Antonio Riotto
Professeur ordinaire de Physique théorique - Université
de Genève.

- s.c.n.r. eletto il 13 giugno 2022

Academic Career
July 2016-: Director of the Theoretical Physics Department, University of Geneva, Switzerland.
January 2012-: Full Professor, University of Geneva, Switzerland.
March 2019 - August 2019: On leave of absence from the University of Geneva at the CERN Theory Department, Geneva, Switzerland as Scienti

c Associate.
September 2007 - December 2011: On leave of absence from Istituto Nazionale di Fisica Nucleare (INFN) in Padua at the CERN
Theory Division, Geneva, Switzerland as Sta
member.
January 2007 - August 2007: On leave of absence from Istituto Nazionale di Fisica Nucleare (INFN) in Padua as invited professor at the Departement de Physique Theorique, Section de Physique, University of Geneva.
September 2005 - January 2007: On leave of absence from Istituto Nazionale di Fisica Nucleare (INFN) in Padua at the CERN
Theory Division, Geneva, Switzerland as Paid Associate.
February 2005- December 2011: Full-time tenured position as Direttore di Ricerca" (Research Director) at Istituto Nazionale di Fisica Nucleare (INFN) in Padua, Italy.
May 2001 - February 2005: Full-time tenured position as Primo Ricercatore" (Senior Researcher) at the INFN (Istituto Nazionale di Fisica Nucleare) in Padua, Italy.
February 2001 - May 2001: Full-time tenured research position as Ricercatore" (Researcher) at the INFN (Istituto Nazionale di Fisica Nucleare) in Padua, Italy.
January 2000 - February 2001: Assistant Professor at Scuola Normale Superiore in Pisa, Italy.
December 1997-December 1999: CERN Fellow in the Theory Group at CERN.
September 1997: Beginning of the Advanced PPARC Fellowship at the University of Oxford (England) with a 5 year position starting September 1997. This position was subsequently abondoned.
November 95-August 97: Two-year appointment at the NASA/Fermilab Astrophysics Center, Fermilab national Accelerator Laboratory as Research Assistant under the DOE and URA grant NAG5-2788.
Past and Present Duties
{ Director of the Theoretical Physics Department, University of Geneva.
{ Coordinator of the Division 3 (Population Studies) of the Observational Science Board of the Einstein Telescope.
{ Member of the Academy of Sciences and Arts, Istituto Veneto.
{ Editor of the EuCapt White Paper Opportunities and Challenges for Theoretical Astroparticle Physics in the Next Decade".
{ Member of the commission d'auto-evaluation des programmes de Master du Departement de Physique" of the University of
Geneva.
{ Member of the hiring committee for the Theoretical Cosmology Professor at the ETH, Zurich.
{ Member of the Ph.D. committee at the Physics Section at the University of Geneva.
{ Member of the COPIL for the new Centre des Sciences Physiques et Mathematiques.
{ Member of the 2016 ERC Starting Grant panel Fundamental Constituents of Matter.
{ Member of the LISA collaboration.
{ Member of the EUCLID collaboration.
{ Member of the SKA collaboration.
{ Referee for the UK Royal Society.
{ Member of the EuCAPT Steering Committee
{ Referee for the National Science Center, Poland.
{ Referee for the Estonian Research Council.
{ Member of the Hiring Committee for the succession of A. Blondel, University of Geneva.
{ Reviewer for the FONDECYT, Chilean National Science and Technology Commission.
{ Reviewer for the Centre of Excellence Programme in 2018-2025 of the Academy of Finland.
{ Member of the STFC Review panel.
{ Member of the Committee for the promotion of Dr. M. Kunz to Prof. Ass. at the Physics Section at the University of Geneva.
{ Member of the Committee for the promotion of Dr. C. Bonvin to Prof. Ass. at the Physics Section at the University of Geneva.
{ Member of the Committe for the Procedura Ricercatore a tempo determinato lettera B, sc 02/A2 ssd FIS/02- Dip. Matematica e Fisica - Roma Tre, Rome, Italy.
{ Member of the Committee for the promotion of Dr. A. Sfyrla to Prof. Ass. at the Physics Section at the University of Geneva.
Member of the Committee for the promotion of Prof. P. Jetzer to full Prof. at the Physics Section at the University of Zurich.
{ External Reviewer for The German Israeli Foundation for Scienti

c Research and Development.
{ External Reviewer for the ATLAS/CMS collaborations for the dark matter searches.
{ Member of the Evaluation Committee for the academic year 2015/2016 for the Ph.D. Program in Physics at the University of Padova.
{ Association (STA) with ATLAS on The inclusion in dark matter searches of electroweak corrections and improved e ective-theory operators".
{ Member of the Planning Committee of the Physics Section of the University of Geneva.
{ Member of the Planning Committee of the Mathematics Section of the University of Geneva.
{ Member of the AEM Operational Group of the University of Geneva.
{ Member of the Committee des Locaux of the Physics Section of the University of Geneva.
{ Member of the Hiring Committee for the succession of C. Kollath, University of Geneva.
{ Co-organizer of the Conferences Grand-Publique" of the University of Geneva.
{ Member of the ApPEC Working Group on Theory Program.
{ Member of the LHC Dark Matter Working Group.
{ Referee for the European Research Council (ERC) Advanced Grants.
{ Referee for the Italian Research and University Evaluation Agency (ANVUR).
{ Member of the U.S. Department of Energy O

ce (DOE) of High Energy Physics Review Panel.
{ Member of the Committee for the Research Position RU-B FIS/02 at the University of Padova, Italy.
{ Reviewer for the Israeli Science Foundation (ISF).
{ Reviewer for the Academy of Finland, Nuclear and Particle Physics and Cosmology Review Panel.
{ Reviewer for the Shota Rustaveli National Science Foundation (SRNSF), Georgia
{ Member of the Committee II of INFN as observer for the Theoretical Group (Group IV).The committee II deals with astroparticle experiments concerning neutrino physics, rare processes, cosmic radiation, etc. In particular, it is responsable for funding experiments concerning e.g., Dark Matter (MAGIC, GLAST, Pamela, AMS, etc) and Gravitational Waves (VIRGO, LISA, etc).
{ Local coordinator of the EC Network Universenet for the Padova node.
{ Member of the Steering Committee for the COSMO conference series.
{ Member of the Scienti

c Committee of the Galileo Galilei International Centre of Theoretical Physics in Arcetri (Italy).
{ Member of the CERN Fellow Selection Committee.
{ Organizer of the CERN Wednesday (main) seminar.
{ Local CERN responsible of the ASPERA related activities.
{ CERN TH-unit representative of the Academic Training Committee.
{ Referee for the Committee II of INFN for the experiments Athena-II and Lares.
{ Funder and coordinator of the INFN PD51 initiative on early Universe cosmology and the anisotropies of the CMB.
{ Member of the Committee for INFN 10 Fellowships for neolaureati di primo livello", n. 10647.
Lectures and Organization of Conferences: last three years
September 2009: Organizer of the conference "COSMO09", CERN, Geneva, Switzerland, number of partecipants about 400.
September 2009: Organizer of the conference "Particle Cosmology Institute", CERN, Switzerland, number of partecipants about 100.
July 2010 Public lecture at the Santa maria di Sala Astronomers' club (Venice, Italy) entitled What we wish to discover at the LHC".
September 2010: Invited lecturer at the Italian National School of Theoretical Physics, Parma (Italy), September 2000. Series of lectures on Cosmology.
November 2010: Public lecture at the Centro Culturale Candiani", Venezia Mestre, entitled From the in

nitely large to the in

nitely small".
February 2011: Academic Training Lecturer at the Italian teacher program", lectures entitled From the ini

nitely small to the in

nitely large".
April 2011: public Lecture at the Venetian Academy of Sciences and Arts, entitled From the in

nitely large to the infinitely small".
May 2011: Co-organizer of the conference Electroweak baryogenesis and the LHC, Weizmann Institute, Rehovot, Israel.
June 2011: Organizer of the conference "Particle Physics and Cosmology", CERN, Geneva, Switzerland, number of partecipants about 300.
January 2012: Lecturer alla "Formation continue des enseignants secondaires en Physique", Ecole de Physique DPT 24 quai
Ernest-Ansermet 1211 Geneve 4. Titolo del seminario: "De l'infiniment petit a l' infiniment grand".
August 2012: Lecturer at "School for Nordic Students", Hilleroed, Danemark.
May 2012: Co-organizer of the Aspen Baryogenesis Workshop, Aspen, USA.
August 2012: Lecturer at the "II Jayme Tiomno School of Cosmology", CBPF Rio de Janeiro, Brazil.
September 2012: Organizer of the workshop "Theoretical methods for non-linear cosmology TH institute", CERN, Geneva, Switzerland.
May 2013: Convener at the Bethe Forum on "Planck and the early Universe, Bonn, Germany.
September 2013: Lecturer at the "Central European Joint Programme of doctoral studies in theoretical physics" School, Prague, Czech Republic.
May-June 2014: Convener at the "Particlegenesis" workshop, Kavli Institute, Santa Barbara, USA.
June 2014: Organizer of the Cosmological Frontiers in Fundamental Physics" conference, Paris, France.
September 2014: Organizer of the CERN Theory workshop "Understanding the early universe", CERN, Geneva.
September 2014: Organizer of the conference Texas Symposium on Relativistic Astrophysics", Geneva, Switzerland.
April 2014: Public Lecture at the Scuola Galileiana of the Padova University entitled The In ationary Universe".
July 2016: Organizer of the Dark Matter Workshop (IFCA)", Santander, Spain.
September 2016: Organizer of the conference TeVPA'16, TeV Particle Astrophysics", CERN, Geneva, Switzerland.
September 2016: Lecturer at the 2016 PSI Zuoz Summer School", Engadin, Switzerland.
July 2017: Invited lecturer at the Brazilian School of Cosmology and Gravitation" (BSCG), Rio de Janeiro, Brasil.
September 2017: Lecturer at the 29th Indian-Summer School of Physics, Prague, Czech Republic.
January 2018: Lecturer at the Galileo Galilei Institute School on the Theory of Fundamental Interactions", GGI Florence, Italy.
June 2018: Organizer of the Dark Matter Workshop (IFCA)", Santander, Spain.
July 2018: Lecturer at the PRE-SUSY 2018 school", IFAE Barcelona, Spain.
June 2020: Lecturer at the "Second Joint ICTP-Trieste/ICTP-SAIFR School on Particle Physics", Sao Paolo, Brazil. Title of the lectures: "Early Universe and Particle Physics".
February 2021: Organizer of the Primordial Black Holes confront GW data", University La Sapienza, Roma, Italy.
May 2021: Organizer of the First EuCAPT Annual Symposium", CERN, Geneva, Switzerland.
Invited seminars: Last Three Years
August 2011: Invited plenary speaker at the conference "Cosmo 2011", Porto, Portogual. Title of the seminar "In ation".
August 2012: Invited plenary speaker at the conference "IRGAC", Paraty, Rio de Janeiro, Brazil. Title of the seminar "The halo mass function".
June 2013: Invited plenary speaker at the conference "Cosmological perturbations post-Planck", Helsinki, Finland.
July 2013: Invited speaker at the conference "Cosmology after Planck", Chicheley Hall, London, UK.
November 2013: Invited speaker at ULB, Bruxelles, seminar given with the title "The role of cosmological perturbations in cosmology".
December 2013: Invited speaker at the conference "A passion for particles", Pisa, Italy.
January 2014: Invited speaker at the conference "In ation after Planck", DESY, Hamburg, Germany.
May 2014: Invited speaker at the conference "Enqfest", Helsinki, Finland.
August 2014: Invited plenary speaker at the conference "COSMO-2014", Chicago, USA.
November 2014: Invited speaker at the "PP/ASTRO workshop on dark matter", ETH Zurich. Title of the seminar "DM searches at the LHC and e
ective

eld theory".
July 2015: Invited plenary speaker at the "EPS HEP 2015", Vienna, Austria. Title of the seminar "The Higgs

eld and the early Universe".
July 2015: Invited plenary speaker at the "PPC2015", Deadwood, South Dakota, USA. Title of the seminar "Cosmology: the Summary ".
October 2015: Invited colloquium at the Paul Scherrer Institute (PSI), Villigen, Switzerland. Title of the colloquium "From In ation to the observed Universe passing through the Higgs ".
May 2016: Invited summary talk at the LHCpp2016 conference, Pisa, Italy.
September 2016: Invited plenary speaker at the 50th anniversary of the Brazilian Physical Society, Natal, Brasil. Title of the seminar Recent Developments in Cosmology".
October 2016: Invited plenary speaker at Fancy workshop, Odense, Denmark. Title of the seminar Towards a gravity dual for the large scale structure of the universe ".
December 2016: Invited plenary speaker at The Helsinki Higgs Forum, Helsinki, Finland. Title of the seminar The true Standard Model Higgs instability scale".
February 2017: Invited colloquium speaker at the University of Torino, Italy, title of the seminar In
ation and the Standard Model Higgs" .
March 2017: Invited plenary speaker at Higgs Cosmology workshop, Newport Pagnell, UK. Title of the seminar The true Standard Model Higgs instability scale".
April 2017: Invited plenary speaker at the University of Amsterdam, title of the seminar The true Standard Model Higgs instability scale".
May 2017: Invited plenary speaker at workshop Mass 2017: Cosmology and Dark Matter, Odense, Denmark. Title of the seminar
Towards a gravity dual for the large scale structure of the universe ".
May 2017: Invited speaker to give the Cosmology Summary Talk" at at the XIth International Conference on the Interconnection between Particle Physics and Cosmology? (PPC2017), Texas A and M University, Texas, USA.
July 2017: Invited plenary speaker at EPS HEP conference, Venice, Italy. Title of the seminar The Cosmological Standard
Model ".
March 2018: Invited plenary speaker at HEP2018 conference, Athens, Greece. Title of the seminar Cosmological signatures of
the SM electroweak vacuum instability".
May 2018: Invited colloquium speaker at the Aachen University, Germany. Title of the seminar In
ation and the Standard
Model Higgs".
June 2018: Invited plenary speaker at the 5th LISA Cosmology Working Group, Helsinki, Finalnd. Title of the seminar Gravitational waves as cosmological signature of the SM electroweak vacuum instability".
January 2019: Invited speaker at the 6th LISA Cosmology Working Group Workshop, Madrid, Spain.
Avril 2019: Invited plenary speaker at the Solvay Workshop on The Dark Side of Black Holes, Brussels, Belgium.
June 2019: Invited plenary speaker at the Planck 2019 conference, Granada, Spain.
July 2019: Invited plenary speaker PPC 2019 conference, Cartagena, Colombia.
December 2019: Invited plenary speaker at the Focus week on Primordial Black Holes, Kavli IPMU, Kashiwa, Japan.
November 2020: Invited plenary speaker at the Less Travelled Path for Dark Matter conference, ICTS, Bangalore, India.
April 2021: Invited speaker at the MIT/Tufts cosmology seminar, Boston, USA.
April 2021: Invited speaker at the Sharif University of Technology Cosmology Group Weekly Seminars, Teheran, Iran.
April 2021: Invited speaker at the LMU, Munich, Germany.
April 2021: Invited speaker at the Meeting of the National Research Group conference, Paris, France.
May 2021: Invited speaker at the Gravitational-Wave Primordial Cosmology conference, Paris, France.
June 2021: Invited speaker at the 2021 CERN-CKC Theory Workshop, CERN, Switzerland.
June 2021: Invited speaker at the 2021 Quarks conference, Moscow, Russia.
August 2021: Invited speaker at the 2021 PAX VII workshop, Lisbon, Portogual.
November 2021: Invited speaker at the Zurich University, Zurich, Switzerland.
Grants: Last Three Years
September 2012- September 2015: Grant n. 200021□140236 from the Fonds National Suisse (FNS). Amount: 452.667 CHF for the
project ` `The non-Gaussian Universe".
September 2013-September 2015: Grant from the Fondation Ernest Boninchi. Amount: 175.341 CHF for the project Investigating the early Universe with non-Gaussianity".
September 2013-September 2015: Grant Marie-Curie Intra-European Fellowships Career Development" from the European
Commission, call identi

er: FP7- PEOPLE-2012-IEF. Amount: 256.364 euros for the project Non-Gaussianity in the Sky".
September 2013-June 2015: Grant from the Tomalla Foundation. Amount: 175.341 CHF for a Post-Doc.
January 2014-December 2016: Grant from the Fonds National Suisse, Sinergia Program, on Dark Energy and Dark Matter.
September 2014-September 2015: Grant from the Fondation Ernest Boninchi. Amount: 76.900 CHF for the project Deciphering
dark matter signals in the sky and at the LHC".
September 2015-September 2018: Grant n. 20002□159223 from the Fonds National Suisse (FNS). Amount: 388.087 CHF for the
project ` `Investigating the nature of dark matter".
June 2016: Grant from the COMAD (Commission administrative de l'UniGe). Amount: 5500 CHF for organization of the conference TeV Particle Astrophysics 2016" held at CERN, 12-16 September 2016.
September 2018- August 2022: Grant n. 200020□178787 from the Fonds National Suisse (FNS). Amount: 780.000 CHF for the
project ` `The Non-Gaussian Universe and Cosmological Symmetries".
September 2018-September 2020: Grant from the Fondation Ernest Boninchi. Amount: 100.000 CHF for the project ` `The
Non-Gaussian Universe and Cosmological Symmetries".
Supervision of Master students: last two years
October 2012: Supervisor of the Master thesis of Elena Massara, Universita of Padova.
June 2012: Supervisor of the Master thesis of Simone Dresti, University of di Geneva, Quantum

eld theory in time-dependent
backgrounds". Final grade 6/6.
September 2013: Supervisor of the Master thesis of Philippe Berger, University of Geneva, The non-local galaxy bias". Final
vote: 6/6.
September 2015: Supervisor of the Master thesis of Fulvio Scaccabarozzi, University of Milano, The halo velocity bias". Final
grade: 110/110 cum Laude.
September 2016: Supervisor of the Master thesis of Goran Jelic-Cizmek, Universiy of Geneva, The instability of the Standard
Model in the presence of black holes". Final vote: 6/6.
September 2017: Supervisor of the Master thesis of Romain Chessex, ETH Zurich, In
ation and dS/CFT". Final vote: 6/6.
September 2018: Supervisor of the Master thesis of Ameek Molhatra, Universiy of Geneva, Primordial black holes". Final vote:
6/6.
Supervision of Ph.D. Students: last two years
September 2012-September 2016 : Supervisor of the Ph. D. student Hideki Perrier.
January 2013-September 2016: Supervisor of the Ph. D. student Enrico Morgante (currently post-doc at DESY in Hamburg,
Germany).
October 2014-September 2018 : Supervisor of the Ph. D. student Davide Racco (currently post-doc at the Perimeter Institute,
Canada).
September 2017-present : Supervisor of the Ph. D. student Gabriele Franciolini.
September 2017-present : Supervisor of the Ph. D. student Valerio De Luca.
Supervision of Post-docs: last two years
September 2013-January 2016 : Supervisor of the Post-doc Jorge Nore~na (currently faculty at the University of Valparaiso, Chile).
September 2013-August 2016: Supervisor of the Post-Doc Azadeh Moradinezhad Dizgah (subsequently post-doc at Harvard
University, Boston, USA).
September 2013-September 2015 : Supervisor of the Post-Doc Thomas Jacques (currently at SISSA in Trieste, Italy).
January 2018-December 2021: Supervisor of the Post-Doc Azadeh Moradinezhad Dizgah.
Teaching at the University of Geneva
January 2012: Formation continue des enseignants secondaires en Physique, seminar entitled De l'in

niment petit a l'in

niment
grand.
February-June 2012: Course of General Relativity (14P003, 8 credits).
September 2012 -June 2013: Course of Laboratoire IV Theorique (14P951, 15 credits).
February 2013 -June 2013: Course of Cosmology (14P013, 8 credits).
September 2013 -June 2014: Course of Laboratoire IV Theorique (14P951, 15 credits).
September 2014 -June 2015: Course of Mathematical Methods for Physicists II (12P015, 6 credits).
September 2015 -June 2016: Course of Mathematical Methods for Physicists II (12P015, 6 credits).
September 2016 -June 2017: Mathematical Methods for Physicists II (12P015, 6 credits).
February 2017 -June 2017: Ph.D. course The Standard Model of Weak Interactions.
September 2017 -June 2018: Course of Mathematical Methods for Physicists II (12P015, 6 credits).
September 2017 -June 2018: Course of Course of Laboratoire IV Theorique (14P951, 15 credits).
September 2018 -June 2019: Course of Mathematical Methods for Physicists II (12P015, 6 credits).
September 2018 -June 2019: Course of Laboratoire IV Theorique (14P951, 15 credits).
September 2019 -June 2020: Course of Mathematical Methods for Physicists II (12P015, 6 credits).
September 2019 -June 2020: Course of Laboratoire IV Theorique (14P951, 15 credits).
September 2020 -June 2021: Course of Mathematical Methods for Physicists II (12P015, 6 credits).
September 2020 -June 2021: Course of Laboratoire IV Theorique (14P951, 15 credits).
Prizes
January 2019: 2018 Buchalter Cosmology Prize. Amount 10.000$.
Other degrees
October 2018: Master in Forensic Science, Scuola Nazionale Peritale, Rome. Thesis entitled Some Considerations about the Determination of the Area of Convergence and the Region of Origin in Bloodstain Pattern Analysis".
April 2022: Master of Geopolitics at the Limes School.

List of Publications: last six years
Full list of publications and citations: see Google Scholar and/or InSPIRES.
[1] Cosmological implications of the Higgs-mass measurement, J.R. Espinosa, G.F. Giudice and A. Riotto, CERN-PH-TH/2007{179, JCAP 05 (2008) 002.
[2] Quantum resonant leptogenesis and Minimal Lepton Flavour Violation, V. Cirigliano, A. De Simone, G. Isidori, I. Masina and A. Riotto, CERN-PH-TH/2007{208, JCAP 01 (2008) 004.
[3] Possibly large corrections to the in ationary observables, N. Bartolo and A. Riotto, CERN-PH-TH/2007{230, Mod. Phys.
Lett. A23 (2008) 857.
[4] On the physical signi

cance of infra-red corrections to in ationary observables, N. Bartolo, S. Matarrese, M. Pietroni, A.
Riotto and D. Seery, CERN-PH-TH/2007{214, JCAP 0801 (2008) 01.
[5] On resumming in ationary perturbations beyond one-loop, A. Riotto and M. Sloth, CERN-PH-TH/2008{006, JCAP 0804
(2008) 030.
[6] Is Cosmology Compatible with Blue Gravity Waves?, R. Camerini, R. Durrer, A. Melchiorri and A. Riotto, CERN-PH-TH/2008{026, Phys. Rev. D77 (2008) 101301.
[7] Supersymmetric leptogenesis and the gravitino bound, G.F. Giudice, L. Mether, A. Riotto and F. Riva, CERN-PH-TH/2008{059, Phys. Lett. B664 (2008) 21.
[8] Latest in
ation constraints from cosmic microwave background measurements, W. Kinney, E.W. Kolb, A. Melchiorri and A. Riotto, Phys. Rev. D78 (2008) 087302.
[9] The impact of cosmic neutrinos on the gravitational-wave background, A. Mangilli, N. Bartolo, S. Matarrese and A. Riotto,
Phys. Rev. D78 (2008) 083517.
[10] Curvature perturbation from supersymmetric
at direction, A. Riotto and F. Riva, CERN-PH-TH/2008{131, Phys. Lett.
B670 (2008) 169.
[11] Parameterizing the e
ect of dark energy perturbations on the growth of structures, G. Ballesteros and A. Riotto, CERN-PH-TH/2008{160, Phys. Lett. B668 (2008) 171.
[12] Impact of uncertainties in the cosmological parameters on the measurement of primordial non-Gaussianity, M. Liguori and A. Riotto, Phys. Rev. D78 (2008) 123004.
[13] Successful type I leptogenesis with SO910)-inspired mass relations, P. Di Bari and A. Riotto, CERN-PH-TH/2008-193, Phys. Lett. B671 (2008) 462.
[14] CMBPol mission concept study: Probing in ation with CMB polarization, D. Baumann et al., arXiv:0811.3919v1 [astro-ph].
[15] On the non-Gaussianity from recombination, N. Bartolo and A. Riotto, DFPD-08-A-09, JCAP0903 (2009) 017.
[16] Non-linear power spectrum including massive neutrinos: the RG time
ow approach, J. Lesgourgues, S. Matarrese, M. Pietroni and A. Riotto, CERN-PH-TH/2008-248, JCAP 06 (2009) 017.
[17] Non -Gaussianity as a probe of the primordial universe and the astrophysics of the low redshift universe , E. Komatsu et al., submitted as CMB white paper for the NASA Astro2010 call.
[18] The origin of the Universe as revealed through the polarization of the cosmic microwave background , S. Dodelson et et al., submitted as CMB white paper for the NASA Astro2010 call.
[19] The halo mass function from the excursion set method. I First principle derivation for the non-markovian case of gaussian fluctuations and generic filter, M. Maggiore and A. Riotto, Astrophys. Journal 711 (2010) 907.
[20] The halo mass function from the excursion set method. II The di
using barrier, M. Maggiore and A. Riotto, Astrophys.
Journal. 717 (2010) 515.
[21] The halo mass function from the excursion set method. III First principle derivation for non-Gaussian theories, M. Maggiore and A. Riotto, Astrophys. Journal. 707 (2010) 526.
[22] CMB anisotropies at second-order III: bispectrum from products of the

rst-order perturbations, D. Nitta, E. Komatsu, N. Bartolo, S. Matarrese and A. Riotto, JCAP 0905 (2009) 14.
[23] The cosmic microwave background temperature bispectrum from scalar perturbations induced by primordial magnetic

elds,
C. Caprini, F.Finelli, D. Paoletti and A. Riotto, JCAP 0906 (2009) 21.
[35] Path integral approach to non-Markovian

rst-passage time problems, M. Maggiore and A. Riotto, submitted to Phys. Rev.
Lett.
[24] Cosmological perturbations in Horava-Lifshitz gravity, X. Gao, Y. Wang, R. Brandenberger and A. Riotto, Phys. Rev.
D81
(2010) 083508.
[25] The probable fate of the Standard Model, J. Ellis, J.R. Espinosa, G.F. Giudice, A. Hoecker and A. Riotto, CERN-PH-
TH/2009{058, Phys. Lett. B679 (2009) 369.
[26] Anisotropic bispectrum of curvature perturbations from primordial non-Abelian vector

elds, N. Bartolo, E. Dimastrogiovanni, S. Matarrese and A. Riotto, CERN-PH-TH/2009-097, JCAP10 (2009) 015.
[27] Anisotropic trispectrum of curvature perturbations induced by primordial non-Abelian vector

elds, N. Bartolo, E. Dimastrogiovanni, S. Matarrese and A. Riotto, CERN-PH-TH/2009-179, JCAP11 (2009) 028.
[28] The halo mass function from excursion set theory with a non-Gaussian trispectrum, M. Maggiore and A. Riotto, MNRAS
405 (2010) 1244.
[29] Signatures of primordial non-Gaussianities in the matter power spectrum and bispectrum: the time-RG approach, N. Bartolo, J.P. Almeida Beltran, S. Matarrese, M. Pietroni and A. Riotto, CERN-PH-TH/2009-260, JCAP03 (2010) 011.
[30] Non-Gaussianity and the cosmic microwave background anisotropies, N. Bartolo, S. Matarrese and A. Rioto, CERN-PH-TH/2010-006, invited review for Advances in Astronomy volume 2010 (2010), Article 011.
[31] Non-Gaussianity and statistical anisotropy from vector

eld populated in
ationary models, E. Dimastrogiovanni, N. Bartolo,
S. Matarrse and A. Riotto, invited review for Advances in Astronomy volume 2010 (2010), Article ID 752670.
[32] Second-order perturbations in a ——————————————CDM cosmology and primordial non-
Gaussianity, N. Bartolo, S. Matarrese, O. Pantano and A. Riotto, CERN-PH-TH/2010-044, Class. Quant. Grav. 27 (2010)
124009.
[33] Large non-Gaussianities in the e
ective

eld theory approach to one-single

eld in
ation: the bispectrum, N. Bartolo, M. Fasiello, S. Matarrese and A. Riotto, CERN-PH-TH/2010-076, JCAP 1008 (2010) 008
[34] Large non-Gaussianities in the e
ective

eld theory approach to one-single

eld in
ation: the trispectrum, N. Bartolo, M. Fasiello, S. Matarrese and A. Riotto, CERN-PH-TH/2010-146, JCAP 1009 (2010) 035.
[35] Excursion set for generic moving barriers and non-Gaussian initial conditions, A. De Simone, M. Maggiore and A. Riotto,
CERN-PH-TH/2010-159, Mon.Not.Roy.Astron.Soc. 412 (2011) 2587.
[36] The bias and mass function of dark matter haloes in non-Markovian extension of the excursion set theory, C.-P Ma, M. Maggiore, A. Riotto and J. Zhang, CERN-PH-TH/2010-165, Mon. Not. Roy. Astron. Soc. 411 (2011) 2644.
[37] Weak interactions are relevant for dark matter indirect detection, P. Ciafaloni, D. Comelli, A. Riotto, F. Sala, A. Strumia and A. Urbano, CERN-PH-TH/2010-179, JCAP 03 (2011) 019.
[38] Strongly scale-dependent non-Gaussianity, A. Riotto and M. Sloth, CERN-PT-TH/2010-206, Phys. Rev. D83 (2011) 041301(R).
[39] Particle Cosmology, A. Riotto, 48 pages, Lectures given at the 5th CERN-Latin-American School of High-Energy Physics", Recinto Quirama, Colombia, 15 - 28 Mar 2009 Journal-ref: CERN Yellow Report CERN-2010-001, pp. 315-362.
[40] Tilt and running of cosmological observables in generalized single-

eld in
ation, N. Bartolo, M. Fasiello, S. Matarrese and A. Riotto, CERN-PH-TH/2010-238, JCAP 12 (2010) 026.
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