemann-Cartan manifolds*, Jour. Math. Phys. **31** (1990) 2699.
- [27] A. Bassetto, P. Giacconi, L. Griguolo, R. Soldati : *Consistent and covariant gauge anomalies as solutions of the same extended algebraic problem*, Phys. Lett. **B251** (1990) 266.
- [28] A. Bassetto, L. Griguolo, R. Soldati : *Two-dimensional Euclidean anomalous effective actions in exactly solvable Abelian models*, Phys. Rev. **D43** (1991) 4088.
- [29] A. Andrianov, A. Bassetto and R. Soldati : *Further remarks on the quantization of massive chiral electrodynamics in four dimensions*, Phys. Rev. **D44** (1991) 2602.
- [30] A. Andrianov, A. Bassetto, R. Soldati : *Reply to “Quantization of massive chiral electrodynamics reexamined”*, Phys. Rev. **D47** (1993) 4801.
- [31] P. Giacconi, S. Ouvry, R. Soldati : *Axial anomaly in the presence of the Aharonov-Bohm gauge field*, Phys. Rev. **D50** (1994) 5358.
- [32] A. Andrianov, R. Soldati : *Lorentz symmetry breaking in Abelian vector-field models with Wess-Zumino interaction*, Phys. Rev. **D51** (1995) 5961.
- [33] P. Giacconi, F. Maltoni, R. Soldati : *Scattering amplitude in the Aharonov-Bohm gauge field*, Phys. Rev. **D53** (1996) 952.
- [34] P. Giacconi, F. Maltoni, R. Soldati : *Second virial coefficient for contact interacting anyons*, Phys. Rev. **B53** (1996) 10065.
- [35] R. Soldati, L. Sorbo : *Effective action for Dirac spinors in the presence of general uniform electromagnetic fields*, Phys. Lett. **B426** (1998) 82.
- [36] A. A. Andrianov, R. Soldati : *Patterns of Lorentz symmetry breaking in QED by CPT-odd interaction*, Phys. Lett. **B435** (1998) 449.
- [37] M. Morara, R. Soldati : *Consistent perturbative light-front formulation of quantum electrodynamics*, Phys. Rev. **D58** (1998) 105011.
- [38] P. Giacconi, F. Maltoni, R. Soldati : *Non-trivial behavior of the scattering amplitude of contact-interacting anyons*, Phys. Lett. **B441** (1998) 257.
- [39] A. A. Andrianov, L. Sorbo, R. Soldati : *Dynamical Lorentz symmetry breaking from 3+1 axion-Wess-Zumino model*, Phys. Rev. **D59** (1999) 025002.
- [40] P. Giacconi, R. Soldati : *Exact Solution of the one-impurity quantum Hall problem*, J. Phys. **A33** (2000) 5193.

- [41] A. Panza, R. Soldati : *Infrared singularities in the renormalization group flow of Yang-Mills theories in the axial gauge*, Phys. Lett. B**493** (2000) 197.
- [42] P. Giacconi, F. Maltoni, R. Soldati : *Bose-Einstein condensation in the presence of an impurity*, Phys. Lett. A**279** (2001) 12.
- [43] A. A. Andrianov, P. Giacconi, R. Soldati : *Lorentz and CPT violations from Chern-Simons modifications of QED*, JHEP **02** (2002) 030, 25 pp.
- [44] R. M. Cavalcanti, P. Giacconi, G. Pupillo, R. Soldati : *Bose-Einstein condensation in the presence of a uniform field and a point-like impurity*, Phys. Rev. A**65** (2002) 053606, 14 pp.
- [45] A. A. Andrianov, V. A. Andrianov, P. Giacconi, R. Soldati : *Domain wall generation by fermion self-interaction and light particles*, JHEP **07** (2003) 063, 34 pp.
- [46] R. M. Cavalcanti, P. Giacconi, R. Soldati : *Decay in a uniform field: An exactly solvable model*, J. Phys. A: Math. Gen. **36** (2003) 12065-12080.
- [47] A. A. Andrianov, V. A. Andrianov, P. Giacconi, R. Soldati : *Brane world generation by matter and gravity*, JHEP **0507** (2005) 003, 35 pp.
- [48] A. A. Andrianov, V. A. Andrianov, P. Giacconi, R. Soldati: *Localization of light particles on fermion-induced domain walls*, J. Math. Sci. (Springer, New York) **136** (1) (2006) 3533-3551.
- [49] A. A. Andrianov, V. A. Andrianov, P. Giacconi, R. Soldati: *Induced gravity and Universe creation on the domain wall in five-dimensional space-time*, Theor. Math. Phys. (Springer) **148** (1) (2006) 880-2013894 (Teor. Matem. Fiz. 148 (1) (2006) 4-201322).
- [50] J. Alfaro, A. A. Andrianov, M. Cambiaso, P. Giacconi, R. Soldati : *On the consistency of Lorentz invariance violation in QED induced by fermions in constant axial-vector background*, Phys. Lett. B**639** (2006) 586-590.
- [51] C.G. Beneventano, P. Giacconi, E.M. Santangelo, R. Soldati : *The quantum Hall effect in graphene samples and the relativistic Dirac effective action*, J. Phys. A: Math. Theor. **40** (2007) F435-F442.
- [52] A.A. Andrianov, F. Cannata, Paola Giacconi, A.Yu. Kamenshchik and R. Soldati : *Symmetries and the cosmological constant puzzle*, Phys. Lett. B **651** (2007) 306-312.
- [53] A.A. Andrianov, V.A. Andrianov, P. Giacconi, R. Rodenberg and R. Soldati : *Brane Wall generation by fermions and gravity in five dimensional space-time*, Russ. J. Theor. Phys. **8** (2007) pp. 63-79.
- [54] A.A. Andrianov, V.A. Andrianov, P. Giacconi, R. Rodenberg, R. Soldati : *Standard model of fermions on the domain wall in five-dimensional space-time*, J. Math. Sci. NY **151/2** (2008) pp. 2801-2812.
- [55] C.G. Beneventano, P. Giacconi, E.M. Santangelo and R. Soldati : *Planar QED at finite temperature and density: Hall conductivity, Berry's phases and the minimal conductivity of graphene*, J. Phys. A: Math. Theor. **42** (2009) 275401, 32pp. e-Print: arXiv:0901.0396 [hep-th].
- [56] A. A. Andrianov, D. Espriu, P. Giacconi, R. Soldati : *Anomalous positron excess from Lorentz violating QED*, JHEP **0909** (2009) 057, 13 pp. e-Print: arXiv:0907.3709 [hep-ph].
- [57] J. Alfaro, A. A. Andrianov, M. Cambiaso, P. Giacconi, R. Soldati : *Bare and Induced*

- Lorentz & CPT invariance violations in QED*, Int. J. Mod. Phys. **A25** (2010) 3271-3306, arXiv:0904.3557 [hep-th].
- [58] Paola Giacconi and Roberto Soldati : *On the mystery of the missing pie in Graphene*, Mod. Phys. Lett. B **24** (2010) 2225-2233, arXiv:0906.2856v3 [cond-mat.mes-hall].
- [59] Pietro Longhi and Roberto Soldati : *Unruh effect revisited*, Phys. Rev. D **83**, 107701 (2011) arXiv:1101.5976 [hep-th].
- [60] R. Soldati: *Pairs Emission in a Uniform Background Field: an Algebraic Approach*, J. Phys. A: Math. Theor. **44** 305401 (2011) arXiv:1104.0468 [hep-th].
- [61] A. A. Andrianov, S. S. Kolevator and R. Soldati: *Propagation of photons and massive vector mesons between a parity breaking medium and vacuum*, JHEP **1111** (2011) 007, arXiv:1109.3440 [hep-ph].
- [62] P. Longhi and R. Soldati: *Neutral Massive Spin 1/2 Particles Emission in a Rindler Spacetime*, Int. J. Mod. Phys. A **28** (2013) 1350109, 25 p., arXiv:1210.7378 [hep-th].
- [63] R. Soldati and C. Specchia: *On the Massless Vector Field in the Rindler Space* Journal of Modern Physics **6** (2015) 1743-1755, arXiv:1504.01880 [hep-th].
- [64] A.A. Andrianov, S.S. Kolevator and R. Soldati: *The functional squeeze operators algebra in Maxwell-Chern-Simons electrodynamics*, Theor. Math. Phys. **184** (2015) no. 3, 1216-1223.

## B. Proceedings and invited Talks

- [1] G. Cognola, R. Soldati, L. Vanzo, S. Zerbini : *Descrizione lagrangiana di particelle classiche con spin e momento di dipolo gravitazionale in presenza di torsione*, Rend. Circ. Mat. di Palermo (1983).
- [2] A. Bassetto, G. Nardelli, R. Soldati : *Structure of singularities and counterterms in algebraic non covariant gauges*, Proceedings of the XVII International Conference of Group Theoretical Methods in Physics, Y. Saint-Aubin and L. Vinet Editors, Montreal (1988).
- [3] G. Cognola, P. Giacconi, R. Soldati : *Relation between consistent and covariant anomalies on Riemann-Cartan manifolds*, Proceedings of the 12th Int. Conf. on General Relativity and Gravitation, Boulder (1989).
- [4] Roberto Soldati : *Tests of gauge invariance in quantum local gauge field theories*, in \*Physical and Nonstandard Gauges\*, P. Gaigg, W. Kummer, M. Schweda Editors, Springer-Verlag Lecture Notes in Physics, Berlin-Heidelberg (1990) 116 (Invited Talk).
- [5] Roberto Soldati : *Quantum phase factors and physical gauges*, in \*Problems on High Energy Physics and Field Theory\*, J. M. Troshin Editor, Moscow (1991) 171 (Invited Talk).
- [6] A. Bassetto, P. Giacconi, L. Griguolo, R. Soldati : *Extended integrability conditions for vector axial-vector anomalies on Riemann-Cartan manifolds*, Proceedings of the IX Conference on General Relativity and Gravitational Physics, World Scientific (1991), 658.
- [7] R. Soldati : *Effective Actions of Weyl spinor fields coupled to background complex valued vielbeine*, Anales de Fisica II, Monografias, M. del Olmo, M. Santader and J. Guilarte Editors, Madrid (1993) 167.

- [8] P. Giacconi, F. Maltoni, R. Soldati : *Anomaly and thermodynamics for 2D spinors in the Aharonov-Bohm gauge field* in \*Group Theoretical Methods in Physics\*, A. Arima, T. Eguchi, N. Nakanishi Editors, World Scientific, Singapore (1995) 432.
- [9] Roberto Soldati : *The Mandelstam-Leibbrandt prescription and DLCQ* in \*Theory of Hadrons and Light-Front QCD\*, S. D. Glazek Editor, World Scientific, Singapore (1995) 193 (Invited Talk).
- [10] A. A. Andrianov and R. Soldati : *Dynamical Lorentz symmetry breaking from 3+1 renormalizable models with Wess-Zumino interaction*, in \*St. Petersburg 1996, High Energy Physics and Quantum Field Theory\* 290 [HEP-TH 9612156] (Invited Talk).
- [11] R. Soldati, L. Sorbo : *Effective Action for Dirac spinors in the uniform electromagnetic background field*, in \*Florence 1998, Path Integrals from peV to TeV\* 348 [HEP-TH 9810133].
- [12] A. A. Andrianov, R. Soldati : *Lorentz symmetry breaking in models with Wess-Zumino interaction*, in \*Zvenigorod 1998, High Energy Physics and Quantum Field Theory\* 241-247.
- [13] G. McCartor, M. Morara, R. Soldati : *Consistent perturbative light-front formulation of Yang-Mills theories*, in \*Seoul/Kyungju 1999, New directions in QCD\* 284-290 (Invited Talk).
- [14] A. Panza, R. Soldati : *Massive Axial gauge in the exact Renormalization Group approach*, in \*2nd Conference on Exact Renormalization Group, Rome, Italy\* 18-22 Sep 2000, published in Int. J. Mod. Phys. **A16** (2001) 2101.
- [15] A. Bassetto, P. Giacconi, L. Griguolo, R. Soldati : *Weyl Determinant and gravitational Anomalies*, Sep 1992, in \*Bardonecchia 1992, General relativity and gravitational physics\* 607-611.
- [16] A. A. Andrianov, Paola Giacconi and R. Soldati : *Spontaneous CPT asymmetry of the Universe*, Nov 2001, in \*5th International Conference on Cosmoparticle Physics Cosmion 2001, Moscow, Russia\* published in Grav. Cosmol. Suppl. 8 (2002) 41-44.
- [17] Roberto Soldati : *Quantum effects in Graphene: condensed matter meets quantum field theory*, XXXI Convegno Informale della Fisica Teorica Italiana, Sestri Levante (GE) 8 Giugno 2009, Invited Talk.
- [18] R. Soldati : *Conductivity in Graphene and in Quantum Mechanics*, Fifth Workshop on Modern Quantum Field Theory, Salamanca (Spain) 13 - 17 September 2011, Invited Talk.
- [19] J. Alfaro (Chile U., Catolica), A.A. Andrianov (St. Petersburg State U. & Barcelona U., ECM), Mauro Cambiaso (Mexico U., ICN & Andres Bello Natl. U.), P. Giacconi, R. Soldati (Bologna U. & INFN, Bologna) *Radiative corrections in QED in a Lorentz violating background*, 6 pp. Published in AIP Conf.Proc. 1361 (2011) 318-323 Talk given at SPIRES Conference C09/11/09.2

### C. Books and Lecture Notes

- [1] Antonio Bassetto, Giuseppe Nardelli and Roberto Soldati : *Yang-Mills Theories in Algebraic non covariant Gauges : Quantization and Renormalization*, World Scientific, Singapore (1991).



- [2] Roberto Soldati : *Elementi di meccanica statistica classica*, CLUEB, Bologna (1996) now enlarged and online available on <http://www.robertosoldati.com> .
- [3] Roberto Soldati : *Introduction to Relativistic Quantum Field Theory (A Primer for Basic Education)*, online available on <http://www.robertosoldati.com> .
- [4] Roberto Soldati : *Intermediate Relativistic Quantum Field Theory (A Next-to-Basic Course for Primary Education)*, online available on *ibidem* .
- [5] Roberto Soldati : *Advances in Quantum Field Theory*, online available on *ibidem* .

#### **D. Unpublished papers**

- [1] A. Bassetto, P. Giacconi, L. Griguolo, R. Soldati: *Problems with the definition of the Weyl determinant and the Lorentz anomaly in two dimensions*, DFPD-92-TH-7 (Feb 1992) 10 pp., unpublished.
- [2] Roberto Soldati, Alberto Zannoni: *Absence of Bose–Einstein condensation with a uniform field and contact interaction*, [`cond-mat` 0007080] unpublished.

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