

MATTEO VIEL

Date of birth: September 5, 1975 **Place of birth:** Udine (Italy)

Nationality: Italian

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Curriculum vitae

- **7/1999: Degree in Physics**, Università di Padova, Italy. Thesis: “A merger tree for the formation of cosmic structures” Thesis supervisors: Prof. Sabino Matarrese, Prof. Giuseppe Tormen. (grade: full mark 110/110 cum laude)
- **9/1999 - 3/2000:** Fellowship of Università di Padova for a period of six months at Max-Planck-Institut for Astrophysics (Garching, Germany)
- **11/1999 - 11/2002:** PhD position at the Physics Department of Università di Padova (Italy)
- **02/2001 - 04/2001:** Visiting period at Max-Planck-Institut für Astrophysik (Garching, Germany)
- **04/2001 - 10/2001:** EARA-Marie Curie Fellowship at Max-Planck-Institut für Astrophysik (Garching, Germany)
- **02/2002 - 07/2002:** EARA-Marie Curie Fellowship at Institute of Astronomy (Cambridge, UK)
- **11/2002 - 10/2003: Research Associate** - Institute of Astronomy (Cambridge, UK)
- **02/2003: PhD from Università di Padova** (Italy), Thesis “Numerical Models of the Intergalactic Medium” - Thesis supervisor: Prof. Sabino Matarrese

- **10/2003 - 10/2006: Research Associate** - PPARC (Particle Physics Astronomy Research Council) fellowship, Institute of Astronomy (Cambridge, UK)
- **11/2004 - 12/2004:** Visiting period at KAVLI institute (Santa Barbara) for the program Galaxies-Intergalactic Medium interaction
- **10/2004 - 10/2006:** Research Fellow Clare Hall College (Cambridge, UK)
- **01/2006 - 12/2016:** Researcher **staff position at Trieste Observatory** (INAF-OATS)
- **10/2006 - present:** Affiliated to **INFN** (Italian National Institute of Nuclear Physics)
- **01/2011 - present:** Scientific local coordinator of INFN CSN4 Specific Initiative PD51-INDARK: Fisica Astro-Particellare: Inflazione, materia oscura e struttura su grande scala dell 'Universo
- **07/2009:** visiting scientist at the IoA, Cambridge (UK)
- **12/2010 - 12/2016: Winner of the European Research Council - Starting (Consolidator) Grant (ERC-StG) cosmoIGM - The Intergalactic Medium as a Cosmological Tool**
- **08/2010 - 11/2016:** Member of Collegio Docenti and Affiliated Staff of the Astroparticle Sector at SISSA
- **2011-2014:** elected as a member of INAF Comitato di Macroarea-1: Galassie e Cosmologia
- **10/2012 - 10/2014:** elected as a member of the Time Allocation Committee (TAC) for the Italian telescopes TNG/LBT/REM
- **07/2017:** Abilitazione prima fascia **02/C1** – Astronomia, Astrofisica, Fisica della Terra e dei Pianeti
- **12/2016 - present: Associate Professor** in the Astroparticle Group at SISSA University
- **12/2016 - present:** Affiliated to INAF with research assignment to administrate funds
- **03/2018:** Abilitazione prima fascia **02/A2** – Fisica Teorica delle Interazioni Fondamentali
- **05/2018 - present: Coordinator** of Astroparticle Research Group and Astroparticle Phd Curriculum at SISSA

Research Interests

My research focusses on the use of the **large scale structure as a cosmological probe**. In particular, I have investigated the so-called mildly non-linear scales, especially in the **high redshift universe**, as probed by different observables. These scales allow to constrain the cosmological model and put constraints of fundamental properties such as **neutrino masses** and the **coldness of cold dark matter**. I have also made a comprehensive analysis of baryons from high to low redshift addressing the **galaxy-intergalactic medium interplay**. Here below I summarize in more details my main research interests.

- **The Intergalactic Medium/IGM** - Investigation of the Lyman- α forest, which is the main manifestation of the intergalactic medium, as a cosmological tool to probe the: 1) growth of cosmic structure; 2) fundamental physics; 3) the galaxy-IGM interplay. Constraints on the thermal history and metal enrichment of the Intergalactic Medium. Thermal, dynamical and chemical properties of the IGM. Reionization of the universe and evolution and nature of the Ionizing Background. Impact of galactic winds on the IGM. Low redshift IGM. Reionization. Impact of galactic winds and black hole feedback on galaxy evolution and on the IGM. Metal enrichment mechanisms in the high redshift universe. Absorption lines properties using high (UVES), medium (X-Shooter) and low (BOSS) resolution spectrographs. 21 cm intensity mapping as a cosmological observable in the post-reionization era.
- **Fundamental physics** - Nature of dark matter and its impact on the large, medium and small scale structure of the Universe. Constraints on the coldness of cold dark matter and warm dark matter models. Full characterization of cosmological massive neutrinos in the linear and non-linear regime. Constraints on sterile neutrino particles using the Lyman- α forest. Measuring the cosmic expansion using the Lyman- α forest with the ESO-ELT (Extremely Large Telescope). Constraints on inflationary models and primordial non gaussianity using the IGM.
- **Cosmological parameters** - Recovery of cosmological parameters and properties of the dark matter density field in standard and non-standard cosmological models. Quantitative measurements of dark energy, warm dark matter, neutrinos properties. Early dark energy models. Cross-correlation of large scale structure data (SDSS galaxies and quasars, Fermi sources and diffuse signal, NVSS, 2MASS, etc.) and cosmic microwave background (Planck, WMAP) data. Multi dimensional likelihood estimation of cosmological parameters using Monte Carlo Markov Chains. Cosmic degeneracies (e.g. neutrinos and modified gravity). Tensions in the standard cosmological model.
- **Structure formation using High Performance Computing Facilities** - Hydrodynamic and N-body codes. Evolution of cosmic structures in the high redshift universe. Density profiles of dark matter halos. Comparison of SPH and Eulerian codes for the physics of the IGM and the large scale structure. Use of international parallel super computer (COSMOS, HPCS in Cambridge (UK) and CINECA (Italy) in particular) to simulate the Universe at different scales. Coupled and early dark energy, modified gravity models and the impact on the Medium Scale Structure and IGM. Neutrino and warm dark matter simulations.

Teaching

- Supervisor, Part III Physics Gravitational Astrophysics and Cosmology - a course held by Professors Lasenby, Fabian, Rees and Hobson (Physics Department - University of Cambridge) (years 2003-04)
- Supervisor, Part III Maths Physical Cosmology - a course held by Prof. Pettini and Dr. Weller (DAMTP - University of Cambridge) (years 2005-06)
- Lectures at Beijing Normal University (China) on the Physics of the Intergalactic Medium , 10 hrs course (October 2006)
- Lecturer at Università La Sapienza, Cosmology course for PhD students Intergalactic Medium Cosmology , 2007, 12 hrs course
- Lecturer at SISSA (Trieste) Structure formation for PhD students, during years 2009, 2010, 2011 - 12 hrs course
- 2011: 20hrs lecturing at Università degli Studi di Trieste for the Cosmology course of Prof. Borgani
- 2011: 6hrs lecturing at Università degli Studi di Bologna for the PhD curriculum in Astronomy
- 2011: Lecturer at the PhD school on neutrinos organized by INFN in Padova
- 2012: 20hrs lecturing at University of Trieste (Cosmology course)
- 2012 - now: 24hrs lecturing/seminars at SISSA for APC/APP PhD students Structure Formation course
- 2015 - now: 16hrs lecturing at SISSA for APP PhD students “Foundation of Physical Cosmology” course
- 2017: Joint cosmology course between Trento and SISSA Universities “Cosmology from large to small scales” - 12 hrs

Conferences/Workshops/Schools Organized

- July 2004, Cambridge(UK) Institute of Astronomy, workshop Cosmology with Lyman- α
- NOVICOSMO 2008, Trieste October 2008, International conference: The impact of Simulations in Cosmology and Galaxy Formation
- ICTP (Trieste, Italy) Cosmology school 2010:
http://cdsagenda5.ictp.trieste.it/full_display.php?ida=a07163

- COSMOCOMP meeting in Trieste - LOC member
<http://adlibitum.oats.inaf.it/meetings/COSMOCOMPTS/>
- ICTP (Trieste, Italy) Cosmology school 2014:
http://cdsagenda5.ictp.it/full_display.php?email=0&ida=a13212
- ICTP (Trieste, Italy) Conference on Cosmology from baryons at high redshift
http://cdsagenda5.ictp.it/full_display.php?email=0&ida=a13215
- Sexten Center for Astrophysics - July 2015 “Galaxy Clustering within Euclid OULE3”
<http://www.sexten-cfa.eu/en/conferences/2015/details/57-galaxy-clustering-within-euclid-oule3.html>
- Sexten Center for Astrophysics - February 2016 “Astrophysics of Dark Matter”
<http://www.sexten-cfa.eu/en/conferences/2016/details/67-astrophysics-of-dark-matter.html>
- “F. Lucchin” Cosmology School for Italian PhD Students - May 2016 - Naples Astronomical Observatory <http://eventi.na.astro.it/en/scuola-lucchin/>
- Sexten Center for Astrophysics - July 2017 “Getting ready for science. Euclid Galaxy Clustering under Science Performance Review”
<http://www.sexten-cfa.eu/en/conferences/2017/details/81-getting-ready-for-science-euclid-galaxy-clustering-under-science-performance-review.html>
- Organizer of the ASTRO-TS meeting at SISSA (Trieste) - 25-26/09/2017
- member of the international advisor committee of the UCLA DM 2018 conference
- SOC member of the conference “From Dark Energy to Bright Synergies” (sexten, July 2018)
- SOC member of the workshop “General Relativity Effects in the Large Scale Structure” (Sexten, July 2018)
- Scientific organizer of the Euclid theory Group Annual meeting - 8-10 June 2020 - zoom online event (110 participants)

Outreach

- Physorg: <http://www.physorg.com/news76328087.html>
- ESI-TOPICS: Emerging Research Fronts Comments <http://www.esi-topics.com/erf/2006/october06-MatteoViel.html>
- FEST (Festival Editoria Scientifica Triestina) 2007 Trieste - Talk
- SPACE ART at immaginario scientifico Trieste - October 2008
- Telecom ItaliaX10: <http://italiax10.telecomitalia.com/news/intervista-a-matteo-viel/>
- Intervista a Radio 24: <http://www.radio24.ilsole24ore.com/programma/altra-europa/2013-09-28/partecipazione-democratica-europa-101933.php?idpuntata=gSLA5RO9V&date=2013-09-28>
- On average 5/6 public talks per year

Main Collaborations

- **Since 2014 - Euclid Deputy Lead** of theory Working Group, member Simulation Working Group; **Since 2014 - Manager** of the OU-LE3 Organisational Units-Level 3 of Validation for Galaxy Clustering.
- Member of the **SKA Cosmology Group** (since June 2014)
- Computational projects on european parallel supercomputers: COSMOS, HPCS-Darwin (Cambridge, UK); CINECA (Italy); Marenostrum (Barcelona, Spain). PRACE.
- Cambridge - UK (Institute of Astronomy); Garching - Germany (MPA, ESO), CERN (Switzerland), Padua University (Italy)
- X-Shooter instrument (medium resolution spectrograph) and WEAVE spectrograph.
- member of the **BOSS/SDSS-III** collaboration (April 2011 - June 2014).
- member of the light core team of Planck for a project to compute cross-correlation between CMB maps and the large-scale structure (since June 2011) ISW effect and constraints on non-gaussianities by using cross-correlation of LSS tracers and evolution of the Dark Energy and modified gravity.
- 2008-2013 ESPRESSO and high res. spectrograph instruments: high resolution spectrographs on the E-ELT (ESO - Extremely Large Telescope)

Bibliometry

264 total publications, 200 refereed
20900 citations
2720 citations for papers as a first author
h-index = 65
first author h-index = 22
(Nov. 2020: from NASA/ADS and INSPIRE/HEP)

Google scholar metric: h-index = 73, Citations = 26430, i10-index = 200 (Nov. 2020)
Google scholar metric (since 2015): h-index = 60, Citations = 19540, i10-index = 173 (Nov. 2020)

Web of Science and Scopus h-index: 59
total documents: 224, total cites: 17570 (Scopus - Nov. 2020)

h-index (2010, 2020): 51 (from Supporto CRUI)
h-index (2005, 2020): 56 (from Supporto CRUI)
Citations (2010, 2020): 14480 (from Supporto CRUI)
Citations (2005, 2020): 17470 (from Supporto CRUI)

Other Activities

Referee for Astronomy and Astrophysics, MNRAS, MNRAS Letters, Physical Review D, JCAP, Astrophysical Journal, Physical Review Letters. Referee for the NWO: Netherlands Organisation for Scientific Research. Swiss NSF and Israeli National Agencies for Research. Referee for AN-VUR

Referee for ERC (Starting, Consolidator and Advanced Grants Funding Schemes).
Referee for ISCRA and PRACE.

Member of PhD evaluation committee: J. Brandbyge (Aarhus Univ.); M. Savalainen (Helsinki Univ.); C. Schultz (Aarhus Univ.); A. Arino (Barcelona Univ.), B. Audren (Lausanne Univ.), F. Villaescusa-Navarro (Valencia Univ.), J. Schewtschenko (Durham Univ.), A. Pezzotta (Milano Univ.), L. Keating (Cambridge Univ.), S. Bosak (Durham Univ.), Matteo Zennaro (Milano Univ.), Simone Peirone (Leiden Univ.), Simone Ammazzalorso (Torino Univ.).

Students and Postdocs

- University Master Degree Students: Matteo Costanzi (2011, Università di Trieste, co-superv. with Prof. Borgani); Alex Zucca (2014, Università di Trieste, co-supervision with Dr. Ansoldi e Silvestri); Simone Peirone (2016, Università di Trieste, co-supervision with Dr. Ansoldi and Prof. Borgani); Maria Berti (2019, Università di Trieste, co-supervision with Dr. Ansoldi and Dr. F. Lepori); Matteo Esposito (2020, Università di Trieste, co-supervision with Prof. Borgani).

- PhD-Students supervised: Edoardo Tescari (April 2007 - April 2010 - now postdoc in Swinburne Univ.) "Chemical and Physical Properties of the Intergalactic Medium"; Chiara Mongardi (Dec 2013 - Dec 2016) "The galaxy/IGM interplay", co-supervision with Dr. D'Odorico; Elena Massara (SISSA/ICTP, Oct 2012 - Oct 2016 - now postdoc at Waterloo Univ.) "Neutrinos and voids in modern cosmology", co-supervision with Prof. Sheth; Antonella Garzilli (SISSA, Oct 2008 - Oct 2012, now postdoc in Leiden) "A measurement of the thermal history of the intergalactic medium, and constraints on primordial black holes in the Galaxy", co-supervision with Dr. S. Leach; Isabella Carucci (SISSA, Oct 2013 - Oct 2017 - now postdoc at CEA Saclay) "Cosmic neutral hydrogen as tracer of the large scale structure of the Universe", co-supervision with Prof. Lapi; Andrej Obuljen (SISSA, 2014-18 - now postdoc at Waterloo Univ.) "Large-Scale Structure with 21cm Intensity Mapping"; Francesca Lepori (SISSA, 2014-2018 - now postdoc at Geneva Univ.) "Relativistic Cosmology from the Linear to the Non-Linear Regime"; Riccardo Murgia (SISSA, 2015-2019 - now postdoc in Montpellier University) "Constraining Dark Matter properties with the Intergalactic Medium and other probes"; Gabriele Parimbelli (SISSA, 2016-2020) "The impact of cosmological neutrinos on large-scale structure observables"; Dimitar Ivanov (SISSA, 2016-2020 - co-supervision with Prof. Liberati) "Testing deviations from LCDM model with electromagnetic and gravitational waves"; Tommaso Ronconi (SISSA, 2016-2020 - co-supervision with Prof. Lapi) "From Cosmic Voids to Collapsed Structures: HPC Methods for Astrophysics and Cosmology"; Hasti Khoraminezhad (SISSA, to finish in Oct 2021 - co-supervision with Prof. Baccigalupi); Maria Berti (SISSA, to finish in Oct 2023).
- PhD-Students co-supervised: John Regan (2004-2007 Cambridge, UK), Jamie Bolton (2003-2006 Cambridge, UK), Dunja Fabjan (2007-2010, Università di Trieste), Matteo Costanzi (2011- 2014, Università di Trieste, co-supervision with Prof. Borgani).
- Postdocs directly funded from PI grant money: Dr. Paramita Barai (cosmoIGM postdoc 2011-2014); Dr. Francisco Villaescusa-Navarro (cosmoIGM postdoc 2012-2016); Dr. Tae-Sun Kim (cosmoIGM postdoc 2013-2016); Dr. Enea Di Dio (cosmoIGM postdoc 2014-2017) - INFN grant; Dr. Paul Sutter (INFN/INDARK in Trieste - postdoc 2014-2016); Dr. Marta Spinelli (INAF - postdoc 2018-2021); Dr. Gabriele Parimbelli (INAF - ASI-INAF funding - postdoc 2020-2022).

Grants and funding

- **Member** of research unit of PRIN-MIUR 2007 "The cosmic cycle of baryons" P.I. Prof. S. Borgani (140 k€ total grant)
- PRIN-INAF 2009 "Towards an Italian network of computational cosmology" 110 k€ (4 research units, role **national P.I.** of the research project)
- ASI/AAE Grant 2006-2009 (Theory: High Energy Astrophysics) 60 k€ for 3 yrs (role: **P.I. of the local research unit** at INAF-OATS (national P.I. Prof. Moscardini))
- **Member** of research unit of ITN (European Network) Computational Cosmology - COSMO-COMP: P.I. Prof. Baugh (Durham), local coordinator Prof. Borgani (Università di Trieste)
 - Trieste node 540 k€ + 90 k€ (da progetto LACEGAL) for students and researchers
- **Winner of ERC-StG (European Research Council - Starting Grants) with the 6yrs project "cosmoIGM: the intergalactic medium as a cosmological tool" (role: P.I.; amount: 891,500 Euros to cover the joining of the Sloan Digital Sky Survey-III/BOSS survey for the acoustic baryonic oscillations + 4 postdoctoral fellows + 50% of my salary)** ERC old group web-page: <http://www.sissa.it/~viel/cosmoIGM/>
- PRIN INAF 2011 "A complete view of the first years of galaxy formation" (National P.I. A. Fontana), **local P.I. of research unit** 10 k€.
- PRIN MIUR 2012 "Evoluzione dei barioni cosmici: effetti astrofisici e crescita delle strutture cosmiche" (national P.I. Prof. Borgani) - 270 k€ total, **member of research unit**
- **Scientific local coordinator** of research specific initiative **INFN-PD51 INDARK** (funding about 10k€/yr + one 40k€ two-year postdoctoral fellowship in 2014)
- **PRIN INAF - SKA** project FORECast (national P.I. Dr. I. Prandoni) member of local research unit with 2 yrs postdoc funding (total 70 k€) for the project "mocking SKA" (jointly with Dr. De Lucia).
- Fondi **FFABR** 3k€.

Funds directly administrated: 891.5 k€ (ERC-StG) + 60 k€ (ASI/AAE) + 110 k€ (PRIN-INAF) + 10 k€ (PRIN INAF) + 60 k€ (INFN) + 70 k€ (PRIN INAF SKA) = 1.2 ME

Seminars

- 03/2001: Institute Seminar at MPA
- 03/2001: Cosmology Seminar at MPA
- 11/2001: Institute Seminar at Dipartimento di Astronomia di Padova (Italy)
- 11/2001: Cosmology Seminar at Osservatorio Astrofisico di Arcetri (Florence, Italy)
- 11/2001: Institute Seminar at Osservatorio Astronomico di Trieste (Italy)
- 11/2002: Institute Seminar at Institute of Astronomy Cambridge (UK)
- 09/2003: Institute Seminar at Osservatorio Astronomico di Trieste (Trieste, Italy)
- 10/2003: Institute Seminar at SISSA (Trieste, Italy)
- 10/2003: Institute Seminar at Dipartimento di Astronomia di Bologna (Bologna, Italy)
- 10/2003: Institute Seminar at Osservatorio Astronomico di Padova (Bologna, Italy)
- 03/2004: Institute Seminar at Department of Astronomy, University of Sussex (Brighton, UK)
- 11/2004: Cosmology Seminar at Department of Astronomy, University of Oxford (Oxford, UK)
- 11/2004: Lyman- α forest seminar, University of Berkeley (US)
- 12/2004: Astrophysics Colloquium, Fermilab (US)
- 12/2004: Seminar at the Astronomy Department, Princeton (US)
- 07/2005: Institute Seminar at Institute of Astronomy Cambridge (UK)
- 02/2006: Institute Seminar at Durham (UK)
- 10/2006: Institute Seminar at Trieste Observatory (Italy)
- 10/2006: Institute Seminar at High Energy Physics Institute of Beijing (China)
- 11/2006: Institute Seminar at Scuola Normale Superiore di Pisa (Italy)
- 03/2007: Institute Seminar at ICTP (Institute Cosmology and Theoretical Physics (Trieste, Italy)
- 05/2007: Seminar at IASF/BO. Institute for astrophysics (Bologna, Italy)
- 05/2008: Institute Seminar in Marseille (France)
- 07/2009: Seminar at osservatorio Astronomico di Palermo (Italy)

- 12/2010: Joint Astronomical Colloquium Heidelberg (Germany)
- 10/2011: Institute seminar at INAF/BRERA (Milan, Italy)
- 10/2012: Seminar at Lubjana University (Slovenia)
- 09/2013: Institute seminar at Barcelona University (Spain)
- 04/2014: Institute seminar at Royal Observatory of Edinburgh
- 11/2014: Institute seminar Università di Torino/Dipartimento di Fisica
- 01/2015: Invisibles webinar
- 05/2016: Gentner colloquium at MPIK (Heidelberg, Germany)
- 09/2016: Institute seminar at Helsinki University (Finland)
- 11/2016: Institute seminar at Aachen University (Germany)
- 04/2017: Invited seminar at LAM Marseille (France)
- 11/2017: Elusives webinar
- 04/2018: Invited Colloquium at ETH Zurich (Switzerland)
- 05/2018: Invited seminar at Montpellier LUPM (France)
- 11/2018: Invited talk at CERN Theory Division (Switzerland)
- 03/2019: Bologna joint astrophysical colloquium (Bologna, Italy)
- 05/2019: Invited seminar at GSSI (L'Aquila, Italy)
- 06/2019: Invited seminar at TUM (Munich, Germany)
- 11/2019: Colloquium at OKC Stockholm (Sweden)
- 02/2020: CCA Simons foundation center for computational astrophysics (New York, US).
Colloquium.
- 05/2020: Invited colloquium speaker at Geneve University (Switzerland) - postponed
- 06/2020: Colloquium. Aachen University (Germany) - postponed
- 06/2020: Institute Seminar at Naples Observatory (zoom)
- 11/2020: Institute Seminar at ICG Portsmouth (UK)
- 11/2020: Institute Seminar at Indian Institute of Technology Indore (India)

Conferences

- 9/2000: Joint 2000 annual meeting: European TMR network "The Formation and Evolution of galaxies and European RTN network The Physics of the Integalactic Medium ", Durham (UK) - Oral presentation
- 9/2000: National School of Cosmology and Astrophysics, Asiago (Italy) - Oral presentation
- 04/2001: RTN workshop Computational Investigations of the Intergalactic Medium , Garching (Germany) - Oral presentation
- 06/2001: IAP colloquium: Gaseous Matter in Galaxies and in the Intergalactic Space c, Paris (France) - Poster presentation
- 06/2001: RTN workshop The First Stars and the Reionization of the Universe , Florence (Italy) - Talk
- 08/2001: Lighthouses of the Universe , Garching (Germany)
- 10/2001: National School of Astrophysics, Trieste (Italy) - Oral presentation
- 10/2001: RTN network The Physics of the Intergalactic Medium , Eibsee (Germany) - Oral presentation
- 02/2002: Lyman- α emission at high redshift , Institute of Astronomy, Cambridge (UK)
- 06/2002: Elba (Italy) 2002 conference. Early cosmic structures and the end of the dark ages - Oral presentation
- 07/2002: Cambridge, UK. Making light of gravity - Poster presentation.
- 09/2002: Gargonza (Italy) RTN annual meeting The Physics of the IGM - Oral presentation
- 11/2002: Roma (Italy). Convegno nazionale di Cosmologia - Oral presentation
- 06/2003: Blois (France). XVth Rencontres de Blois Physical Cosmology - Oral presentation
- 09/2003: Ile d'Óleron (France). RTN annual meeting The Physics of the IGM - Oral presentation
- 10/2003: Vulcano (Italy). International workshop on Modelling the intergalactic and intracuster media - Oral presentation
- 04/2004: La Thuile (Italy). XXXIXth Rencontres de Moriond on Exploring the Universe - Oral presentation
- 05/2004: Haifa (Israel). Meeting Mass and Light in the Universe - Oral presentation
- 09/2004: Leiden (Holland). RTN annual meeting The Physics of the IGM - Oral presentation
- 10/2004: Novigrad (Croatia). Conference Baryons in dark matter halos - Oral presentation

- 11/2004: Santa Barbara (US). Workshop Galaxies-Intergalactic Medium Interactions - Oral presentation
- 03/2005: Shanghai (China). IAU 1999 Colloquium Probing galaxies through quasar absorption lines - Oral presentation
- 04/2005: Granada (Spain). Cosmology Workshop - Oral presentation
- 06/2005: Trieste (Italy). Conference on Computational Cosmology - Oral presentation
- 08/2005: Chiemsee (Germany). IGM Workshop. Oral Presentation
- 10/2005: Austin (Texas, US). The Lyman- α forest as a cosmological probe at the Frank N. Bash 2005 symposium - Invited review
- 06/2006: Valencia (Spain). Bernard's cosmic stories conference - Oral presentation
- 09/2006: Conca Specchiulla (Lecce, Italy). Constraints on neutrinos from Lyman- α - Invited
- 01/2007: Virgo Meeting (Leiden, Holland) oral presentation: The high redshift Lyman- α forest and the nature of dark matter
- 04/2007: IFAE conference (Naples, Italy) Fundamental Physics with the Intergalactic Medium - Invited
- 07/2007: Conference HI survival trough cosmic time - Oral presentation
- 02/2008: Entapp (DESY, Hamburg) - Invited chair of DM session and oral presentation
- 02/2008: Conference at APC (Paris) Dark matter at small scales - Oral presentation
- 04/2008: IFAE 2008 Bologna - Oral presentation
- 06/2008: IAP colloquium 2008 (Paris) The universe above $z=3$ - Oral presentation
- 02/2009: Galilei Institute Florence (Italy). Dark Matter' - Oral presentation
- 06/2009: COSMO 09 Conference CERN (Switzerland) - Invited plenary
- 02/2010: La Thuile (Italy) Rencontres de Moriond on Cosmolgy - Oral presentation
- 06/2010: ESF workshop The almost Gaussian Universe = Non-Gaussianity with high redshift large scale structure probes - Saclay, France - Oral presentation
- 09/2010: Workshop -Metal presso El Escorial Madrid - Chairman/organizer of a parallel session
- 07/2010: International Conference Darkness Visible (Cambridge, UK) - Oral presentation
- 05/2011: CosmoFirstObjects conference in Marseille, France - Oral presentation

- 06/2011: PPC workshop at CERN (Geneva, Switzerland): Vth international workshop on the interconnection between particle physics and cosmology - Oral presentation
- 07/2011: Cosmology School in Santa Fe (New Mexico, US) - Oral presentation
- 04/2012: 2012 MPA-IfT Spring Workshop on LSS (La Cristalera, Madrid) - Oral presentation
- 05/2012: Euclid consortium meeting (Leiden, France) - Oral presentation
- 05/2013: Euclid consortium meeting (Marseille, France) - Oral presentation
- 05/2013: SAIT 2013 (Società Italiana di Astronomia, Bologna Italy) - Invited
- 06/2013: Intergalactic Interaction Workshop (Edinburgh, UK) - Invited
- 07/2013: Ripples in the cosmos conference (Durham, UK) - Oral presentation
- 07/2013: Tracing the cosmic-structure with galaxy clusters at Sexten (Italy) - Oral presentation
- 09/2013: SIF (Società Italiana di Fisica) Trieste, Italy - Invited
- 09/2013: Cosmological constraints on massive neutrinos at ICTP Workshop on the Origin of Neutrino Mass - From Majorana to LHC - Invited
- 12/2013: Euclid OULE3 meeting (Nice, France) - Oral presentation
- 02/2014: Munich (Germany), Interdisciplinary Cluster Workshop on Dark Matter - Invited
- 05/2014: SAIT 2014, Milano (Italy) - Invited
- 06/2014: APP14 TeVPA/IDM (Amsterdam, Netherlands) - Invited plenary speaker
- 07/2014: EWASS 2014 (Geneve, Switzerland) - Invited parallel
- 08/2014: Conference high redshift baryons (ICTP, Trieste) - Oral presentation
- 09/2015: COSMO-15 Conference in Warsaw (Poland) - Invited plenary speaker
- 06/2016: Neutrino 2016 conference in London (UK) - Invited plenary speaker
- 01/2017: Berkeley conference on Intensity Mapping (US) - Invited speaker
- 04/2017: PONT 2017 Avignone (France) Progress on old and new themes in Cosmology - Invited speaker
- 07/2017: “Whereabouts and Physics of the Roaming Baryons in the Universe” Conference, Sexten, Italy - Invited review talk
- 09/2017: Lecturer at cosmology and ELT science school at Terceira (Azores, Portugal) school organizer: C. Martins.

- 09/2017: Invited talk at SIF (Trento)
- 10/2017: Plenary speaker at Dark Universe Conference, Munich (Germany)
- 06/2018: Invited talk at Cosmology conference on LSS/CMB at Ferrara University (Italy)
- 06/2018: Invited talk at Haifa Technion at the workshop on the LSS organized by Dr. Desjacques (Israel)
- 09/2018: Invited at KAVLI IPMU conference on the Intergalactic Medium - Tokyo (Japan)
- 11/2018: Conference computational methods in astrophysics at Henri Poincare Institute (Paris). Invited.
- 06/2019: Talks at Euclid Consortium meeting (parallel session on cosmological simulations and LSS corr. funct.)
- 09/2019: Invited talk at Kavli 10yr conference in Cambridge (UK)
- 09/2019: Invited Plenary speaker at COSMO-19, Aachen (Germany)
- 12/2019: Convener of Cosmology LSS session at Texas symposium (Portsmouth, UK)
- 01/2020: Invited lecturer at multi-messenger astrophysics school in Asiago, Italy
- 01/2020: Invited speaker at Next Generation Radio Telescopes and Cosmology (Sexten, Italy)
- 02/2020: Invited speaker at Axion Cosmology and Laboratory day at Padova University (Italy)
- 07/2020: Convener at PASCOS 2020 (Heidelberg, Germany) - postponed

Trieste, 1st November 2020



Publications

264 publications; 200 peer-reviewed publications; 62 conference proceedings (some of them refereed)

(from <https://ui.adsabs.harvard.edu/classic-form/>)

5 Selected Publications on structure formation and fundamental physics with 1700 total citations on NASA/ADS: [1–5]

Full list of publications

- [1] Matteo **Viel**, Julien Lesgourgues, Martin G. Haehnelt, Sabino Matarrese, and Antonio Riotto. Constraining warm dark matter candidates including sterile neutrinos and light gravitinos with WMAP and the Lyman- α forest. *PhRvD*, 71(6):063534, March 2005.
- [2] Matteo **Viel**, Julien Lesgourgues, Martin G. Haehnelt, Sabino Matarrese, and Antonio Riotto. Can Sterile Neutrinos Be Ruled Out as Warm Dark Matter Candidates? *Physical Review Letters*, 97(7):071301, August 2006.
- [3] Matteo **Viel**, George D. Becker, James S. Bolton, Martin G. Haehnelt, Michael Rauch, and Wallace L. W. Sargent. How Cold Is Cold Dark Matter? Small-Scales Constraints from the Flux Power Spectrum of the High-Redshift Lyman- α Forest. *Physical Review Letters*, 100(4):041304, February 2008.
- [4] Matteo **Viel**, Martin G. Haehnelt, and Volker Springel. The effect of neutrinos on the matter distribution as probed by the intergalactic medium. *JCAP*, 2010(6):015, June 2010.
- [5] Matteo **Viel**, George D. Becker, James S. Bolton, and Martin G. Haehnelt. Warm dark matter as a solution to the small scale crisis: New constraints from high redshift Lyman- α forest data. *PhRvD*, 88(4):043502, August 2013.
- [6] Mathias Garny, Thomas Konstandin, Laura Sagunski, and Matteo **Viel**. Neutrino mass bounds from confronting an effective model with BOSS Lyman-alpha data. *arXiv e-prints*, page arXiv:2011.03050, November 2020.
- [7] Hasti Khoraminezhad, Titouan Lazeyras, Raul E. Angulo, Oliver Hahn, and Matteo **Viel**. Quantifying the impact of baryon-CDM perturbations on halo clustering and baryon fraction. *arXiv e-prints*, page arXiv:2011.01037, November 2020.
- [8] Euclid Collaboration. Euclid preparation: IX. EuclidEmulator2 – Power spectrum emulation with massive neutrinos and self-consistent dark energy perturbations. *arXiv e-prints*, page arXiv:2010.11288, October 2020.
- [9] Euclid Collaboration. Euclid preparation: X. The Euclid photometric-redshift challenge. *arXiv e-prints*, page arXiv:2009.12112, September 2020.
- [10] Titouan Lazeyras, Francisco Villaescusa-Navarro, and Matteo **Viel**. The impact of massive neutrinos on halo assembly bias. *arXiv e-prints*, page arXiv:2008.12265, August 2020.

- [11] Giulio Scelfo, Lumen Boco, Andrea Lapi, and Matteo **Viel**. Exploring galaxies-gravitational waves cross-correlations as an astrophysical probe. *JCAP*, 2020(10):045, October 2020.
- [12] Marta Spinelli, Anna Zoldan, Gabriella De Lucia, Lizhi Xie, and Matteo **Viel**. The atomic hydrogen content of the post-reionization Universe. *MNRAS*, 493(4):5434–5455, April 2020.
- [13] Mario Ballardini, Riccardo Murgia, Marco Baldi, Fabio Finelli, and Matteo **Viel**. Non-linear damping of superimposed primordial oscillations on the matter power spectrum in galaxy surveys. *JCAP*, 2020(4):030, April 2020.
- [14] Francesca Lepori, Vid Iršič, Enea Di Dio, and Matteo **Viel**. The impact of relativistic effects on the 3D Quasar-Lyman- α cross-correlation. *JCAP*, 2020(4):006, April 2020.
- [15] Balakrishna S. Haridasu and Matteo **Viel**. Late-time decaying dark matter: constraints and implications for the H_0 -tension. *MNRAS*, 497(2):1757–1764, July 2020.
- [16] Anchal Saxena, Suman Majumdar, Mohd Kamran, and Matteo **Viel**. Impact of dark matter models on the EoR 21-cm signal bispectrum. *MNRAS*, 497(3):2941–2953, June 2020.
- [17] Tommaso Ronconi, Andrea Lapi, Matteo **Viel**, and Alberto Sartori. SCAMPY - A sub-halo clustering and abundance matching based PYTHON interface for painting galaxies on the dark matter halo/sub-halo hierarchy. *MNRAS*, 498(2):2095–2113, July 2020.
- [18] Square Kilometre Array Cosmology Science Working Group, David J. Bacon, Richard A. Battye, Philip Bull, Stefano Camera, Pedro G. Ferreira, Ian Harrison, David Parkinson, Alkistis Pourtsidou, Mário G. Santos, Laura Wolz, Filipe Abdalla, Yashar Akrami, David Alonso, Sambatra Andrianomena, Mario Ballardini, José Luis Bernal, Daniele Bertacca, Carlos A. P. Bengaly, Anna Bonaldi, Camille Bonvin, Michael L. Brown, Emma Chapman, Song Chen, Xuelei Chen, Steven Cunnington, Tamara M. Davis, Clive Dickinson, José Fonseca, Keith Grainge, Stuart Harper, Matt J. Jarvis, Roy Maartens, Natasha Maddox, Hamsa Padmanabhan, Jonathan R. Pritchard, Alvise Raccanelli, Marzia Rivi, Sambit Roychowdhury, Martin Sahlén, Dominik J. Schwarz, Thilo M. Siewert, Matteo **Viel**, Francisco Villaescusa-Navarro, Yidong Xu, Daisuke Yamauchi, and Joe Zuntz. Cosmology with Phase 1 of the Square Kilometre Array Red Book 2018: Technical specifications and performance forecasts. *Publications of the Astronomic Society of Australia*, 37:e007, January 2020.
- [19] Krishna Naidoo, Lorne Whiteway, Elena Massara, Davide Gualdi, Ofer Lahav, Matteo **Viel**, Héctor Gil-Marín, and Andreu Font-Ribera. Beyond two-point statistics: using the minimum spanning tree as a tool for cosmology. *MNRAS*, 491(2):1709–1726, January 2020.
- [20] Hasti Khoraminezhad, Matteo **Viel**, Carlo Baccigalupi, and Maria Archidiacono. Constraints on the spacetime dynamics of an early dark energy component. *JCAP*, 2020(7):039, July 2020.
- [21] Meng-Zhen Lyu, Balakrishna S. Haridasu, Matteo **Viel**, and Jun-Qing Xia. H_0 Reconstruction with Type Ia Supernovae, Baryon Acoustic Oscillation and Gravitational Lensing Time Delay. *ApJ*, 900(2):160, September 2020.

- [22] E. Keihänen, H. Kurki-Suonio, V. Lindholm, A. Viitanen, A. S. Suur-Uski, V. Allevato, E. Branchini, F. Marulli, P. Norberg, D. Tavagnacco, S. de la Torre, J. Valiviita, M. **Viel**, J. Bel, M. Frailis, and A. G. Sánchez. Estimating the galaxy two-point correlation function using a split random catalog. *A&A*, 631:A73, November 2019.
- [23] Maria Archidiacono, Deanna C. Hooper, Riccardo Murgia, Sebastian Bohr, Julien Lesgourgues, and Matteo **Viel**. Constraining Dark Matter-Dark Radiation interactions with CMB, BAO, and Lyman- α . *JCAP*, 2019(10):055, October 2019.
- [24] Euclid Collaboration. Euclid preparation. VII. Forecast validation for Euclid cosmological probes. *A&A*, 642:A191, October 2020.
- [25] Francisco Villaescusa-Navarro, ChangHoon Hahn, Elena Massara, Arka Banerjee, Ana Maria Delgado, Doogesh Kodi Ramanah, Tom Charnock, Elena Giusarma, Yin Li, Erwan Allys, Antoine Brochard, Cora Uhlemann, Chi-Ting Chiang, Siyu He, Alice Pisani, Andrej Obuljen, Yu Feng, Emanuele Castorina, Gabriella Contardo, Christina D. Kreisch, Andrina Nicola, Justin Alsing, Roman Scoccimarro, Licia Verde, Matteo **Viel**, Shirley Ho, Stephane Mallat, Benjamin Wandelt, and David N. Spergel. The Quijote Simulations. *ApJS*, 250(1):2, September 2020.
- [26] Riccardo Murgia, Giulio Scelfo, Matteo **Viel**, and Alvisè Raccanelli. Lyman-alpha Forest Constraints on Primordial Black Holes as Dark Matter. *Physical Review Letters*, 123(7):071102, August 2019.
- [27] Arka Banerjee, Emanuele Castorina, Francisco Villaescusa-Navarro, Travis Court, and Matteo **Viel**. Weighing neutrinos with the halo environment. *JCAP*, 2020(6):032, June 2020.
- [28] Matteo Nori, Riccardo Murgia, Vid Iršič, Marco Baldi, and Matteo **Viel**. Lyman α forest and non-linear structure characterization in Fuzzy Dark Matter cosmologies. *MNRAS*, 482(3):3227–3243, January 2019.
- [29] Gabriele Parimbelli, Matteo **Viel**, and Emiliano Sefusatti. On the degeneracy between baryon feedback and massive neutrinos as probed by matter clustering and weak lensing. *JCAP*, 2019(1):010, January 2019.
- [30] Riccardo Murgia, Vid Iršič, and Matteo **Viel**. Novel constraints on noncold, nonthermal dark matter from Lyman- α forest data. *PhRvD*, 98(8):083540, October 2018.
- [31] Dimitar Ivanov, Stefano Liberati, Matteo **Viel**, and Matt Visser. Perturbative treatment of the luminosity distance. *PhRvD*, 98(6):063505, September 2018.
- [32] C. Mongardi, M. **Viel**, V. D’Odorico, T. S. Kim, P. Barai, G. Murante, and P. Monaco. Absorption systems at $z \sim 2$ as a probe of the circumgalactic medium: a probabilistic approach. *MNRAS*, 478(3):3266–3289, August 2018.
- [33] Dimitar Ivanov, Stefano Liberati, Matteo **Viel**, and Matt Visser. Non-perturbative results for the luminosity and area distances. *JCAP*, 2018(6):040, June 2018.

- [34] Francesca Lepori, Enea Di Dio, Eleonora Villa, and Matteo **Viel**. Optimal galaxy survey for detecting the dipole in the cross-correlation with 21 cm Intensity Mapping. *JCAP*, 2018(5):043, May 2018.
- [35] Andrej Obuljen, Emanuele Castorina, Francisco Villaescusa-Navarro, and Matteo **Viel**. High-redshift post-reionization cosmology with 21cm intensity mapping. *JCAP*, 2018(5):004, May 2018.
- [36] Nicola Bartolo, Sabino Matarrese, and Matteo **Viel**. *Cosmology: Searching for Deviations from the Standard Cosmological Model*, page 499. 2018.
- [37] Takeshi Kobayashi, Riccardo Murgia, Andrea De Simone, Vid Iršič, and Matteo **Viel**. Lyman- α constraints on ultralight scalar dark matter: Implications for the early and late universe. *PhRvD*, 96(12):123514, December 2017.
- [38] Isabella P. Carucci, Pier-Stefano Corasaniti, and Matteo **Viel**. Imprints of non-standard dark energy and dark matter models on the 21cm intensity map power spectrum. *JCAP*, 2017(12):018, December 2017.
- [39] R. Murgia, A. Merle, M. **Viel**, M. Totzauer, and A. Schneider. “Non-cold” dark matter at small scales: a general approach. *JCAP*, 2017(11):046, November 2017.
- [40] Fahad Nasir, James S. Bolton, Matteo **Viel**, Tae-Sun Kim, Martin G. Haehnelt, Ewald Puchwein, and Debora Sijacki. The effect of stellar and AGN feedback on the low-redshift Lyman α forest in the Sherwood simulation suite. *MNRAS*, 471(1):1056–1069, October 2017.
- [41] S. Marcocci, S. Dell’Oro, M. **Viel**, and F. Vissani. The contribution of light Majorana neutrinos to neutrinoless double beta decay and cosmology. In *Journal of Physics Conference Series*, volume 888 of *Journal of Physics Conference Series*, page 012178, October 2017.
- [42] Daniele Montanino, Franco Vazza, Alessandro Mirizzi, and Matteo **Viel**. Enhancing the Spectral Hardening of Cosmic TeV Photons by Mixing with Axionlike Particles in the Magnetized Cosmic Web. *Physical Review Letters*, 119(10):101101, September 2017.
- [43] Andrej Obuljen, Francisco Villaescusa-Navarro, Emanuele Castorina, and Matteo **Viel**. Baryon Acoustic Oscillations reconstruction with pixels. *JCAP*, 2017(9):012, September 2017.
- [44] M. **Viel**. The photo-ionized IGM in simulations. In *Whereabouts and Physics of the Roaming Baryons in the Universe*, page 11, July 2017.
- [45] Vid Iršič, Matteo **Viel**, Martin G. Haehnelt, James S. Bolton, and George D. Becker. First Constraints on Fuzzy Dark Matter from Lyman- α Forest Data and Hydrodynamical Simulations. *Physical Review Letters*, 119(3):031302, July 2017.
- [46] Vid Iršič, Matteo **Viel**, Martin G. Haehnelt, James S. Bolton, Stefano Cristiani, George D. Becker, Valentina D’Odorico, Guido Cupani, Tae-Sun Kim, Trystyn A. M. Berg, Sebastian López, Sara Ellison, Lise Christensen, Kelly D. Denney, and Gábor Worseck. New constraints

on the free-streaming of warm dark matter from intermediate and small scale Lyman- α forest data. *PhRvD*, 96(2):023522, July 2017.

- [47] I. Paris, P. Petitjean, N. P. Ross, A. D. Myers, E. Aubourg, A. Streblyanska, S. Bailey, E. Armengaud, N. Palanque-Delabrouille, C. Yeche, F. Hamann, M. A. Strauss, F. D. Albareti, J. Bovy, D. Bizyaev, W. N. Brandt, M. Brusa, J. Buchner, J. Comparat, R. A. C. Croft, T. Dwelly, X. Fan, A. Font-Ribera, J. Ge, A. Georgakakis, P. B. Hall, L. Jiang, K. Kinemuchi, E. Malanushenko, V. Malanushenko, R. G. McMahon, M. L. Menzel, A. Merloni, K. Nandra, P. Noterdaeme, D. Oravetz, K. Pan, M. M. Pieri, F. Prada, M. Salvato, D. J. Schlegel, D. P. Schneider, A. Simmons, M. **Viel**, D. H. Weinberg, and L. Zhu. VizieR Online Data Catalog: SDSS quasar catalog: twelfth data release (Paris+, 2017). *VizieR Online Data Catalog*, page VII/279, June 2017.
- [48] Matteo **Viel**, Martin G. Haehnelt, James S. Bolton, Tae-Sun Kim, Ewald Puchwein, Fahad Nasir, and Bart P. Wakker. Diagnosing galactic feedback with line broadening in the low-redshift Ly α forest. *MNRAS*, 467(1):L86–L90, May 2017.
- [49] Alexie Leauthaud, Shun Saito, Stefan Hilbert, Alexandre Barreira, Surhud More, Martin White, Shadab Alam, Peter Behroozi, Kevin Bundy, Jean Coupon, Thomas Erben, Catherine Heymans, Hendrik Hildebrandt, Rachel Mandelbaum, Lance Miller, Bruno Moraes, Maria E. S. Pereira, Sergio A. Rodríguez-Torres, Fabian Schmidt, Huan-Yuan Shan, Matteo **Viel**, and Francisco Villaescusa-Navarro. Lensing is low: cosmology, galaxy formation or new physics? *MNRAS*, 467(3):3024–3047, May 2017.
- [50] Vid Iršič, Matteo **Viel**, Trystyn A. M. Berg, Valentina D’Odorico, Martin G. Haehnelt, Stefano Cristiani, Guido Cupani, Tae-Sun Kim, Sebastian López, Sara Ellison, George D. Becker, Lise Christensen, Kelly D. Denney, Gábor Worseck, and James S. Bolton. The Lyman α forest power spectrum from the XQ-100 Legacy Survey. *MNRAS*, 466(4):4332–4345, April 2017.
- [51] Francisco Villaescusa-Navarro, David Alonso, and Matteo **Viel**. Baryonic acoustic oscillations from 21 cm intensity mapping: the Square Kilometre Array case. *MNRAS*, 466(3):2736–2751, April 2017.
- [52] A. Rorai, G. D. Becker, M. G. Haehnelt, R. F. Carswell, J. S. Bolton, S. Cristiani, V. D’Odorico, G. Cupani, P. Barai, F. Calura, T. S. Kim, E. Pomante, E. Tescari, and M. **Viel**. Exploring the thermal state of the low-density intergalactic medium at $z = 3$ with an ultrahigh signal-to-noise QSO spectrum. *MNRAS*, 466(3):2690–2709, April 2017.
- [53] Isabella P. Carucci, Francisco Villaescusa-Navarro, and Matteo **Viel**. The cross-correlation between 21 cm intensity mapping maps and the Ly α forest in the post-reionization era. *JCAP*, 2017(4):001, April 2017.
- [54] Francesca Lepori, Enea Di Dio, Matteo **Viel**, Carlo Baccigalupi, and Ruth Durrer. The Alcock Paczyński test with Baryon Acoustic Oscillations: systematic effects for future surveys. *JCAP*, 2017(2):020, February 2017.

- [55] Simone Peirone, Marco Raveri, Matteo **Viel**, Stefano Borgani, and Stefano Ansoldi. Constraining $f(R)$ gravity with Sunyaev-Zel'dovich clusters detected by the Planck satellite. *PhRvD*, 95(2):023521, January 2017.
- [56] James S. Bolton, Ewald Puchwein, Debora Sijacki, Martin G. Haehnelt, Tae-Sun Kim, Avery Meiksin, John A. Regan, and Matteo **Viel**. The Sherwood simulation suite: overview and data comparisons with the Lyman α forest at redshifts $2 \leq z \leq 5$. *MNRAS*, 464(1):897–914, January 2017.
- [57] R. Adhikari and et al. A White Paper on keV sterile neutrino Dark Matter. *JCAP*, 2017(1):025, January 2017.
- [58] Enzo Branchini, Stefano Camera, Alessandro Cuoco, Nicolao Fornengo, Marco Regis, Matteo **Viel**, and Jun-Qing Xia. Cross-correlating the γ -ray Sky with Catalogs of Galaxy Clusters. *ApJS*, 228(1):8, January 2017.
- [59] Isabelle Pâris, Patrick Petitjean, Nicholas P. Ross, Adam D. Myers, Éric Aubourg, Alina Streblyanska, Stephen Bailey, Éric Armengaud, Nathalie Palanque-Delabrouille, Christophe Yèche, Fred Hamann, Michael A. Strauss, Franco D. Albareti, Jo Bovy, Dmitry Bizyaev, W. Niel Brandt, Marcella Brusa, Johannes Buchner, Johan Comparat, Rupert A. C. Croft, Tom Dwelly, Xiaohui Fan, Andreu Font-Ribera, Jian Ge, Antonis Georgakakis, Patrick B. Hall, Linhua Jiang, Karen Kinemuchi, Elena Malanushenko, Viktor Malanushenko, Richard G. McMahan, Marie-Luise Menzel, Andrea Merloni, Kirpal Nandra, Pasquier Noterdaeme, Daniel Oravetz, Kaike Pan, Matthew M. Pieri, Francisco Prada, Mara Salvato, David J. Schlegel, Donald P. Schneider, Audrey Simmons, Matteo **Viel**, David H. Weinberg, and Liu Zhu. The Sloan Digital Sky Survey Quasar Catalog: Twelfth data release. *A&A*, 597:A79, January 2017.
- [60] M. M. Pieri, S. Bonoli, J. Chaves-Montero, I. Pâris, M. Fumagalli, J. S. Bolton, M. **Viel**, P. Noterdaeme, J. Miralda-Escudé, N. G. Busca, H. Rahmani, C. Peroux, A. Font-Ribera, and S. C. Trager. WEAVE-QSO: A Massive Intergalactic Medium Survey for the William Herschel Telescope. In C. Reylé, J. Richard, L. Cambrésy, M. Deleuil, E. Pécontal, L. Tresse, and I. Vauglin, editors, *SF2A-2016: Proceedings of the Annual meeting of the French Society of Astronomy and Astrophysics*, pages 259–266, December 2016.
- [61] V. D’Odorico, S. Cristiani, E. Pomante, R. F. Carswell, M. **Viel**, P. Barai, G. D. Becker, F. Calura, G. Cupani, F. Fontanot, M. G. Haehnelt, T. S. Kim, J. Miralda-Escudé, A. Rorai, E. Tescari, and E. Vanzella. Metals in the $z \sim 3$ intergalactic medium: results from an ultra-high signal-to-noise ratio UVES quasar spectrum. *MNRAS*, 463(3):2690–2707, December 2016.
- [62] S. López, V. D’Odorico, S. L. Ellison, G. D. Becker, L. Christensen, G. Cupani, K. D. Denney, I. Pâris, G. Worseck, T. A. M. Berg, S. Cristiani, M. Dessauges-Zavadsky, M. Haehnelt, F. Hamann, J. Hennawi, V. Iršič, T. S. Kim, P. López, R. Lund Saust, B. Ménard, S. Perrotta, J. X. Prochaska, R. Sánchez-Ramírez, M. Vestergaard, M. **Viel**, and L. Wisotzki. XQ-100: A legacy survey of one hundred $z=3.5-4.5$ quasars observed with VLT/X-shooter. *A&A*, 594:A91, October 2016.

- [63] C. Di Porto, E. Branchini, J. Bel, F. Marulli, M. Bolzonella, O. Cucciati, S. de la Torre, B. R. Granett, L. Guzzo, C. Marinoni, L. Moscardini, U. Abbas, C. Adami, S. Arnouts, D. Bottini, A. Cappi, J. Coupon, I. Davidzon, G. De Lucia, A. Fritz, P. Franzetti, M. Fumana, B. Garilli, O. Ilbert, A. Iovino, J. Krywult, V. Le Brun, O. Le Fèvre, D. Maccagni, K. Małek, H. J. McCracken, L. Paioro, M. Polletta, A. Pollo, M. Scodreggio, L. A. M. Tasca, R. Tojeiro, D. Vergani, A. Zanichelli, A. Burden, A. Marchetti, D. Martizzi, Y. Mellier, R. C. Nichol, J. A. Peacock, W. J. Percival, M. **Viel**, M. Wolk, and G. Zamorani. The VIMOS Public Extragalactic Redshift Survey (VIPERS). Measuring non-linear galaxy bias at $z \sim 0.8$. *A&A*, 594:A62, October 2016.
- [64] Planck Collaboration. Planck 2015 results. XIV. Dark energy and modified gravity. *A&A*, 594:A14, September 2016.
- [65] Planck Collaboration. Planck 2015 results. I. Overview of products and scientific results. *A&A*, 594:A1, September 2016.
- [66] Julien Baur, Nathalie Palanque-Delabrouille, Christophe Yèche, Christophe Magneville, and Matteo **Viel**. Lyman-alpha forests cool warm dark matter. *JCAP*, 2016(8):012, August 2016.
- [67] Rupert A. C. Croft, Jordi Miralda-Escudé, Zheng Zheng, Adam Bolton, Kyle S. Dawson, Jeffrey B. Peterson, Donald G. York, Daniel Eisenstein, Jon Brinkmann, Joel Brownstein, Renyue Cen, Timothée Delubac, Andreu Font-Ribera, Jean-Christophe Hamilton, Khee-Gan Lee, Adam Myers, Nathalie Palanque-Delabrouille, Isabelle Pâris, Patrick Petitjean, Matthew M. Pieri, Nicholas P. Ross, Graziano Rossi, David J. Schlegel, Donald P. Schneider, Anže Slosar, José Vazquez, Matteo **Viel**, David H. Weinberg, and Christophe Yèche. Large-scale clustering of Lyman α emission intensity from SDSS/BOSS. *MNRAS*, 457(4):3541–3572, April 2016.
- [68] Francisco Villaescusa-Navarro, Susana Planelles, Stefano Borgani, Matteo **Viel**, Elena Rasia, Giuseppe Murante, Klaus Dolag, Lisa K. Steinborn, Veronica Biffi, Alexander M. Beck, and Cinthia Ragone-Figueroa. Neutral hydrogen in galaxy clusters: impact of AGN feedback and implications for intensity mapping. *MNRAS*, 456(4):3553–3570, March 2016.
- [69] Vid Iršič, Enea Di Dio, and Matteo **Viel**. Relativistic effects in Lyman- α forest. *JCAP*, 2016(2):051, February 2016.
- [70] Matteo **Viel**. Cosmology with the Lyman-a forest. In *Astrophysics of Dark Matter*, page 21, February 2016.
- [71] S. Dell’Oro, S. Marcocci, M. **Viel**, and F. Vissani. Neutrinoless double beta decay: 2015 review. *arXiv e-prints*, page arXiv:1601.07512, January 2016.
- [72] Éric et al. BOSS Collaboration Aubourg. Cosmological implications of baryon acoustic oscillation measurements. *PhRvD*, 92(12):123516, December 2015.
- [73] S. Dell’Oro, S. Marcocci, M. **Viel**, and F. Vissani. The contribution of light Majorana neutrinos to neutrinoless double beta decay and cosmology. *JCAP*, 2015(12):023, December 2015.

- [74] Andreu Arinyo-i-Prats, Jordi Miralda-Escudé, Matteo **Viel**, and Renyue Cen. The non-linear power spectrum of the Lyman alpha forest. *JCAP*, 2015(12):017, December 2015.
- [75] Alessandro Cuoco, Jun-Qing Xia, Marco Regis, Enzo Branchini, Nicolao Fornengo, and Matteo **Viel**. Dark Matter Searches in the Gamma-ray Extragalactic Background via Cross-correlations with Galaxy Catalogs. *ApJS*, 221(2):29, December 2015.
- [76] Francisco Villaescusa-Navarro, Philip Bull, and Matteo **Viel**. Weighing Neutrinos with Cosmic Neutral Hydrogen. *ApJ*, 814(2):146, December 2015.
- [77] Elena Massara, Francisco Villaescusa-Navarro, Matteo **Viel**, and P. M. Sutter. Voids in massive neutrino cosmologies. *JCAP*, 2015(11):018, November 2015.
- [78] Nathalie Palanque-Delabrouille, Christophe Yèche, Julien Baur, Christophe Magneville, Graziano Rossi, Julien Lesgourgues, Arnaud Borde, Etienne Burtin, Jean-Marc LeGoff, James Rich, Matteo **Viel**, and David Weinberg. Neutrino masses and cosmology with Lyman-alpha forest power spectrum. *JCAP*, 2015(11):011, November 2015.
- [79] Isabella P. Carucci, Francisco Villaescusa-Navarro, Matteo **Viel**, and Andrea Lapi. Warm dark matter signatures on the 21cm power spectrum: intensity mapping forecasts for SKA. *JCAP*, 2015(7):047, July 2015.
- [80] Marco Peloso, Massimo Pietroni, Matteo **Viel**, and Francisco Villaescusa-Navarro. The effect of massive neutrinos on the BAO peak. *JCAP*, 2015(7):001, July 2015.
- [81] Shadab et al. Alam. The Eleventh and Twelfth Data Releases of the Sloan Digital Sky Survey: Final Data from SDSS-III. *ApJS*, 219(1):12, July 2015.
- [82] Marco Regis, Jun-Qing Xia, Alessandro Cuoco, Enzo Branchini, Nicolao Fornengo, and Matteo **Viel**. Particle Dark Matter Searches Outside the Local Group. *Physical Review Letters*, 114(24):241301, June 2015.
- [83] M. **Viel**. The cosmological model at medium and small scales: open questions. In *Cosmological Simulations: From Galaxies to Large Scales*, page 19, June 2015.
- [84] Paramita Barai, Pierluigi Monaco, Giuseppe Murante, Antonio Ragagnin, and Matteo **Viel**. Gas Outflow Properties in Cosmological Simulations of Galaxies/ Implementation of Kinetic AGN Feedback in GADGET-3. In *Cosmological Simulations: From Galaxies to Large Scales*, page 7, June 2015.
- [85] A. Raccanelli, P. Bull, S. Camera, C. Blake, P. Ferreira, R. Maartens, M. Santos, P. Bull, D. Bacon, O. Doré, P. Ferreira, M. G. Santos, M. **Viel**, and G. B. Zhao. Measuring redshift-space distortion with future SKA surveys. In *Advancing Astrophysics with the Square Kilometre Array (AASKA14)*, page 31, April 2015.
- [86] S. Camera, A. Raccanelli, P. Bull, D. Bertacca, X. Chen, P. Ferreira, M. Kunz, R. Maartens, Y. Mao, M. Santos, P. R. Shapiro, M. **Viel**, and Y. Xu. Cosmology on the Largest Scales with the SKA. In *Advancing Astrophysics with the Square Kilometre Array (AASKA14)*, page 25, April 2015.

- [87] M. Santos, P. Bull, D. Alonso, S. Camera, P. Ferreira, G. Bernardi, R. Maartens, M. **Viel**, F. Villaescusa-Navarro, F. B. Abdalla, M. Jarvis, R. B. Metcalf, A. Pourtsidou, and L. Wolz. Cosmology from a SKA HI intensity mapping survey. In *Advancing Astrophysics with the Square Kilometre Array (AASKA14)*, page 19, April 2015.
- [88] Fabio Fontanot, Francisco Villaescusa-Navarro, Davide Bianchi, and Matteo **Viel**. Semi-analytic galaxy formation in massive neutrino cosmologies. *MNRAS*, 447(4):3361–3367, March 2015.
- [89] Francisco Villaescusa-Navarro, Matteo **Viel**, David Alonso, Kanan K. Datta, Philip Bull, and Mário G. Santos. Cross-correlating 21cm intensity maps with Lyman Break Galaxies in the post-reionization era. *JCAP*, 2015(3):034, March 2015.
- [90] Jun-Qing Xia, Alessandro Cuoco, Enzo Branchini, and Matteo **Viel**. Tomography of the Fermi-LAT γ -Ray Diffuse Extragalactic Signal via Cross Correlations with Galaxy Catalogs. *ApJS*, 217(1):15, March 2015.
- [91] Paramita Barai, Pierluigi Monaco, Giuseppe Murante, Antonio Ragagnin, and Matteo **Viel**. Galactic outflow and diffuse gas properties at $z \geq 1$ using different baryonic feedback models. *MNRAS*, 447(1):266–286, February 2015.
- [92] Nathalie Palanque-Delabrouille, Christophe Yèche, Julien Lesgourgues, Graziano Rossi, Arnaud Borde, Matteo **Viel**, Eric Aubourg, David Kirkby, Jean-Marc LeGoff, James Rich, Natalie Roe, Nicholas P. Ross, Donald P. Schneider, and David Weinberg. Constraint on neutrino masses from SDSS-III/BOSS Ly α forest and other cosmological probes. *JCAP*, 2015(2):045, February 2015.
- [93] Khee-Gan Lee, Joseph F. Hennawi, David N. Spergel, David H. Weinberg, David W. Hogg, Matteo **Viel**, James S. Bolton, Stephen Bailey, Matthew M. Pieri, William Carithers, David J. Schlegel, Britt Lundgren, Nathalie Palanque-Delabrouille, Nao Suzuki, Donald P. Schneider, and Christophe Yèche. IGM Constraints from the SDSS-III/BOSS DR9 Ly α Forest Transmission Probability Distribution Function. *ApJ*, 799(2):196, February 2015.
- [94] V. D’Odorico, G. Cupani, S. Cristiani, R. Maiolino, P. Molaro, M. Nonino, M. Centurion, A. Cimatti, S. di Serego Alighieri, F. Fiore, A. Fontana, S. Gallerani, E. Giallongo, F. Mannucci, A. Marconi, L. Pentericci, M. **Viel**, and G. Vladilo. VizieR Online Data Catalog: z \sim 6 QSOs CIV doublet absorption systems (D’Odorico+, 2013). *VizieR Online Data Catalog*, page J/MNRAS/435/1198, January 2015.
- [95] Umberto Maio and Matteo **Viel**. The first billion years of a warm dark matter universe. *MNRAS*, 446(3):2760–2775, January 2015.
- [96] E. Oliva, C. Baffa, L. Busoni, L. Carbonaro, G. Cresci, C. Del Vecchio, S. Esposito, D. Ferruzzi, E. Giani, M. Iuzzolino, F. Massi, L. Miglietta, E. Pinna, A. Riccardi, N. Sanna, M. Sozzi, A. Tozzi, M. Curti, S. Faggi, A. Marconi, A. Bragaglia, P. Montegriffo, L. Origlia, P. Bruno, M. Munari, S. Scuderi, F. Leone, M. Genoni, M. Landoni, E. Poretti, M. Riva, F. Zerbi, I. Carleo, R. Gratton, S. Antonucci, G. Li Causi, B. Nisini, F. Vitali, R. Cirami, I. Coretti, S. Cristiani, G. Cupani, V. D’Odorico, P. Di Marcantonio, P. Molaro, and

- M. **Viel**. T-REX OU4 HIRES: the high resolution spectrograph for the E-ELT. *SAIT memories*, 86:474, January 2015.
- [97] Vincenzo Vitagliano, Jun-Qing Xia, Stefano Liberati, and Matteo **Viel**. High-Z Cosmography at a Glance. In *Thirteenth Marcel Grossmann Meeting: On Recent Developments in Theoretical and Experimental General Relativity, Astrophysics and Relativistic Field Theories*, pages 1574–1576, January 2015.
- [98] Elena Massara, Francisco Villaescusa-Navarro, and Matteo **Viel**. The halo model in a massive neutrino cosmology. *JCAP*, 2014(12):053, December 2014.
- [99] Vid Iršič and Matteo **Viel**. The Lyman β forest as a cosmic thermometer. *JCAP*, 2014(12):024, December 2014.
- [100] Planck Collaboration. Planck 2013 results. XIX. The integrated Sachs-Wolfe effect. *A&A*, 571:A19, November 2014.
- [101] Planck Collaboration. Planck 2013 results. XII. Diffuse component separation. *A&A*, 571:A12, November 2014.
- [102] Planck Collaboration. Planck 2013 results. I. Overview of products and scientific results. *A&A*, 571:A1, November 2014.
- [103] Matteo Costanzi, Barbara Sartoris, Matteo **Viel**, and Stefano Borgani. Neutrino constraints: what large-scale structure and CMB data are telling us? *JCAP*, 2014(10):081, October 2014.
- [104] Francisco Villaescusa-Navarro, Matteo **Viel**, Kanan K. Datta, and T. Roy Choudhury. Modeling the neutral hydrogen distribution in the post-reionization Universe: intensity mapping. *JCAP*, 2014(9):050, September 2014.
- [105] Alessandro Manzotti, Marco Peloso, Massimo Pietroni, Matteo **Viel**, and Francisco Villaescusa-Navarro. A coarse grained perturbation theory for the Large Scale Structure, with cosmology and time independence in the UV. *JCAP*, 2014(9):047, September 2014.
- [106] Denis et al. ESPRESSO Collaboration Mégevand. ESPRESSO: the radial velocity machine for the VLT. In *Proceedings SPIE*, volume 9147 of *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series*, page 91471H, July 2014.
- [107] Arnaud Borde, Nathalie Palanque-Delabrouille, Graziano Rossi, Matteo **Viel**, James S. Bolton, Christophe Yèche, Jean-Marc LeGoff, and Jim Rich. New approach for precise computation of Lyman- α forest power spectrum with hydrodynamical simulations. *JCAP*, 2014(7):005, July 2014.
- [108] Matteo Costanzi, Alunno Cerbolini, Stefano Borgani, Matteo **Viel**, and Barbara Sartoris. Neutrino mass constraints from the joint analysis of CMB data with low redshift Universe probes. In *Building the Euclid Cluster Survey - Scientific Program*, page 16, July 2014.
- [109] Graziano Rossi, Nathalie Palanque-Delabrouille, Arnaud Borde, Matteo **Viel**, Christophe Yèche, James S. Bolton, James Rich, and Jean-Marc Le Goff. Suite of hydrodynamical simulations for the Lyman- α forest with massive neutrinos. *A&A*, 567:A79, July 2014.

- [110] Sarah Eftekharzadeh, Adam D. Myers, Martin White, Jo Bovy, Xiaohui Fan, Jean-Marc Le Goff, Pierre Laurent, Cameron McBride, Jordi Miralda-Escude, Nathalie Palanque-Delabrouille, Patrick Petitjean, Nicholas P. Ross, Donald P. Schneider, Yue Shen, Michael A. Strauss, Alina Streblyanska, David H. Weinberg, W. Michael Wood-Vasey, Matteo **Viel**, Christophe Yeche, Don York, and Idit Zehavi. The Clustering of Quasars at Redshift 2.5 from the Final SDSS-III/BOSS Sample. In *American Astronomical Society Meeting Abstracts #224*, volume 224 of *American Astronomical Society Meeting Abstracts*, page 221.01, June 2014.
- [111] Marco Baldi, Francisco Villaescusa-Navarro, Matteo **Viel**, Ewald Puchwein, Volker Springel, and Lauro Moscardini. Cosmic degeneracies - I. Joint N-body simulations of modified gravity and massive neutrinos. *MNRAS*, 440(1):75–88, May 2014.
- [112] Andreu Font-Ribera, David Kirkby, Nicolas Busca, Jordi Miralda-Escudé, Nicholas P. Ross, Anže Slosar, James Rich, Éric Aubourg, Stephen Bailey, Vaishali Bhardwaj, Julian Bautista, Florian Beutler, Dmitry Bizyaev, Michael Blomqvist, Howard Brewington, Jon Brinkmann, Joel R. Brownstein, Bill Carithers, Kyle S. Dawson, Timothée Delubac, Garrett Ebelke, Daniel J. Eisenstein, Jian Ge, Karen Kinemuchi, Khee-Gan Lee, Viktor Malanushenko, Elena Malanushenko, Moses Marchante, Daniel Margala, Demitri Muna, Adam D. Myers, Pasquier Noterdaeme, Daniel Oravetz, Nathalie Palanque-Delabrouille, Isabelle Pâris, Patrick Petitjean, Matthew M. Pieri, Graziano Rossi, Donald P. Schneider, Audrey Simmons, Matteo **Viel**, Christophe Yeche, and Donald G. York. Quasar-Lyman α forest cross-correlation from BOSS DR11: Baryon Acoustic Oscillations. *JCAP*, 2014(5):027, May 2014.
- [113] Christopher P. et al. SDSS Collaboration Ahn. The Tenth Data Release of the Sloan Digital Sky Survey: First Spectroscopic Data from the SDSS-III Apache Point Observatory Galactic Evolution Experiment. *ApJS*, 211(2):17, April 2014.
- [114] E. Tescari, A. Katsianis, J. S. B. Wyithe, K. Dolag, L. Tornatore, P. Barai, M. **Viel**, and S. Borgani. Simulated star formation rate functions at $z \sim 4-7$, and the role of feedback in high- z galaxies. *MNRAS*, 438(4):3490–3506, March 2014.
- [115] James S. Bolton, George D. Becker, Martin G. Haehnelt, and Matteo **Viel**. A consistent determination of the temperature of the intergalactic medium at redshift $z = 2.4$. *MNRAS*, 438(3):2499–2507, March 2014.
- [116] Francisco Villaescusa-Navarro, Federico Marulli, Matteo **Viel**, Enzo Branchini, Emanuele Castorina, Emiliano Sefusatti, and Shun Saito. Cosmology with massive neutrinos I: towards a realistic modeling of the relation between matter, haloes and galaxies. *JCAP*, 2014(3):011, March 2014.
- [117] Isabelle Pâris, Patrick Petitjean, Éric Aubourg, Nicholas P. Ross, Adam D. Myers, Alina Streblyanska, Stephen Bailey, Patrick B. Hall, Michael A. Strauss, Scott F. Anderson, Dmitry Bizyaev, Arnaud Borde, J. Brinkmann, Jo Bovy, William N. Brandt, Howard Brewington, Joel R. Brownstein, Benjamin A. Cook, Garrett Ebelke, Xiaohui Fan, Nurten Filiz Ak, Hayley Finley, Andreu Font-Ribera, Jian Ge, Fred Hamann, Shirley Ho, Linhua Jiang, Karen Kinemuchi, Elena Malanushenko, Viktor Malanushenko, Moses Marchante, Ian D.

- McGreer, Richard G. McMahon, Jordi Miralda-Escudé, Demitri Muna, Pasquier Noterdaeme, Daniel Oravetz, Nathalie Palanque-Delabrouille, Kaike Pan, Ismaël Perez-Fournon, Matthew Pieri, Rogério Riffel, David J. Schlegel, Donald P. Schneider, Audrey Simmons, Matteo **Viel**, Benjamin A. Weaver, W. Michael Wood-Vasey, Christophe Yèche, and Donald G. York. The Sloan Digital Sky Survey quasar catalog: tenth data release. *A&A*, 563:A54, March 2014.
- [118] Carlos Hernández-Monteagudo, Ashley J. Ross, Antonio Cuesta, Ricardo Génova-Santos, Jun-Qing Xia, Francisco Prada, Graziano Rossi, Mark Neyrinck, Matteo **Viel**, Jose-Alberto Rubiño-Martin, Claudia G. Scóccola, Gongbo Zhao, Donald P. Schneider, Joel R. Brownstein, Daniel Thomas, and Jonathan V. Brinkmann. The SDSS-III Baryonic Oscillation Spectroscopic Survey: constraints on the integrated Sachs-Wolfe effect. *MNRAS*, 438(2):1724–1740, February 2014.
- [119] Emanuele Castorina, Emiliano Sefusatti, Ravi K. Sheth, Francisco Villaescusa-Navarro, and Matteo **Viel**. Cosmology with massive neutrinos II: on the universality of the halo mass function and bias. *JCAP*, 2014(2):049, February 2014.
- [120] I. Paris, P. Petitjean, E. Aubourg, N. P. Ross, A. D. Myers, A. Strblyanska, S. Bailey, P. B. Hall, M. A. Strauss, S. F. Anderson, D. Bizyaev, A. Borde, J. Brinkmann, J. Bovy, W. N. Brandt, H. Brewington, J. R. Brownstein, B. A. Cook, G. Ebelke, X. Fan, Ak N. Filiz, H. Finley, A. Font-Ribera, J. Ge, F. Hamann, S. Ho, L. Jiang, K. Kinemuchi, E. Malanushenko, V. Malanushenko, M. Marchante, I. D. McGreer, R. G. McMahon, J. Miralda-Escude, D. Muna, P. Noterdaeme, D. Oravetz, N. Palanque-Delabrouille, K. Pan, I. Perez-Fournon, M. Pieri, R. Riffel, D. J. Schlegel, D. P. Schneider, A. Simmons, M. **Viel**, B. A. Weaver, W. M. Wood-Vasey, C. Yèche, and D. G. York. VizieR Online Data Catalog: SDSS quasar catalog: tenth data release (Paris+, 2014). *VizieR Online Data Catalog*, page VII/270, January 2014.
- [121] Katarina Markovič and Matteo **Viel**. Lyman- α Forest and Cosmic Weak Lensing in a Warm Dark Matter Universe. *Publications of the Astronomical Society of Australia*, 31:e006, January 2014.
- [122] Paramita Barai, Matteo **Viel**, Giuseppe Murante, Massimo Gaspari, and Stefano Borgani. Kinetic or thermal AGN feedback in simulations of isolated and merging disc galaxies calibrated by the M- σ relation. *MNRAS*, 437(2):1456–1475, January 2014.
- [123] F. Pepe, P. Molaro, S. Cristiani, R. Rebolo, N. C. Santos, H. Dekker, D. Mégevand, F. M. Zerbi, A. Cabral, P. Di Marcantonio, M. Abreu, M. Affolter, M. Aliverti, C. Allende Prieto, M. Amate, G. Avila, V. Baldini, P. Bristow, C. Broeg, R. Cirami, J. Coelho, P. Conconi, I. Coretti, G. Cupani, V. D’Odorico, V. De Caprio, B. Delabre, R. Dorn, P. Figueira, A. Frago, S. Galeotta, L. Genolet, R. Gomes, J. I. González Hernández, I. Hughes, O. Iwert, F. Kerber, M. Landoni, J. L. Lizon, C. Lovis, C. Maire, M. Mannelta, C. Martins, M. Monteiro, A. Oliveira, E. Poretti, J. L. Rasilla, M. Riva, S. Santana Tschudi, P. Santos, D. Sosnowska, S. Sousa, P. Spanó, F. Tenegi, G. Toso, E. Vanzella, M. **Viel**, and M. R. Zapatero Osorio. ESPRESSO: The next European exoplanet hunter. *arXiv e-prints*, page arXiv:1401.5918, January 2014.

- [124] F. Pepe, P. Molaro, S. Cristiani, R. Rebolo, N. C. Santos, H. Dekker, D. Mégevand, F. M. Zerbi, A. Cabral, P. Di Marcantonio, M. Abreu, M. Affolter, M. Aliverti, C. Allende Prieto, M. Amate, G. Avila, V. Baldini, P. Bristow, C. Broeg, R. Cirami, J. Coelho, P. Conconi, I. Coretti, G. Cupani, V. D’Odorico, V. De Caprio, B. Delabre, R. Dorn, P. Figueira, A. Fragoso, S. Galeotta, L. Genolet, R. Gomes, J. I. González Hernández, I. Hughes, O. Iwert, F. Kerber, M. Landoni, J. L. Lizon, C. Lovis, C. Maire, M. Mannelta, C. Martins, M. Monteiro, A. Oliveira, E. Poretti, J. L. Rasilla, M. Riva, S. Santana Tschudi, P. Santos, D. Sosnowska, S. Sousa, P. Spanó, F. Tenegi, G. Toso, E. Vanzella, M. **Viel**, and M. R. Zapatero Osorio. ESPRESSO: The next European exoplanet hunter. *Astronomische Nachrichten*, 335(1):8, January 2014.
- [125] Shirley Ho, E. Aubourg, S. J. Bailey, J. Bautista, F. Beutler, D. Bizyaev, M. Blomqvist, A. S. Bolton, H. Brewington, J. V. Brinkmann, J. Brownstein, N. G. Busca, W. Carithers, R. A. Croft, K. S. Dawson, T. Delubac, G. Ebelke, D. Eisenstein, Y. Feng, A. Font-Ribera, D. W. Hogg, K. Kinemuchi, D. Kirkby, J. Le Goff, K. Lee, E. Malanushenko, V. Malanushenko, M. Marchante, D. Margela, J. Miralda-Escudé, D. Muna, A. D. Myers, R. Nichol, D. Oravetz, N. Palanque-Delabrouille, K. Pan, P. Noterdaeme, R. O’Connell, I. Paris, P. Petitjean, M. Pieri, E. Rollinde, N. Ross, G. Rossi, D. J. Schlegel, D. P. Schneider, A. Simmons, A. Slosar, M. **Viel**, D. H. Weinberg, X. Xu, C. Yeche, and D. G. York. Baryon Acoustic Oscillations in Lyman Alpha Forest - Quasar Cross-Correlations. In *American Astronomical Society Meeting Abstracts #223*, volume 223 of *American Astronomical Society Meeting Abstracts*, page 457.10, January 2014.
- [126] David J. Schlegel, T. Delubac, N. G. Busca, J. Rich, S. J. Bailey, J. Bautista, A. Front, D. Kirkby, J. Le Goff, M. Pieri, A. Slosar, E. Aubourg, M. Blomqvist, A. S. Bolton, A. Borde, W. Carithers, R. A. Croft, K. S. Dawson, D. Eisenstein, J. Hamilton, S. Ho, D. W. Hogg, K. Lee, B. Lundgren, D. Margala, J. Miralda-Escudé, A. D. Myers, P. Noterdaeme, N. Palanque-Delabrouille, I. Paris, P. Petitjean, N. Ross, G. Rossi, M. **Viel**, D. H. Weinberg, M. White, C. Yeche, and al Sky Survey (SDSS-III) Baryon Oscillation Spectroscopic Survey (BOSS).
- [127] Graziano Rossi, N. Palanque-Delabrouille, C. Yeche, M. **Viel**, J. Rich, J. LeGoff, and A. Borde. A Novel Suite of Hydrodynamical Simulations of the Lyman-Alpha Forest with Massive Neutrinos. In *American Astronomical Society Meeting Abstracts #223*, volume 223 of *American Astronomical Society Meeting Abstracts*, page 226.09, January 2014.
- [128] Gong-Bo Zhao, Shun Saito, Will J. Percival, Ashley J. Ross, Francesco Montesano, Matteo **Viel**, Donald P. Schneider, Marc Manera, Jordi Miralda-Escudé, Nathalie Palanque-Delabrouille, Nicholas P. Ross, Lado Samushia, Ariel G. Sánchez, Molly E. C. Swanson, Daniel Thomas, Rita Tojeiro, Christophe Yèche, and Donald G. York. The clustering of galaxies in the SDSS-III Baryon Oscillation Spectroscopic Survey: weighing the neutrino mass using the galaxy power spectrum of the CMASS sample. *MNRAS*, 436(3):2038–2053, December 2013.
- [129] Matteo Costanzi, Francisco Villaescusa-Navarro, Matteo **Viel**, Jun-Qing Xia, Stefano Borgani, Emanuele Castorina, and Emiliano Sefusatti. Cosmology with massive neutrinos III:

- the halo mass function and an application to galaxy clusters. *JCAP*, 2013(12):012, December 2013.
- [130] Nathalie Palanque-Delabrouille, Christophe Yèche, Arnaud Borde, Jean-Marc Le Goff, Graziano Rossi, Matteo **Viel**, Éric Aubourg, Stephen Bailey, Julian Bautista, Michael Blomqvist, Adam Bolton, James S. Bolton, Nicolás G. Busca, Bill Carithers, Rupert A. C. Croft, Kyle S. Dawson, Timothée Delubac, Andreu Font-Ribera, Shirley Ho, David Kirkby, Khee-Gan Lee, Daniel Margala, Jordi Miralda-Escudé, Demitri Muna, Adam D. Myers, Pasquier Noterdaeme, Isabelle Pâris, Patrick Petitjean, Matthew M. Pieri, James Rich, Emmanuel Rollinde, Nicholas P. Ross, David J. Schlegel, Donald P. Schneider, Anže Slosar, and David H. Weinberg. The one-dimensional Ly α forest power spectrum from BOSS. *A&A*, 559:A85, November 2013.
- [131] V. D’Odorico, G. Cupani, S. Cristiani, R. Maiolino, P. Molaro, M. Nonino, M. Centurión, A. Cimatti, S. di Serego Alighieri, F. Fiore, A. Fontana, S. Gallerani, E. Giallongo, F. Mannucci, A. Marconi, L. Pentericci, M. **Viel**, and G. Vladilo. Metals in the IGM approaching the re-ionization epoch: results from X-shooter at the VLT. *MNRAS*, 435(2):1198–1232, October 2013.
- [132] R. Maiolino, M. Haehnelt, M. T. Murphy, D. Queloz, L. Origlia, J. Alcalá, Y. Alibert, P. J. Amado, C. Allende Prieto, M. Ammler-von Eiff, M. Asplund, M. Barstow, G. Becker, X. Bonfils, F. Bouchy, A. Bragaglia, M. R. Burleigh, A. Chiavassa, D. A. Cimatti, M. Cirasuolo, S. Cristiani, V. D’Odorico, D. Dravins, E. Emsellem, J. Farihi, P. Figueira, J. Fynbo, B. T. Gansicke, M. Gillon, B. Gustafsson, V. Hill, G. Israelyan, A. Korn, S. Larsen, P. De Laverny, J. Liske, C. Lovis, A. Marconi, C. Martins, P. Molaro, B. Nisini, E. Oliva, P. Petitjean, M. Pettini, A. Recio Blanco, R. Rebolo, A. Reiners, C. Rodríguez-Lopez, N. Ryde, N. C. Santos, S. Savaglio, I. Snellen, K. Strassmeier, N. Tanvir, L. Testi, E. Tolstoy, A. Triaud, L. Vanzi, M. **Viel**, and M. Volonteri. A Community Science Case for E-ELT HIRES. *arXiv e-prints*, page arXiv:1310.3163, October 2013.
- [133] N. Palanque-Delabrouille, C. Yèche, A. Borde, J. M. Le Goff, G. Rossi, M. **Viel**, E. Aubourg, S. Bailey, J. Bautista, M. Blomqvist, A. Bolton, J. S. Bolton, N. G. Busca, B. Carithers, R. A. C. Croft, K. S. Dawson, T. Delubac, A. Font-Ribera, S. Ho, D. Kirkby, K. G. Lee, D. Margala, J. Miralda-Escudé, D. Muna, A. D. Myers, P. Noterdaeme, I. Paris, P. Petitjean, M. M. Pieri, J. Rich, E. Rollinde, N. P. Ross, D. J. Schlegel, D. P. Schneider, A. Slosar, and D. H. Weinberg. VizieR Online Data Catalog: 1D Ly α forest power spectrum (Palanque-Delabrouille+, 2013). *VizieR Online Data Catalog*, pages J/A+A/559/A85, September 2013.
- [134] Denis et al. ESPRESSO collaboration Mégevand. ESPRESSO, an exo-Earths hunter for the VLT. In *PROCEEDINGS SPIE*, volume 8864 of *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series*, page 88640E, September 2013.
- [135] F. et al. ESPRESSO Collaboration Pepe. ESPRESSO — An Echelle SPectrograph for Rocky Exoplanets Search and Stable Spectroscopic Observations. *The Messenger*, 153:6–16, September 2013.

- [136] M. **Viel**. New Results on the Coldness of Cold Dark Matter. In *Tracing Cosmic Evolution with Clusters of Galaxies*, page 9, July 2013.
- [137] L. Iapichino, M. **Viel**, and S. Borgani. Turbulence driven by structure formation in the circumgalactic medium. *MNRAS*, 432(3):2529–2540, July 2013.
- [138] F. Villaescusa-Navarro, M. Vogelsberger, M. **Viel**, and A. Loeb. Neutrino signatures on the high-transmission regions of the Lyman α forest. *MNRAS*, 431(4):3670–3677, June 2013.
- [139] M. Costanzi Alunno Cerbolini, B. Sartoris, Jun-Qing Xia, A. Biviano, S. Borgani, and M. **Viel**. Constraining neutrino properties with a Euclid-like galaxy cluster survey. *JCAP*, 2013(6):020, June 2013.
- [140] Paramita Barai, Matteo **Viel**, Stefano Borgani, Edoardo Tescari, Luca Tornatore, Klaus Dolag, Madhura Killedar, Pierluigi Monaco, Valentina D’Odorico, and Stefano Cristiani. Galactic winds in cosmological simulations of the circumgalactic medium. *MNRAS*, 430(4):3213–3234, April 2013.
- [141] Anže Slosar, Vid Iršič, David Kirkby, Stephen Bailey, Nicolás G. Busca, Timothée Delubac, James Rich, Éric Aubourg, Julian E. Bautista, Vaishali Bhardwaj, Michael Blomqvist, Adam S. Bolton, Jo Bovy, Joel Brownstein, Bill Carithers, Rupert A. C. Croft, Kyle S. Dawson, Andreu Font-Ribera, J. M. Le Goff, Shirley Ho, Klaus Honscheid, Khee-Gan Lee, Daniel Margala, Patrick McDonald, Bumbarija Medolin, Jordi Miralda-Escudé, Adam D. Myers, Robert C. Nichol, Pasquier Noterdaeme, Nathalie Palanque-Delabrouille, Isabelle Pâris, Patrick Petitjean, Matthew M. Pieri, Yodovina Piškur, Natalie A. Roe, Nicholas P. Ross, Graziano Rossi, David J. Schlegel, Donald P. Schneider, Nao Suzuki, Erin S. Sheldon, Uroš Seljak, Matteo **Viel**, David H. Weinberg, and Christophe Yèche. Measurement of baryon acoustic oscillations in the Lyman- α forest fluctuations in BOSS data release 9. *JCAP*, 2013(4):026, April 2013.
- [142] N. G. Busca, T. Delubac, J. Rich, S. Bailey, A. Font-Ribera, D. Kirkby, J. M. Le Goff, M. M. Pieri, A. Slosar, É. Aubourg, J. E. Bautista, D. Bizyaev, M. Blomqvist, A. S. Bolton, J. Bovy, H. Brewington, A. Borde, J. Brinkmann, B. Carithers, R. A. C. Croft, K. S. Dawson, G. Ebelke, D. J. Eisenstein, J. C. Hamilton, S. Ho, D. W. Hogg, K. Honscheid, K. G. Lee, B. Lundgren, E. Malanushenko, V. Malanushenko, D. Margala, C. Maraston, K. Mehta, J. Miralda-Escudé, A. D. Myers, R. C. Nichol, P. Noterdaeme, M. D. Olmstead, D. Oravetz, N. Palanque-Delabrouille, K. Pan, I. Pâris, W. J. Percival, P. Petitjean, N. A. Roe, E. Rollinde, N. P. Ross, G. Rossi, D. J. Schlegel, D. P. Schneider, A. Sheldon, E. S. Sheldon, A. Simmons, S. Snedden, J. L. Tinker, M. **Viel**, B. A. Weaver, D. H. Weinberg, M. White, C. Yèche, and D. G. York. Baryon acoustic oscillations in the Ly α forest of BOSS quasars. *A&A*, 552:A96, April 2013.
- [143] David Kirkby, Daniel Margala, Anže Slosar, Stephen Bailey, Nicolás G. Busca, Timothée Delubac, James Rich, Julian E. Bautista, Michael Blomqvist, Joel R. Brownstein, Bill Carithers, Rupert A. C. Croft, Kyle S. Dawson, Andreu Font-Ribera, Jordi Miralda-Escudé, Adam D. Myers, Robert C. Nichol, Nathalie Palanque-Delabrouille, Isabelle Pâris, Patrick Petitjean, Graziano Rossi, David J. Schlegel, Donald P. Schneider, Matteo **Viel**, David H.

- Weinberg, and Christophe Yèche. Fitting methods for baryon acoustic oscillations in the Lyman- α forest fluctuations in BOSS data release 9. *JCAP*, 2013(3):024, March 2013.
- [144] Francisco Villaescusa-Navarro, Simeon Bird, Carlos Peña-Garay, and Matteo **Viel**. Non-linear evolution of the cosmic neutrino background. *JCAP*, 2013(3):019, March 2013.
- [145] Khee-Gan Lee, Stephen Bailey, Leslie E. Bartsch, William Carithers, Kyle S. Dawson, David Kirkby, Britt Lundgren, Daniel Margala, Nathalie Palanque-Delabrouille, Matthew M. Pieri, David J. Schlegel, David H. Weinberg, Christophe Yèche, Éric Aubourg, Julian Bautista, Dmitry Bizyaev, Michael Blomqvist, Adam S. Bolton, Arnaud Borde, Howard Brewington, Nicolás G. Busca, Rupert A. C. Croft, Timothée Delubac, Garrett Ebelke, Daniel J. Eisenstein, Andreu Font-Ribera, Jian Ge, Jean-Christophe Hamilton, Joseph F. Hennawi, Shirley Ho, Klaus Honscheid, Jean-Marc Le Goff, Elena Malanushenko, Viktor Malanushenko, Jordi Miralda-Escudé, Adam D. Myers, Pasquier Noterdaeme, Daniel Oravetz, Kaike Pan, Isabelle Pâris, Patrick Petitjean, James Rich, Emmanuel Rollinde, Nicholas P. Ross, Graziano Rossi, Donald P. Schneider, Audrey Simmons, Stephanie Snedden, Anže Slosar, David N. Spergel, Nao Suzuki, Matteo **Viel**, and Benjamin A. Weaver. The BOSS Ly α Forest Sample from SDSS Data Release 9. *AJ*, 145(3):69, March 2013.
- [146] Matteo **Viel**, Joop Schaye, and C. M. Booth. The impact of feedback from galaxy formation on the Lyman α transmitted flux. *MNRAS*, 429(2):1734–1746, February 2013.
- [147] Vincenzo Vitagliano, Jun-Qing Xia, Stefano Liberati, and Matteo **Viel**. High-z cosmography at a glance. *arXiv e-prints*, page arXiv:1302.7155, February 2013.
- [148] Benjamin Audren, Julien Lesgourgues, Simeon Bird, Martin G. Haehnelt, and Matteo **Viel**. Neutrino masses and cosmological parameters from a Euclid-like survey: Markov Chain Monte Carlo forecasts including theoretical errors. *JCAP*, 2013(1):026, January 2013.
- [149] Kyle S. et al. SDSS Collaboration Dawson. The Baryon Oscillation Spectroscopic Survey of SDSS-III. *AJ*, 145(1):10, January 2013.
- [150] Arnaud Borde, C. Yeche, N. Palanque-Delabrouille, R. A. Croft, A. Font, J. LeGoff, P. McDonald, J. Miralda, A. D. Myers, P. Petitjean, M. Pieri, A. Slosar, M. **Viel**, D. H. Weinberg, D. G. York, and G. Rossi. Measurement of the 1D Lyman-alpha Power Spectrum with the DR9 BOSS Quasar Data. In *American Astronomical Society Meeting Abstracts #221*, volume 221 of *American Astronomical Society Meeting Abstracts*, page 402.02, January 2013.
- [151] Graziano Rossi, N. Palanque-Delabrouille, C. Yeche, A. Borde, J. Rich, M. **Viel**, and J. Lesgourgues. Neutrino Masses, Cosmological Parameters and Dark Energy from the Transmitted Flux in the Lyman-alpha Forest. In *American Astronomical Society Meeting Abstracts #221*, volume 221 of *American Astronomical Society Meeting Abstracts*, page 323.04, January 2013.
- [152] Khee-Gan Lee, J. Hennawi, D. N. Spergel, D. W. Hogg, M. **Viel**, M. Pieri, J. Bolton, S. J. Bailey, J. Ge, D. J. Schlegel, N. Suzuki, and BOSS Collaboration. Constraints on the IGM Temperature-Density Relationship from BOSS Lyman- α Forest Data. In *American Astronomical Society Meeting Abstracts #221*, volume 221 of *American Astronomical Society Meeting Abstracts*, page 245.03, January 2013.

- [153] Dipak Munshi, Peter Coles, and Matteo **Viel**. Statistics of cosmological Lyman α absorption. *MNRAS*, 427(3):2359–2375, December 2012.
- [154] Christopher P. et al. SDSS Collaboration Ahn. The Ninth Data Release of the Sloan Digital Sky Survey: First Spectroscopic Data from the SDSS-III Baryon Oscillation Spectroscopic Survey. *ApJS*, 203(2):21, December 2012.
- [155] Shirley Ho, Antonio Cuesta, Hee-Jong Seo, Roland de Putter, Ashley J. Ross, Martin White, Nikhil Padmanabhan, Shun Saito, David J. Schlegel, Eddie Schlafly, Uros Seljak, Carlos Hernández-Monteagudo, Ariel G. Sánchez, Will J. Percival, Michael Blanton, Ramin Skibba, Don Schneider, Beth Reid, Olga Mena, Matteo **Viel**, Daniel J. Eisenstein, Francisco Prada, Benjamin A. Weaver, Neta Bahcall, Dimitry Bizyaev, Howard Brewinton, Jon Brinkman, Luiz Nicolaci da Costa, John R. Gott, Elena Malanushenko, Viktor Malanushenko, Bob Nichol, Daniel Oravetz, Kaike Pan, Nathalie Palanque-Delabrouille, Nicholas P. Ross, Audrey Simmons, Fernando de Simoni, Stephanie Snedden, and Christophe Yèche. Clustering of Sloan Digital Sky Survey III Photometric Luminous Galaxies: The Measurement, Systematics, and Cosmological Implications. *ApJ*, 761(1):14, December 2012.
- [156] I. Pâris, P. Petitjean, É. Aubourg, S. Bailey, N. P. Ross, A. D. Myers, M. A. Strauss, S. F. Anderson, E. Arnau, J. Bautista, D. Bizyaev, A. S. Bolton, J. Bovy, W. N. Brandt, H. Brewington, J. R. Brownstein, N. Busca, D. Capellupo, W. Carithers, R. A. C. Croft, K. Dawson, T. Delubac, G. Ebelke, D. J. Eisenstein, P. Engelke, X. Fan, N. Filiz Ak, H. Finley, A. Font-Ribera, J. Ge, R. R. Gibson, P. B. Hall, F. Hamann, J. F. Hennawi, S. Ho, D. W. Hogg, Ž. Ivezić, L. Jiang, A. E. Kimball, D. Kirkby, J. A. Kirkpatrick, K. G. Lee, J. M. Le Goff, B. Lundgren, C. L. MacLeod, E. Malanushenko, V. Malanushenko, C. Maraston, I. D. McGreer, R. G. McMahon, J. Miralda-Escudé, D. Muna, P. Noterdaeme, D. Oravetz, N. Palanque-Delabrouille, K. Pan, I. Perez-Fournon, M. M. Pieri, G. T. Richards, E. Rollinde, E. S. Sheldon, D. J. Schlegel, D. P. Schneider, A. Slosar, A. Shelden, Y. Shen, A. Simmons, S. Snedden, N. Suzuki, J. Tinker, M. **Viel**, B. A. Weaver, D. H. Weinberg, M. White, W. M. Wood-Vasey, and C. Yèche. The Sloan Digital Sky Survey quasar catalog: ninth data release. *A&A*, 548:A66, December 2012.
- [157] I. Paris, P. Petitjean, E. Aubourg, S. Bailey, N. P. Ross, A. D. Myers, M. A. Strauss, S. F. Anderson, E. Arnau, J. Bautista, D. Bizyaev, A. S. Bolton, J. Bovy, W. N. Brandt, H. Brewington, J. R. Brownstein, N. Busca, D. Capellupo, W. Carithers, R. A. C. Croft, K. Dawson, T. Delubac, G. Ebelke, D. J. Eisenstein, P. Engelke, X. Fan, Ak N. Filiz, H. Finley, A. Font-Ribera, J. Ge, R. R. Gibson, P. B. Hall, F. Hamann, J. F. Hennawi, S. Ho, D. W. Hogg, Z. Ivezić, L. Jiang, A. E. Kimball, D. Kirky, J. A. Kirkpatrick, K. G. Lee, J. M. Le Goff, B. Lundgren, C. L. MacLeod, E. Malanushenko, V. Malanushenko, C. Maraston, I. D. McGreer, R. G. McMahon, J. Miralda-Escude, D. Muna, P. Noterdaeme, D. Oravetz, N. Palanque-Delabrouille, K. Pan, I. Perez-Fournon, M. M. Pieri, G. T. Richards, E. Rollinde, E. S. Sheldon, D. J. Schlegel, D. P. Schneider, A. Slosar, A. Shelden, Y. Shen, A. Simmons, S. Snedden, N. Suzuki, J. Tinker, M. **Viel**, B. A. Weaver, D. W. Weinberg, M. White, W. M. Wood-Vasey, and C. Yèche. VizieR Online Data Catalog: SDSS Quasar Catalog, DR9Q (Paris+, 2012). *VizieR Online Data Catalog*, page VII/269, October 2012.

- [158] I. Paris, P. Petitjean, E. Aubourg, S. Bailey, N. P. Ross, A. D. Myers, M. A. Strauss, S. F. Anderson, E. Arnau, J. Bautista, D. Bizyaev, A. S. Bolton, J. Bovy, W. N. Brandt, H. Brewington, J. R. Brownstein, N. Busca, D. Capellupo, W. Carithers, R. A. C. Croft, K. Dawson, T. Delubac, G. Ebelke, D. J. Eisenstein, P. Engelke, X. Fan, Ak N. Filiz, H. Finley, A. Font-Ribera, J. Ge, R. R. Gibson, P. B. Hall, F. Hamann, J. F. Hennawi, S. Ho, D. W. Hogg, Z. Ivezic, L. Jiang, A. E. Kimball, D. Kirky, J. A. Kirkpatrick, K. G. Lee, J. M. Le Goff, B. Lundgren, C. L. MacLeod, E. Malanushenko, V. Malanushenko, C. Maraston, I. D. McGreer, R. G. McMahon, J. Miralda-Escude, D. Muna, P. Noterdaeme, D. Oravetz, N. Palanque-Delabrouille, K. Pan, I. Perez-Fournon, M. M. Pieri, G. T. Richards, E. Rollinde, E. S. Sheldon, D. J. Schlegel, D. P. Schneider, A. Slosar, A. Shelden, Y. Shen, A. Simmons, S. Snedden, N. Suzuki, J. Tinker, M. **Viel**, B. A. Weaver, D. W. Weinberg, M. White, W. M. Wood-Vasey, and C. Yeche. VizieR Online Data Catalog: SDSS Quasar Catalog, DR9Q (Paris+, 2012). *VizieR Online Data Catalog*, pages J/A+A/548/A66, October 2012.
- [159] Jan-Willem et al. ORIGIN Collaboration den Herder. ORIGIN: metal creation and evolution from the cosmic dawn. *Experimental Astronomy*, 34(2):519–549, October 2012.
- [160] Denis et al. ESPRESSO Collaboration Mégevand. ESPRESSO: the ultimate rocky exoplanets hunter for the VLT. In *Proceedings SPIE*, volume 8446 of *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series*, page 84461R, September 2012.
- [161] A. Garzilli, J. S. Bolton, T. S. Kim, S. Leach, and M. **Viel**. The intergalactic medium thermal history at redshift $z = 1.7-3.2$ from the Ly α forest: a comparison of measurements using wavelets and the flux distribution. *MNRAS*, 424(3):1723–1736, August 2012.
- [162] Martin White, Adam D. Myers, Nicholas P. Ross, David J. Schlegel, Joseph F. Hennawi, Yue Shen, Ian McGreer, Michael A. Strauss, Adam S. Bolton, Jo Bovy, X. Fan, Jordi Miralda-Escude, N. Palanque-Delabrouille, I. Paris, P. Petitjean, D. P. Schneider, M. **Viel**, David H. Weinberg, Ch. Yeche, I. Zehavi, K. Pan, S. Snedden, D. Bizyaev, H. Brewington, J. Brinkmann, V. Malanushenko, E. Malanushenko, D. Oravetz, A. Simmons, A. Sheldon, and Benjamin A. Weaver. The clustering of intermediate-redshift quasars as measured by the Baryon Oscillation Spectroscopic Survey. *MNRAS*, 424(2):933–950, August 2012.
- [163] F. Calura, E. Tescari, V. D’Odorico, M. **Viel**, S. Cristiani, T. S. Kim, and J. S. Bolton. The Lyman α forest flux probability distribution at $z > 3$. *MNRAS*, 422(4):3019–3036, June 2012.
- [164] Jun-Qing Xia, Benjamin R. Granett, Matteo **Viel**, Simeon Bird, Luigi Guzzo, Martin G. Haehnelt, Jean Coupon, Henry Joy McCracken, and Yannick Mellier. Constraints on massive neutrinos from the CFHTLS angular power spectrum. *JCAP*, 2012(6):010, June 2012.
- [165] Jun-Qing Xia, M. Negrello, A. Lapi, G. De Zotti, L. Danese, and M. **Viel**. Clustering of submillimetre galaxies in a self-regulated baryon collapse model. *MNRAS*, 422(2):1324–1331, May 2012.
- [166] M. **Viel**, K. Markovič, M. Baldi, and J. Weller. The non-linear matter power spectrum in warm dark matter cosmologies. *MNRAS*, 421(1):50–62, March 2012.

- [167] Simeon Bird, Matteo **Viel**, and Martin G. Haehnelt. Massive neutrinos and the non-linear matter power spectrum. *MNRAS*, 420(3):2551–2561, March 2012.
- [168] Jun-Qing Xia, Vincenzo Vitagliano, Stefano Liberati, and Matteo **Viel**. Cosmography beyond standard candles and rulers. *PhRvD*, 85(4):043520, February 2012.
- [169] M. Pietroni, G. Mangano, N. Saviano, and M. **Viel**. Coarse-grained cosmological perturbation theory. *JCAP*, 2012(1):019, January 2012.
- [170] Antonio Jose Cuesta-Vazquez, S. Ho, H. Seo, M. White, A. J. Ross, S. Saito, B. A. Reid, N. Padmanabhan, W. J. Percival, R. de Putter, D. J. Schlegel, D. J. Eisenstein, F. Prada, L. A. N. da Costa, F. de Simoni, R. A. Skibba, L. Verde, and M. **Viel**. Cosmological Constraints from the Angular Power Spectra of SDSS DR8 Photometric LRGs. In *American Astronomical Society Meeting Abstracts #219*, volume 219 of *American Astronomical Society Meeting Abstracts*, page 342.04, January 2012.
- [171] Rupert A. Croft, E. Arnau, E. Aubourg, S. Bailey, J. Bechtold, V. Bhardwaj, A. Bolton, A. Borde, J. Brinkmann, N. Busca, W. Carithers, R. Cen, R. Charlassier, M. Cortes, A. Dall’Aglia, S. Cristiani, K. Dawson, T. Delubac, A. Font-Ribera, J. Hamilton, S. Ho, K. Lee, J. LeGoff, D. Kirkby, B. Lundgren, B. Menard, J. Miralda-Escude, N. Palanque-Delabrouille, A. Myers, I. Paris, S. Peirani, P. Petitjean, M. Pieri, J. Rich, E. Rollinde, N. Ross, D. Schlegel, R. Skibba, A. Slosar, N. Suzuki, H. Trac, S. Vikas, M. **Viel**, D. Wake, D. Weinberg, M. White, and C. Yeche. Dense Sampling and Large Volume: The Structure of the Intergalactic Medium from 50,000 SDSS3 BOSS Quasar Absorption Spectra. In *American Astronomical Society Meeting Abstracts #219*, volume 219 of *American Astronomical Society Meeting Abstracts*, page 324.03, January 2012.
- [172] Federico Marulli, Carmelita Carbone, Matteo **Viel**, Lauro Moscardini, and Andrea Cimatti. Effects of massive neutrinos on the large-scale structure of the Universe. *MNRAS*, 418(1):346–356, November 2011.
- [173] Jun-Qing Xia, Alessandro Cuoco, Enzo Branchini, Mattia Fornasa, and Matteo **Viel**. A cross-correlation study of the Fermi-LAT γ -ray diffuse extragalactic signal. *MNRAS*, 416(3):2247–2264, September 2011.
- [174] Luke A. Barnes, Martin G. Haehnelt, Edoardo Tescari, and Matteo **Viel**. Galactic winds and extended Ly α emission from the host galaxies of high column density quasi-stellar object absorption systems. *MNRAS*, 416(3):1723–1738, September 2011.
- [175] Jun-Qing Xia, Carlo Baccigalupi, Sabino Matarrese, Licia Verde, and Matteo **Viel**. Constraints on primordial non-Gaussianity from large scale structure probes. *JCAP*, 2011(8):033, August 2011.
- [176] M. Haehnelt, L. Barnes, M. Rauch, G. Becker, W. Sargent, E. Tescari, and M. **Viel**. Probing galactic winds from DLA/LLS host galaxies with spatially extended Lyman-alpha emission. In *Galaxy Formation*, page 77, July 2011.

- [177] Alberto Vallinotto, Matteo **Viel**, Sudeep Das, and David N. Spergel. Cross-correlations of the Ly α Forest with Weak-lensing Convergence. Analytical Estimates of Signal-to-noise Ratio and Implications for Neutrino Mass and Dark Energy. *ApJ*, 735(1):38, July 2011.
- [178] James S. Bolton and Matteo **Viel**. The impact of spatial fluctuations in the ultraviolet background on intergalactic carbon and silicon. *MNRAS*, 414(1):241–252, June 2011.
- [179] Y. Takei, E. Ursino, E. Branchini, T. Ohashi, H. Kawahara, K. Mitsuda, L. Piro, A. Corsi, L. Amati, J. W. den Herder, M. Galeazzi, J. Kaastra, L. Moscardini, F. Nicastro, F. Paerels, M. Roncarelli, and M. **Viel**. Studying the Warm-hot Intergalactic Medium in Emission. *ApJ*, 734(2):91, June 2011.
- [180] Simeon Bird, Hiranya V. Peiris, Matteo **Viel**, and Licia Verde. Minimally parametric power spectrum reconstruction from the Lyman α forest. *MNRAS*, 413(3):1717–1728, May 2011.
- [181] G. Cupani, V. D’Odorico, S. Cristiani, M. **Viel**, and E. Vanzella. X-shooter observations of QSO pairs. *Astronomische Nachrichten*, 332(3):319–320, March 2011.
- [182] V. D’Odorico, G. Cupani, S. Cristiani, R. Maiolino, P. Molaro, M. Nonino, A. Cimatti, S. di Serego Alighieri, F. Fiore, A. Fontana, S. Gallerani, E. Giallongo, F. Mannucci, A. Marconi, L. Pentericci, M. **Viel**, and G. Vladilo. Optical-NIR spectra of quasars close to reionization (? 6). *Astronomische Nachrichten*, 332(3):315, March 2011.
- [183] E. Tescari, M. **Viel**, V. D’Odorico, S. Cristiani, F. Calura, S. Borgani, and L. Tornatore. Cosmic evolution of the C IV in high-resolution hydrodynamic simulations. *MNRAS*, 411(2):826–848, February 2011.
- [184] M. Baldi and M. **Viel**. The impact of coupled dark energy cosmologies on the high-redshift intergalactic medium. *MNRAS*, 409(1):L89–L93, November 2010.
- [185] M. Cappetta, V. D’Odorico, S. Cristiani, F. Saitta, and M. **Viel**. High-resolution spectroscopy of the 3D cosmic web with close QSO groups. *MNRAS*, 407(2):1290–1300, September 2010.
- [186] Jun-Qing Xia, Anna Bonaldi, Carlo Baccigalupi, Gianfranco De Zotti, Sabino Matarrese, Licia Verde, and Matteo **Viel**. Constraining primordial non-Gaussianity with high-redshift probes. *JCAP*, 2010(8):013, August 2010.
- [187] Luca et al. ESPRESSO/CODEX Collaboration Pasquini. Codex. In *PROCEEDING SPIE*, volume 7735 of *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series*, page 77352F, July 2010.
- [188] Francesco et al. ESPRESSO Collaboration Pepe. ESPRESSO: the Echelle spectrograph for rocky exoplanets and stable spectroscopic observations. In *Proceeding SPIE*, volume 7735 of *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series*, page 77350F, July 2010.
- [189] Jun-Qing Xia, Matteo **Viel**, Carlo Baccigalupi, Gianfranco De Zotti, Sabino Matarrese, and Licia Verde. Primordial Non-Gaussianity and the NRAO VLA Sky Survey. *ApJ*, 717(1):L17–L21, July 2010.

- [190] V. D’Odorico, F. Calura, S. Cristiani, and M. **Viel**. Mass density of CIV in $z < 2.5$ QSOs (D’odorico+, 2010). *VizieR Online Data Catalog*, page J/MNRAS/401/2715, June 2010.
- [191] L. Tornatore, S. Borgani, M. **Viel**, and V. Springel. The impact of feedback on the low-redshift intergalactic medium. *MNRAS*, 402(3):1911–1926, March 2010.
- [192] Vincenzo Vitagliano, Jun-Qing Xia, Stefano Liberati, and Matteo **Viel**. High-redshift cosmography. *JCAP*, 2010(3):005, March 2010.
- [193] Valentina D’Odorico, Francesco Calura, Stefano Cristiani, and Matteo **Viel**. The rise of the C iv mass density at $z > 2.5$. *MNRAS*, 401(4):2715–2721, February 2010.
- [194] Matteo **Viel**. The Intergalactic Medium as a Cosmological Tool. *Nuclear Physics B Proceedings Supplements*, 194:156–161, October 2009.
- [195] Matteo **Viel**, James S. Bolton, and Martin G. Haehnelt. Cosmological and astrophysical constraints from the Lyman α forest flux probability distribution function. *MNRAS*, 399(1):L39–L43, October 2009.
- [196] Jun-Qing Xia, Matteo **Viel**, Carlo Baccigalupi, and Sabino Matarrese. The high redshift Integrated Sachs-Wolfe effect. *JCAP*, 2009(9):003, September 2009.
- [197] Alberto Vallinotto, Sudeep Das, David N. Spergel, and Matteo **Viel**. Lenses in the Forest: Cross Correlation of the Lyman- α Flux with Cosmic Microwave Background Lensing. *Physical Review Letters*, 103(9):091304, August 2009.
- [198] E. Tescari, M. **Viel**, L. Tornatore, and S. Borgani. Damped Lyman α systems in high-resolution hydrodynamical simulations. *MNRAS*, 397(1):411–430, July 2009.
- [199] Alexey Boyarsky, Julien Lesgourgues, Oleg Ruchayskiy, and Matteo **Viel**. Realistic Sterile Neutrino Dark Matter with KeV Mass does not Contradict Cosmological Bounds. *Physical Review Letters*, 102(20):201304, May 2009.
- [200] Alexey Boyarsky, Julien Lesgourgues, Oleg Ruchayskiy, and Matteo **Viel**. Lyman- α constraints on warm and on warm-plus-cold dark matter models. *JCAP*, 2009(5):012, May 2009.
- [201] E. Branchini, E. Ursino, A. Corsi, D. Martizzi, L. Amati, J. W. den Herder, M. Galeazzi, B. Gendre, J. Kaastra, L. Moscardini, F. Nicastro, T. Ohashi, F. Paerels, L. Piro, M. Roncarelli, Y. Takei, and M. **Viel**. Studying the Warm Hot Intergalactic Medium with Gamma-Ray Bursts. *ApJ*, 697(1):328–344, May 2009.
- [202] Jun-Qing Xia and Matteo **Viel**. Early dark energy at high redshifts: status and perspectives. *JCAP*, 2009(4):002, April 2009.
- [203] D. Crociani, L. Moscardini, M. **Viel**, and S. Matarrese. The effects of primordial non-Gaussianity on the cosmological reionization. *MNRAS*, 394(1):133–141, March 2009.
- [204] M. **Viel**, E. Branchini, K. Dolag, M. Grossi, S. Matarrese, and L. Moscardini. Primordial non-Gaussianities in the intergalactic medium. *MNRAS*, 393(3):774–782, March 2009.

- [205] L. et al. EDGE collaboration Piro. EDGE: Explorer of diffuse emission and gamma-ray burst explosions. *Experimental Astronomy*, 23(1):67–89, March 2009.
- [206] S. Borgani and M. **Viel**. The evolution of a pre-heated intergalactic medium. *MNRAS*, 392(1):L26–L30, January 2009.
- [207] Luca Pasquini, A. Manescau, G. Avila, B. Delabre, H. Dekker, J. Liske, S. D’Odorico, F. Pepe, M. Dessauges, C. Lovis, D. Megevand, D. Queloz, S. Udry, S. Cristiani, P. Bonifacio, P. Dimarcantonio, V. D’Odorico, P. Molaro, E. Vanzella, M. **Viel**, M. Haehnelt, B. Carswell, M. Murphy, R. Garcia-Lopez, J. M. Herreros, J. Perez, M. R. Zapatero, R. Rebolo, G. Israelian, E. Martin, F. Zerbi, P. Spanò, S. Levshakov, N. Santos, and S. Zucker. ESPRESSO: A High Resolution Spectrograph for the Combined Coudé Focus of the VLT. *Astrophysics and Space Science Proceedings*, 9:395, January 2009.
- [208] J. Liske, L. Pasquini, P. Bonifacio, F. Bouchy, R. F. Carswell, S. Cristiani, M. Dessauges, S. D’Odorico, V. D’Odorico, A. Grazian, R. Garcia-Lopez, M. Haehnelt, G. Israelian, C. Lovis, E. Martin, M. Mayor, P. Molaro, M. T. Murphy, F. Pepe, D. Queloz, R. Rebolo, S. Udry, E. Vanzella, M. **Viel**, T. Wiklind, M. Zapatero, and S. Zucker. From Espresso to Codex. *Astrophysics and Space Science Proceedings*, 9:243, January 2009.
- [209] Paolo Salucci, Stefano Borgani, Carlos Frenk, Lauro Moscardini, and Matteo **Viel**. The Impact of Simulations in Cosmology and Galaxy Formation A summary of the Workshop NOVICOSMO 2008. *arXiv e-prints*, page arXiv:0812.0333, December 2008.
- [210] V. D’Odorico, M. Bruscoli, F. Saitta, F. Fontanot, M. **Viel**, S. Cristiani, and P. Monaco. The quasar proximity effect at redshift $z=2.6$ with the From Lines to Overdensities approach. *MNRAS*, 389(4):1727–1738, October 2008.
- [211] Jochen Liske, Andrea Grazian, Eros Vanzella, Miroslava Dessauges, Matteo **Viel**, Luca Pasquini, Martin Haehnelt, Stefano Cristiani, Francesco Pepe, Piercarlo Bonifacio, François Bouchy, Sandro D’Odorico, Valentina D’Odorico, Sergei Levshakov, Christoph Lovis, Michel Mayor, Paolo Molaro, Lauro Moscardini, Michael Murphy, Didier Queloz, Stephane Udry, Tommy Wiklind, and Shay Zucker. E-ELT and the Cosmic Expansion History - A Far Stretch? *The Messenger*, 133:10–13, September 2008.
- [212] Marco Pierleoni, Enzo Branchini, and Matteo **Viel**. The relation between Lyman α absorbers and gas-rich galaxies in the local Universe. *MNRAS*, 388(1):282–292, July 2008.
- [213] M. **Viel**. Neutrinos in cosmology. *Nuovo Cimento B Serie*, 123(6):902–904, June 2008.
- [214] Matteo **Viel**, Jörg M. Colberg, and T. S. Kim. On the importance of high-redshift intergalactic voids. *MNRAS*, 386(3):1285–1293, May 2008.
- [215] J. Liske, A. Grazian, E. Vanzella, M. Dessauges, M. **Viel**, L. Pasquini, M. Haehnelt, S. Cristiani, F. Pepe, G. Avila, P. Bonifacio, F. Bouchy, H. Dekker, B. Delabre, S. D’Odorico, V. D’Odorico, S. Levshakov, C. Lovis, M. Mayor, P. Molaro, L. Moscardini, M. T. Murphy, D. Queloz, P. Shaver, S. Udry, T. Wiklind, and S. Zucker. Cosmic dynamics in the era of Extremely Large Telescopes. *MNRAS*, 386(3):1192–1218, May 2008.

- [216] J. S. Bolton, M. **Viel**, T. S. Kim, M. G. Haehnelt, and R. F. Carswell. Possible evidence for an inverted temperature-density relation in the intergalactic medium from the flux distribution of the Ly α forest. *MNRAS*, 386(2):1131–1144, May 2008.
- [217] D. Crociani, M. **Viel**, L. Moscardini, M. Bartelmann, and M. Meneghetti. Cosmic reionization in dynamic quintessence cosmology. *MNRAS*, 385(2):728–736, April 2008.
- [218] F. Saitta, V. D’Odorico, M. Bruscoli, S. Cristiani, P. Monaco, and M. **Viel**. Tracing the gas at redshift 1.7-3.5 with the Ly α forest: the FLO approach. *MNRAS*, 385(1):519–530, March 2008.
- [219] Luca Pasquini, G. Avila, B. Délabre, H. Dekker, S. D’Odorico, J. Liske, A. Manescau, P. Bonifacio, S. Cristiani, V. D’Odorico, P. Molaro, E. Vanzella, P. Santin, M. **Viel**, M. Dessauges-Zavadsky, C. Lovis, M. Mayor, F. Pepe, D. Queloz, S. Udry, M. Haehnelt, M. Murphy, R. Garcia-Lopez, F. Bouchy, S. Levshakov, and S. Zucker. Codex. In Nuno C. Santos, Luca Pasquini, Alexandre C. M. Correia, and Martino Romaniello, editors, *Precision Spectroscopy in Astrophysics*, pages 249–253, January 2008.
- [220] Matteo **Viel**. *The Lyman- α Forest as a Probe of the Coldness of Dark Matter*, page 255. 2008.
- [221] T. S. Kim, J. S. Bolton, M. **Viel**, M. G. Haehnelt, and R. F. Carswell. An improved measurement of the flux distribution of the Ly α forest in QSO absorption spectra: the effect of continuum fitting, metal contamination and noise properties. *MNRAS*, 382(4):1657–1674, December 2007.
- [222] J. Lesgourgues, M. **Viel**, M. G. Haehnelt, and R. Massey. A combined analysis of 3D weak lensing, Lyman- α forest and WMAP year three data. *JCAP*, 2007(11):008, November 2007.
- [223] J. W. et al. EDGE Collaboration den Herder. EDGE: explorer of diffuse emission and gamma-ray burst explosions. In *proceeding SPIE*, volume 6688 of *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series*, page 668805, September 2007.
- [224] S. Cristiani, G. Avila, P. Bonifacio, F. Bouchy, B. Carswell, S. D’Odorico, V. D’Odorico, B. Delabre, H. Dekker, M. Dessauges, P. Dimarcantonio, R. Garcia-Lopez, A. Grazian, M. Haehnelt, J. M. Herreros, G. Israelian, S. Levshakov, J. Liske, C. Lovis, A. Manescau, E. Martin, M. Mayor, D. Megevand, P. Molaro, M. Murphy, L. Pasquini, F. Pepe, J. Perez, D. Queloz, R. Rebolo, P. Santin, P. Shaver, P. Spanò, S. Udry, E. Vanzella, M. **Viel**, M. R. Zapatero, F. Zerbi, and S. Zucker. The CODEX-ESPRESSO experiment: Cosmic dynamics, fundamental physics, planets and much more... *Nuovo Cimento B Serie*, 122(9):1165–1170, September 2007.
- [225] Massimo Ricotti, Andrew Pontzen, and Matteo **Viel**. Is the Concentration of Dark Matter Halos at Virialization Universal? *ApJ*, 663(2):L53–L56, July 2007.
- [226] Matteo **Viel**. Neutrinos and the Lyman- α forest: myth or reality? *Nuclear Physics B Proceedings Supplements*, 168:54–56, June 2007.

- [227] Matteo **Viel**. The Lyman-alpha Forest as a probe of Cosmology and Fundamental Physics. In *HI Survival Through Cosmic Times*, page 69, June 2007.
- [228] Cristiano Porciani, Matteo **Viel**, and Simon J. Lilly. Strong Mg II Systems in Quasar and Gamma-Ray Burst Spectra. *ApJ*, 659(1):218–224, April 2007.
- [229] John A. Regan, Martin G. Haehnelt, and Matteo **Viel**. Numerical simulations of the Lyman α forest - a comparison of GADGET-2 and ENZO. *MNRAS*, 374(1):196–205, January 2007.
- [230] V. D’Odorico, M. **Viel**, F. Saitta, S. Cristiani, S. Bianchi, B. Boyle, S. Lopez, J. Maza, and P. Outram. Tomography of the intergalactic medium with Ly α forests in close QSO pairs. *MNRAS*, 372(3):1333–1344, November 2006.
- [231] J. I. Read, A. P. Pontzen, and M. **Viel**. On the formation of dwarf galaxies and stellar haloes. *MNRAS*, 371(2):885–897, September 2006.
- [232] M. **Viel**. The Lyman- α Forest As a Cosmological Probe. In Sheila J. Kannappan, Seth Redfield, Jacqueline E. Kessler-Silacci, Martin Landriau, and Niv Drory, editors, *New Horizons in Astronomy: Frank N. Bash Symposium*, volume 352 of *Astronomical Society of the Pacific Conference Series*, pages 191–205, September 2006.
- [233] Matteo **Viel**, Martin G. Haehnelt, and Antony Lewis. The Lyman α forest and WMAP year three. *MNRAS*, 370(1):L51–L55, July 2006.
- [234] Luigi et al. ESTREMO/WFXRT Piro. ESTREMO/WFXRT: Extreme physics in the Transient and Evolving Cosmos. In *Proceedings SPIE*, volume 6266 of *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series*, page 62660K, June 2006.
- [235] S. Zaroubi, M. **Viel**, A. Nusser, M. Haehnelt, and T. S. Kim. The matter power spectrum from the Ly α forest: an optical depth estimate. *MNRAS*, 369(2):734–750, June 2006.
- [236] Matteo **Viel**, Martin G. Haehnelt, and Volker Springel. Testing the accuracy of the hydrodynamic particle-mesh approximation in numerical simulations of the Lyman α forest. *MNRAS*, 367(4):1655–1665, April 2006.
- [237] James S. Bolton, Martin G. Haehnelt, Matteo **Viel**, and Robert F. Carswell. Spatial fluctuations in the spectral shape of the ultraviolet background at $2 < z < 3$ and the reionization of helium. *MNRAS*, 366(4):1378–1390, March 2006.
- [238] Matteo **Viel** and Martin G. Haehnelt. Cosmological and astrophysical parameters from the Sloan Digital Sky Survey flux power spectrum and hydrodynamical simulations of the Lyman α forest. *MNRAS*, 365(1):231–244, January 2006.
- [239] Luca Pasquini, S. Cristiani, H. Dekker, M. Haehnelt, P. Molaro, F. Pepe, G. Avila, B. Delabre, S. D’Odorico, J. Liske, P. Shaver, P. Bonifacio, S. Borgani, V. D’Odorico, E. Vanzella, F. Bouchy, M. Dessauges, C. Lovis, M. Mayor, D. Queloz, S. Udry, M. Murphy, M. **Viel**, A. Grazian, S. Levshakov, L. Moscardini, T. Wiklund, and S. Zucker. CODEX: measuring the acceleration of the universe and beyond. In P. Whitelock, M. Dennefeld, and B. Leibundgut, editors, *The Scientific Requirements for Extremely Large Telescopes*, volume 232 of *IAU Symposium*, pages 193–197, January 2006.

- [240] Matteo **Viel**. Cosmology and Fundamental Physics with the Ly α forest. In *Bernard's Cosmic Stories: From Primordial Fluctuations to the Birth of Stars and Galaxies*, page 11.1, January 2006.
- [241] Luca Pasquini, Stefano Cristiani, Hans Dekker, Martin Haehnelt, Paolo Molaro, Francesco Pepe, Gerardo Avila, Bernard Delabre, Sandro D'Odorico, Jochen Liske, Peter Shaver, Piercarlo Bonifacio, Stefano Borgani, Valentina D'Odorico, Eros Vanzella, Francois Bouchy, Miroslava Dessauges-Lavadsky, Cristoph Lovis, Michel Mayor, Didier Queloz, Stephane Udry, Michael Murphy, Matteo **Viel**, Andrea Grazian, Sergei Levshakov, Lauro Moscardini, Tommy Wiklind, and Shay Zucker. CODEX: Measuring the Expansion of the Universe (and beyond). *The Messenger*, 122:10–14, December 2005.
- [242] María Beltrán, Juan García-Bellido, Julien Lesgourgues, and Matteo **Viel**. Squeezing the window on isocurvature modes with the Lyman- α forest. *PhRvD*, 72(10):103515, November 2005.
- [243] Michael Rauch, George D. Becker, Matteo **Viel**, Wallace L. W. Sargent, Alain Smette, Robert A. Simcoe, Thomas A. Barlow, and Martin G. Haehnelt. Expansion and Collapse in the Cosmic Web. *ApJ*, 632(1):58–80, October 2005.
- [244] M. **Viel**, E. Branchini, R. Cen, J. P. Ostriker, S. Matarrese, P. Mazzotta, and B. Tully. Tracing the warm-hot intergalactic medium in the local Universe. *MNRAS*, 360(3):1110–1122, July 2005.
- [245] S. Cristiani, V. D'Odorico, F. Saitta, M. **Viel**, S. Bianchi, B. Boyle, S. Lopez, J. Maza, and P. Outram. Probing the 3-D matter distribution at $z=2$ with QSO multiple lines of sight. In Peter Williams, Cheng-Gang Shu, and Brice Menard, editors, *IAU Colloq. 199: Probing Galaxies through Quasar Absorption Lines*, pages 412–414, March 2005.
- [246] Matteo **Viel**. The Lyman- α forest as a probe of fundamental physics. In Peter Williams, Cheng-Gang Shu, and Brice Menard, editors, *IAU Colloq. 199: Probing Galaxies through Quasar Absorption Lines*, pages 255–260, March 2005.
- [247] James S. Bolton, Martin G. Haehnelt, Matteo **Viel**, and Volker Springel. Constraints on the meta-galactic hydrogen ionisation rate from the Lyman- α forest opacity. In Peter Williams, Cheng-Gang Shu, and Brice Menard, editors, *IAU Colloq. 199: Probing Galaxies through Quasar Absorption Lines*, pages 219–224, March 2005.
- [248] James S. Bolton, Martin G. Haehnelt, Matteo **Viel**, and Volker Springel. The Lyman α forest opacity and the metagalactic hydrogen ionization rate at $z \sim 2-4$. *MNRAS*, 357(4):1178–1188, March 2005.
- [249] J. Bergeron, P. Petitjean, B. Aracil, C. Pichon, E. Scannapieco, R. Srianand, P. Boisse, R. F. Carswell, H. Chand, S. Cristiani, A. Ferrara, M. Haehnelt, A. Hughes, T. S. Kim, C. Ledoux, P. Richter, and M. **Viel**. The large programme “Cosmic Evolution of the IGM”. *The Messenger*, 118:40–44, December 2004.

- [250] Matteo **Viel**, Jochen Weller, and Martin G. Haehnelt. Constraints on the primordial power spectrum from high-resolution Lyman α forest spectra and WMAP. *MNRAS*, 355(3):L23–L28, December 2004.
- [251] Matteo **Viel**. Inferring the dark matter power spectrum from the Lyman-Alpha forest in high-resolution QSO absorption spectra. In R. Dettmar, U. Klein, and P. Salucci, editors, *Baryons in Dark Matter Halos*, page 21, December 2004.
- [252] Matteo **Viel**, Martin G. Haehnelt, and Volker Springel. Inferring the dark matter power spectrum from the Lyman α forest in high-resolution QSO absorption spectra. *MNRAS*, 354(3):684–694, November 2004.
- [253] Matteo **Viel**. Quantitative Cosmology with the Lyman-Alpha Forest. KITP Program: Galaxy-Intergalactic Medium Interactions, November 2004.
- [254] M. **Viel**, M. Haehnelt, T. S. Kim, B. Carswell, S. Cristiani, A. Heavens, L. Hernquist, S. Matarrese, and V. Springel. The Lyman-alpha forest according to LUQAS. *arXiv e-prints*, pages astro-ph/0405584, May 2004.
- [255] M. **Viel**, M. G. Haehnelt, R. F. Carswell, and T. S. Kim. The effect of (strong) discrete absorption systems on the Lyman α forest flux power spectrum. *MNRAS*, 349(3):L33–L37, April 2004.
- [256] M. **Viel**, S. Matarrese, A. Heavens, M. G. Haehnelt, T. S. Kim, V. Springel, and L. Hernquist. The bispectrum of the Lyman α forest at $z \sim 2-2.4$ from a large sample of UVES QSO absorption spectra (LUQAS). *MNRAS*, 347(2):L26–L30, January 2004.
- [257] T. S. Kim, M. **Viel**, M. G. Haehnelt, R. F. Carswell, and S. Cristiani. The power spectrum of the flux distribution in the Lyman α forest of a large sample of UVES QSO absorption spectra (LUQAS). *MNRAS*, 347(2):355–366, January 2004.
- [258] Matteo **Viel**. Cosmology with the lyman-alpha forest in the WMAP era. *arXiv e-prints*, pages astro-ph/0310413, October 2003.
- [259] M. **Viel**. Numerical models of the intergalactic medium. *The Observatory*, 123:174–175, June 2003.
- [260] M. **Viel**, E. Branchini, R. Cen, S. Matarrese, P. Mazzotta, and J. P. Ostriker. Detecting X-ray filaments in the low-redshift Universe with XEUS and Constellation-X. *MNRAS*, 341(3):792–804, May 2003.
- [261] M. **Viel**, S. Matarrese, Tom Theuns, D. Munshi, and Yun Wang. Dark energy effects on the Lyman α forest. *MNRAS*, 340(4):L47–L51, April 2003.
- [262] M. **Viel**, S. Matarrese, H. J. Mo, Tom Theuns, and M. G. Haehnelt. Modelling the IGM and the Ly α forest at high redshift from the dark matter distribution. *MNRAS*, 336(2):685–698, October 2002.
- [263] Tom Theuns, Matteo **Viel**, Scott Kay, Joop Schaye, Robert F. Carswell, and Panayiotis Tzanavaris. Galactic Winds in the Intergalactic Medium. *ApJ*, 578(1):L5–L8, October 2002.

- [264] M. **Viel**, S. Matarrese, H. J. Mo, M. G. Haehnelt, and Tom Theuns. Probing the intergalactic medium with the Ly α forest along multiple lines of sight to distant QSOs. *MNRAS*, 329(4):848–862, February 2002.