Romain Teyssier **Curriculum Vitae**

Institute for Computational Science
Centre for Theoretical Astrophysics and Cosmology
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Professor in Computational Astrophysics, University of Zürich
Swiss delegate to the Euclid Consortium Board
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EDUCATION

1989-1992: Ecole Polytechnique de Paris, France.
1992-1993: Master in "Astrophysics and Space Science", University of Paris, France.
1993-1996: PhD supervised by Jean-Pierre Chièze, University of Paris, France.
2007: Habilitation to supervise research activities, University of Paris, France.

EMPLOYMENT

1997-1998: Post-doc at Lawrence Livermore National Laboratory with Bruce Remington
1998-2006: Junior researcher, CEA Saclay
2006-2013: Senior researcher, CEA Saclay
2013-2020: Associate Professor in Computational Astrophysics, University of Zürich
2020-present: Full Professor in Computational Astrophysics, University of Zürich

RESEARCH INTERESTS

Author of the RAMSES code: https://bitbucket.org/rteyssie/ramses
Preparation of the Euclid experiment: weak lensing and galaxy clustering, effect of baryonic physics
Expert in galaxy formation, star formation and astrophysical plasma physics.
Expert in computational physics: N-body and Magneto-Hydrodynamics, Adaptive Mesh Refinement, High Performance Computing with massively parallel supercomputers.

RESPONSABILITIES

2003-2008: PI of the Horizon Project.
2004-2013: PI of the COAST Project: http://irfu.cea.fr/Projets/COAST
2012-2017: Co-lead of the PASC network "Plasmas and Astrophysics"
2011-present: Co-lead of the Cosmological Simulation Working Group within the Euclid Consortium
2014-present: Co-director of the Zürich Graduate Program in Computational Science: http://www.zhcs.ch
2018-present: Director of the Institute for Computational Science at the University of Zürich

APPROVED RESEARCH PROJECTS

2001-2008: The Horizon project funded by ANR in France (1 M€)
2005-2010: The ASTROSIM network funded by ESF (French budget 150 k€)
2010-2014: The CosmoComp network funded by EEC (French budget 500 k€)
2010-2014: HP2C project "Cosmology on the petascale" (1.1 MCHF)
2011-2014: "From stars to galaxies" funded by Cino and Simone Del Duca Foundation (400 k€)
2012-2015: "Star formation from the MW to the distant Universe", SNF Sinergia (1 MCHF)
2012-2014: "Plasma physics, astrophysics and fluid dynamics", PASC project (180 kCHF).

2013-2015: “Feedback effects in galaxy formation”, SNF project (450 kCHF)
2015-2017: “Feedback effects in galaxy formation”, SNF project (450 kCHF)
2017-2019: “Multi-scale multi-physics models of galaxy formation”, SNF project (450 kCHF)
2019-2021: “Multi-scale multi-physics models of galaxy formation”, SNF project (450 kCHF)

AWARDS
2011: Grand Prix scientifique Simone & Cino Del Duca, awarded by the French Academy of Science.
2018: Euclid STAR Prize Team Award for the Euclid Flagship simulation.

MEMBERSHIP IN PANELS AND BOARDS
2016-present: Swiss delegate at the Euclid Consortium Board.
2016-present: Member of the PE9 panel for the ERC Consolidator Grant.
2018-present: Member of the Swiss Commission for Astronomy.
2019-present: Member of the Swiss Community for Computational Methods in Applied Sciences

TEACHING ACTIVITIES
2006: LXXXVI Session of Les Houches Summer School on Particle Physics and Cosmology.
2009: Computational Astrophysics Advanced Lectures, Universität Zürich and ETH Zürich.
2011: Continuum Mechanics Lectures, Spring Semester, ETH Zürich
2012: IMPRS Summer School, “Computational Astrophysics”, Universität Heidelberg.
2013: Continuum Mechanics Lectures, Spring Semester, ETH Zürich
2013-2014: Mathematical Methods for the Physicists, Universität Zürich
2014-present: Theoretical Astrophysics Lectures, Fall Semester, Universität Zürich
2015-present: High Performance Computing Lectures, Spring Semester, Universität Zürich
2014-present: Academia Industry Modelling week, ETH Zürich and Universität Zürich

SUPERVISION OF BACHELOR STUDENTS
2015: Benjamin Tobler: “Symplectic high order integrators for separable Hamiltonians”
2016: Stephan Radonic: “Well-balanced scheme for hydrodynamical simulation of protoplanetary disks”
2017: Boris Pestoni: “Subgrid Turbulent Model in Galaxy Formation”
2018: Jim Buffat: “Simulations of Gas Dynamics from First to Second Isothermal Collapse”

SUPERVISION OF MASTER STUDENTS
2014: Sebastien Carassou. “Automatic detection of dark matter haloes in the RAMSES code”
2015: Laurent Legrand: “Designing a cosmic emulator for the matter power spectrum”
2016: Philipp Denzel: “Radiation hydrodynamics of star formation”
2017. Nabil Awadshawkat: “Fluid dynamics with adaptive time steps”
2018: Oliver Shah: “diffusive shock acceleration in highly magnetized plasma jets in the solar corona”
2018: Mladen Ivkovic: “Halo and Sub-Halo Finding in Cosmological N-body Simulations”
2018: Hugues de Laroussilhe. “Massive neutrinos in N-body simulations”
2019: Amandeep Singh, “A subgrid model for H2 and CO in galaxy simulations”
2019: Yuankang Liu, “A subgrid model for the small-scale dynamo in galaxy simulations”
2020: Can Akin, “A multiphase solver with Mie-Gruneisen EOS for planet impacts”
2020: Bastien Bodin, “Computing the angular correlation function of galaxies for Euclid”
2020: Omar Attia, “Modelling the Biermann battery during the EOR”

SUPERVISION OF PHD STUDENTS
2002-2005: Yann Rasera, thesis defended 13/10/2005: “Baryons in a Hierarchical Universe”
2005-2008: Yohan Dubois, thesis defended 30/09/2008: “Cosmic Evolution of the Magnetic Field”
2007-2010: Thomas Guillet, thesis defended 31/09/2010: “Baryons and structure formation”
2008-2011: Damien Chapon, thesis defended 28/12/2011: “Simulations of binary galaxy mergers “
2009-2012: Davide Martizzi, thesis defended 15/07/2013: “Cosmological models of galaxy clusters”

2009-2012: Christine Corbett, thesis defended 15/09/2014, “N-Body Simulations as Probes of Gravity”
2009-2014: Andreas Bleuler, thesis defended 15/12/2014, “Star Formation using Computer Simulations”
2013-2017: Elena Gavagnin, thesis defended 28/02/2017, “The secret lives of star clusters”
2013-2017: Manuel Rabold, thesis defended 06/07/2017, “Galaxy groups and precision cosmology”
2013-2017: Michael Rieder, thesis defended 12/07/2017, “Galactic Magnetic Fields”
2014-2018: Pawel Biernacki, thesis defended 13/09/2018, “SMBH dynamics and feedback”
2016-2017: David Velasco, Swiss excellence scholarship, “DG method on the GPU”
2017-2018; Rafael Ruggiero, Brazilian BEPE scholarship, “Clumps in galaxy clusters”
2017-2018: Sarah Nickerson, thesis defended 26/09/2018, “A new model for Molecular Hydrogen”
2015-2019: Maria Han Vega, thesis defended 02/12/2019, “High-order methods for MHD”
2016-2020: Tine Colman
2017-2021: Michael Kretschmer
2019-2023: Hughes De Laroussilhe
2019-2023: Roberto Cuissa

SUPERVISION OF POSTDOC COLLABORATORS
2006-2007: Dominique Aubert (next professor at the University of Strasbourg)
2007-2008: Pierre Ocvirk (next astronomer at the Observatory of Strasbourg)
2010-2011: Edoardo Tescari (next at the University of Melbourne)
2010-2012: Markus Wetzstein (next staff scientist at CSCS)
2013-2015: Mike Butler (next postdoc at the University of Heidelberg)
2014-2016: Andreas Bleuler (next data scientist at the Swiss Data Science Centre)
2014-2016: Aurel Schneider (next postdoc at ETH Zurich)
2014-2017: Valentin Perret (next data scientist at Credit Suisse)
2017-2019: Robbert Verbeke (next data scientist in a startup)
2018-present: Kai Hoffman
2019-present: David Velasco

260 PUBLICATIONS WITH 15185 CITATIONS AND H-INDEX 62 (SOURCE: ADS)

My publication list shows 3 papers with more than 1000 citations, including the RAMSES original code paper and my work on cold stream accretion. I have 5 more papers with more than 300 citations that cover multiple aspects of galaxy formation theory and computational methods. I have finally almost 40 papers in total with more than 100 citations, focusing on cosmology, galaxy formation and computational methods addressing self-gravity, MHD and radiative transfer.

LIST OF REFEREED ARTICLES

2020

1. Kretschmer, Michael; **Teyssier, Romain**, "The Grand Twirl: The Epoch of Rapid Assembly of Extended and quiescent Disks", 2020, MNRAS, submitted
2. Chantereau, W; Biernacki, P; Martig, M; Bastian, N; Salaris, M; **Teyssier, R**, "The loss of the intracluster medium in globular clusters", 2020, MNRAS, 493, 1306
3. Colman, Tine; **Teyssier, Romain**, "On the origin of the peak of the stellar initial mass function: exploring the tidal screening theory", 2020, MNRAS, 492, 472
4. Kretschmer, Michael; **Teyssier, Romain**, "Forming early-type galaxies without AGN feedback: a combination of merger-driven outflows and inefficient star formation", 2020, MNRAS, 492, 1385
5. Agertz, Oscar; Pontzen, Andrew; Read, Justin I.; Rey, Martin P.; Orkney, Matthew; Rosdahl, Joakim; **Teyssier, Romain**; Verbeke, Robbert; Kretschmer, Michael; Nickerson, Sarah; "EDGE: the mass-metallicity relation as a critical test of galaxy formation physics", 2020, MNRAS, 491, 1656

2019

6. Schneider, Aurel; Refregier, Alexandre; Grandis, Sebastian; Eckert, Dominique; Stoira, Nicola; Kacprzak, Tomasz; Knabenhans, Mischa; Stadel, Joachim; **Teyssier, Romain**, "Baryonic effects for weak lensing: II. Combination with X-ray data and extended cosmologies", 2019, JCAP, submitted
7. Munshi, D.; McEwen, J. D.; Kitching, T.; Fosalba, P.; **Teyssier, Romain;** Stadel, J., "Estimating the Integrated Bispectrum from Weak Lensing Maps", 2019, JCAP, in press
8. Agertz, Oscar; Pontzen, Andrew; Read, Justin I.; Rey, Martin P.; Orkney, Matthew; Rosdahl, Joakim; **Teyssier, Romain**; Verbeke, Robbert; Kretschmer, Michael; Nickerson, Sarah, "EDGE: the mass-metallicity relation as a critical test of galaxy formation physics", 2019, MNRAS, in press
9. Schneider, Aurel; Stoira, Nicola; Refregier, Alexandre; Weiss, Andreas; Knabenhans, Mischa; Stadel, Joachim; **Teyssier, Romain**, "Baryonic effects for weak lensing: I. Power spectrum and covariance matrix", 2019, JCAP, submitted
10. Svensmark, Jacob; Hansen, Steen H.; Martizzi, Davide; Moore, Ben; **Teyssier, Romain**, "Measuring the dark matter velocity anisotropy to the cluster edge", 2019, MNRAS, in press
11. Augustin, R.; Quiret, S.; Milliard, B.; Péroux, C.; Vibert, D.; Blaizot, J.; Rasera, Y.; **Teyssier, R**.; Frank, S.; Deharveng, J. -M.; Picouet, V.; Martin, D. C.; Hamden, E. T.; Thatte, N.; Pereira Santaella, M.; Routledge, L.; Zieleniewski, S., "Emission from the circumgalactic medium: from cosmological zoom-in simulations to multiwavelength observables", 2019, MNRAS, 489, 2417
12. Dessauges-Zavadsky, Miroslava; Richard, Johan; Combes, Françoise; Schaerer, Daniel; Rujopakarn, Wiphu; Mayer, Lucio; Cava, Antonio; Boone, Frédéric; Egami, Eiichi; Kneib, Jean-Paul; Pérez-González, Pablo G.; Pfenniger, Daniel; Rawle, Tim D.; **Teyssier, Romain**; van der Werf, Paul P., "Molecular clouds in the Cosmic Snake normal star-forming galaxy 8 billion years ago", 2019, Nature Astronomy, 436
13. **Teyssier, Romain**; Commerçon, Benoit, "Numerical Methods for Simulating Star Formation", 2019, Frontiers in Astronomy and Space Sciences, 6, 51
14. Knabenhans, Mischa; Stadel, Joachim; Marelli, Stefano; Potter, Doug; **Teyssier, Romain**; Legrand, Laurent; Schneider, Aurel; Sudret, Bruno; Blot, Linda; Awan, Saeeda; Burigana, Carlo; Carvalho, Carla Sofia; Kurki-Suonio, Hannu; Sirri, Gabriele; Euclid Collaboration, "Euclid preparation: II. The EUCLIDEMULATOR - a tool to compute the cosmology dependence of the nonlinear matter power spectrum", 2019, MNRAS, 484, 5509
15. Nickerson, Sarah; **Teyssier, Romain**; Rosdahl, Joakim, "Towards the complete census of molecular hydrogen in a simulated disc galaxy", 2019, MNRAS, 484, 1238
16. Schneider, Aurel; **Teyssier, Romain**; Stadel, Joachim; Chisari, Nora Elisa; Le Brun, Amandine M. C.; Amara, Adam; Refregier, Alexandre; « Quantifying baryon effects on the matter power spectrum and the weak lensing shear correlation », 2019, JCAP, 3, 20

2018

17. Ruggiero, Rafael; **Teyssier, Romain**; Lima Neto, Gastao B.; Perret, Valentin, "Free-floating molecular clumps and gas mixing: hydrodynamic aftermaths of the intracluster-interstellar medium interaction", 2018, MNRAS, 480, 2191
18. Dawoodbhoy, Taha; Shapiro, Paul R.; Ocvirk, Pierre; Aubert, Dominique; Gillet, Nicolas; Choi, Jun-Hwan; Iliev, Ilian T.; **Teyssier, Romain**; Yepes, Gustavo; Gottlöber, Stefan; D'Aloisio, Anson; Park, Hyunbae; Hoffman,

Yehuda, "Suppression of star formation in low-mass galaxies caused by the reionization of their local neighbourhood", 2018, MNRAS, 480, 1740

19. Martin-Alvarez, Sergio, Devriendt, Julien, Slyz, Adrianne, **Teyssier, Romain**, "A three-phase amplification of the cosmic magnetic field in galaxies", 2018, MNRAS, 479, 3343
20. Nickerson, Sarah, **Teyssier, Romain**, Rosdahl, Joakim, "A simple model for molecular hydrogen chemistry coupled to radiation hydrodynamics", 2018, MNRAS, 479, 3206
21. Rosdahl, Joakim; Katz, Harley; Blaizot, Jeremy; Kimm, Taysun; Michel-Dansac, Leo; Garel, Thibault; Haehnelt, Martin; Ocvirk, Pierre; **Teyssier**, **Romain**, "The SPHINX Cosmological Simulations of the First Billion Years: the Impact of Binary Stars on Reionization", 2018, MNRAS, 479, 994
22. Velasco-Romero, David, Veiga, Maria Han, **Teyssier Romain**, Masset, Frédéric, "Planet-disc interactions with Discontinuous Galerkin Methods using GPUs", 2018, MNRAS, 478, 1855
23. Biernacki, Pawel, **Teyssier, Romain**, "The combined effect of AGN and supernovae feedback in launching massive molecular outflows in high-redshift galaxies", 2018, MNRAS, 475, 5688
24. Kimm, Taysun; Haehnelt, Martin; Blaizot, Jérémy; Katz, Harley; Michel-Dansac, Léo; Garel, Thibault; Rosdahl, Joakim; **Teyssier, Romain,** "Impact of Lyman alpha pressure on metal-poor dwarf galaxies", 2018, MNRAS, 475, 4617
25. Wu, Hao-Yi; Doré, Olivier; **Teyssier, Romain**; Serra, Paolo, "Interpreting the cosmic far-infrared background anisotropies using a gas regulator model", 2018, MNRAS, 475, 3974
26. Aubert, Dominique, Deparis, Nicolas, Ocvirk, Pierre, Shapiro, Paul, Iliev, Ilian, Yepes, Gustavo, Gottloeber, Stefan, Hoffman, Yehuda, **Teyssier, Romain**, "The Inhomogeneous Reionization of Present-Day Galaxies", 2018, ApJ, 856, L22
27. Le Brun, A. M. C.; Arnaud, M.; Pratt, G. W.; **Teyssier**, **Romain**, "Internal dark matter structure of the most massive galaxy clusters", 2018, MNRAS, 473, 69

2017

28. Rieder, M., **Teyssier**, R., "A small-scale dynamo in feedback-dominated galaxies - III. Cosmological Simulations", 2017, MNRAS, 472, 436
29. Gavagnin, E., Bleuler, A., Rosdahl, J., **Teyssier**, R., "Star Cluster Formation in a Turbulent Molecular Cloud Self-Regulated by Photo-Ionisation Feedback", 2017, MNRAS, 472, 4155
30. Albæk, L.; Hansen, S. H.; Martizzi, D.; Moore, B.; **Teyssier**, R., "Infall near clusters of galaxies: comparing gas and dark matter velocity profiles", 2017, MNRAS, 472, 3486
31. Rieder, M., **Teyssier**, R., "A small-scale dynamo in feedback-dominated galaxies - II. The saturation phase and the final magnetic configuration", 2017, MNRAS, 471, 2674
32. Hahn, O., Martizzi, D., Wu, H.-Y., Evrard, A.E., **Teyssier**, R., Wechsler, Risa H., „Rhapsody-G simulations I: the cool cores, hot gas and stellar content of massive galaxy clusters", 2017, MNRAS, 470, 166
33. Biernacki, P., **Teyssier**, R., Bleuler, A., "On the dynamics of supermassive black holes in gas-rich, star-forming galaxies: the case for nuclear star cluster co-evolution", 2017, MNRAS, 469, 295
34. Butler, M. J., Tan, J. C., **Teyssier**, R., Rosdahl, J., Van Loo, S., Nickerson, S., "Kpc-scale Simulations of Star Formation in Disk Galaxies. IV. Regulation of Galactic SFRs by Stellar Feedback", 2017, ApJ, 841, 82
35. Rabold, M., **Teyssier**, R., "Precision cosmology with baryons: non-radiative hydrodynamics of galaxy groups", 2017, MNRAS, 467, 3188
36. Potter, D., Stadel, J., **Teyssier**, R., "PKDGRAV3: Beyond Trillion Particle Cosmological Simulations for the Next Era of Galaxy Surveys", 2017, ComAC, 4, 2
37. Rosdahl, J., Schaye, J., Dubois, Y., Kimm, T. and **Teyssier**, R. "Snap, Crackle, Pop: sub-grid supernova feedback in AMR simulations of disk galaxies", 2017, MNRAS, 466, 11
38. Fensch, J.; Renaud, F.; Bournaud, F.; Duc, P.-A.; Agertz, O.; Amram, P.; Combes, F.; Di Matteo, P.; Elmegreen, B.; Emsellem, E.; Jog, C. J.; Perret, V.; Struck, C.; **Teyssier**, R., "High-redshift major mergers weakly enhance star formation", 2017, MNRAS, 465, 1934
39. Arthur, Jake; Pearce, Frazer R.; Gray, Meghan E.; Elahi, Pascal J.; Knebe, Alexander; Beck, Alexander M.; Cui, Weiguang; Cunnama, Daniel; Davé, Romeel; February, Sean; Huang, Shuiyao; Katz, Neal; Kay, Scott T.; McCarthy, Ian G.; Murante, Giuseppe; Perret, Valentin; Power, Chris; Puchwein, Ewald; Saro, Alexandro; Sembolini, Federico; **Teyssier**, **Romain**; Yepes, Gustavo, "nIFTy galaxy cluster simulations - V. Investigation of the cluster infall region", 2017, MNRAS, 464, 2027

2016

40. Ocvirk, Pierre; Gillet, Nicolas; Shapiro, Paul R.; Aubert, Dominique; Iliev, Ilian T.; **Teyssier**, **Romain**; Yepes, Gustavo; Choi, Jun-Hwan; Sullivan, David; Knebe, Alexander; Gottlöber, Stefan; D'Aloisio, Anson; Park, Hyunbae; Hoffman, Yehuda; Stranex, Timothy "Cosmic Dawn (CoDa): The First Radiation-Hydrodynamics Simulation of Reionization and Galaxy Formation in the Local Universe", 2016, MNRAS, 463, 1462
41. Kim, Ji-hoon; Agertz, Oscar; **Teyssier**, **Romain**; Butler, Michael J.; Ceverino, Daniel; Choi, Jun-Hwan; Feldmann, Robert; Keller, Ben W.; Lupi, Alessandro; Quinn, Thomas; Revaz, Yves; Wallace, Spencer; Gnedin, Nickolay Y.; Leitner, Samuel N.; Shen, Sijing; Smith, Britton D.; Thompson, Robert; Turk, Matthew J.; Abel, Tom; Arraki, Kenza S.; Benincasa, Samantha M.; Chakrabarti, Sukanya; DeGraf, Colin; Dekel, Avishai; Goldbaum, Nathan J.; Hopkins, Philip F.; Hummels, Cameron B.; Klypin, Anatoly; Li, Hui; Madau, Piero; Mandelker, Nir; Mayer, Lucio;

Nagamine, Kentaro; Nickerson, Sarah; O'Shea, Brian W.; Primack, Joel R.; Roca-Fàbrega, Santi; Semenov, Vadim; Shimizu, Ikkoh; Simpson, Christine M.; Todoroki, Keita; Wadsley, James W.; Wise, John H.; AGORA Collaboration, "The AGORA High-resolution Galaxy Simulations Comparison Project. II. Isolated Disk Test", 2016, ApJ, 833, 202

42. Martizzi, Davide; Hahn, Oliver; Wu, Hao-Yi; Evrard, August E.; **Teyssier**, **Romain**; Wechsler, Risa H., "RHAPSODY-G simulations II - Baryonic growth and metal enrichment in massive galaxy clusters", 2016, MNRAS, 459, 4408
43. Sembolini, Federico; Elahi, Pascal Jahan; Pearce, Frazer R.; Power, Chris; Knebe, Alexander; Kay, Scott T.; Cui, Weiguang; Yepes, Gustavo; Beck, Alexander M.; Borgani, Stefano; Cunnama, Daniel; Davé, Romeel; February, Sean; Huang, Shuiyao; Katz, Neal; McCarthy, Ian G.; Murante, Giuseppe; Newton, Richard D. A.; Perret, Valentin; Puchwein, Ewald; Saro, Alexandro; Schaye, Joop; **Teyssier**, **Romain**, "nIFTY galaxy cluster simulations - II. Radiative models", 2016, MNRAS, 459, 2973
44. Cui, Weiguang; Power, Chris; Knebe, Alexander; Kay, Scott T.; Sembolini, Federico; Elahi, Pascal J.; Yepes, Gustavo; Pearce, Frazer; Cunnama, Daniel; Beck, Alexander M.; Dalla Vecchia, Claudio; Davé, Romeel; February, Sean; Huang, Shuiyao; Hobbs, Alex; Katz, Neal; McCarthy, Ian G.; Murante, Giuseppe; Perret, Valentin; Puchwein, Ewald; Read, Justin I.; Saro, Alexandro; **Teyssier**, **Romain**; Thacker, Robert J. "nIFTY galaxy cluster simulations - IV. Quantifying the influence of baryons on halo properties", 2016, MNRAS, 458, 4052
45. Elahi, Pascal J.; Knebe, Alexander; Pearce, Frazer R.; Power, Chris; Yepes, Gustavo; Cui, Weiguang; Cunnama, Daniel; Kay, Scott T.; Sembolini, Federico; Beck, Alexander M.; Davé, Romeel; February, Sean; Huang, Shuiyao; Katz, Neal; McCarthy, Ian G.; Murante, Giuseppe; Perret, Valentin; Puchwein, Ewald; Saro, Alexandro; **Teyssier**, **Romain** "nIFTY galaxy cluster simulations - III. The similarity and diversity of galaxies and sub-haloes", 2016, MNRAS, 458, 1096
46. Sembolini, Federico; Yepes, Gustavo; Pearce, Frazer R.; Knebe, Alexander; Kay, Scott T.; Power, Chris; Cui, Weiguang; Beck, Alexander M.; Borgani, Stefano; Dalla Vecchia, Claudio; Davé, Romeel; Elahi, Pascal Jahan; February, Sean; Huang, Shuiyao; Hobbs, Alex; Katz, Neal; Lau, Erwin; McCarthy, Ian G.; Murante, Guiseppe; Nagai, Daisuke; Nelson, Kaylea; Newton, Richard D. A.; Perret, Valentin; Puchwein, Ewald; Read, Justin I.; Saro, Alexandro; Schaye, Joop; **Teyssier**, **Romain**; Thacker, Robert J. "nIFTY galaxy cluster simulations - I. Dark matter and non-radiative models", 2016, MNRAS, 457, 4063
47. Rieder, M., **Teyssier**, R., "A small-scale dynamo in feedback-dominated galaxies as the origin of cosmic magnetic fields - I. The kinematic phase", 2016, MNRAS, 457, 1722
48. Schneider, Aurel; **Teyssier**, **Romain**; Potter, Doug; Stadel, Joachim; Onions, Julian; Reed, Darren S.; Smith, Robert E.; Springel, Volker; Pearce, Frazer R.; Scoccimarro, Roman "Matter power spectrum and the challenge of percent accuracy", 2016, JCAP, 4, 47
49. Revaz, Y., Jablonka, P., **Teyssier**, R., Mayer, L., "Star Formation in Galaxy Evolution: Connecting Numerical Models to Reality", 2016, Saas-Fe Advanced Course, Springer-Verlag, Berlin, Heidelberg

2015

50. Renaud, F.; Bournaud, F.; Emsellem, E.; Agertz, O.; Athanassoula, E.; Combes, F.; Elmegreen, B.; Kraljic, K.; Motte, F.; **Teyssier**, R. "Environmental regulation of cloud and star formation in galactic bars", 2015, MNRAS, 454, 3299
51. Schneider, A., and **Teyssier**, R., "A new method to quantify the effects of baryons on the matter power spectrum", 2015, JCAP, 12, 49
52. Goerdt, Tobias; Ceverino, Daniel; Dekel, Avishai; **Teyssier**, **Romain** "Distribution of streaming rates into high-redshift galaxies", 2015, MNRAS, 454, 637
53. Wu, Hao-Yi; Evrard, August E.; Hahn, Oliver; Martizzi, Davide; **Teyssier**, **Romain**; Wechsler, Risa H. "R HAPSODY-G simulations: galaxy clusters as baryonic closed boxes and the covariance between hot gas and galaxies", 2015, MNRAS, 452, 1982
54. Dubois, Yohan; Volonteri, Marta; Silk, Joseph; Devriendt, Julien; Slyz, Adrianne; **Teyssier**, **Romain**, "Black hole evolution - I. Supernova-regulated black hole growth", 2015, MNRAS, 452, 1502
55. Gheller, C., Wang, P., Vazza, F., **Teyssier**, R., "Numerical cosmology on the GPU with Enzo and Ramses", 2015, Journal of Physics: Conference Series, Volume 640, Issue 1
56. Pontzen, Andrew; Read, Justin I.; **Teyssier**, **Romain**; Governato, Fabio; Gualandris, Alessia; Roth, Nina; Devriendt, Julien, "Milking the spherical cow - on aspherical dynamics in spherical coordinates", 2015, MNRAS, 451, 1366
57. **Teyssier**,R., "Grid-Based Hydrodynamics in Astrophysical Fluid Flows", 2015, Annual Review of Astronomy and Astrophysics, 53, 325
58. Rosdahl, J., Schaye, J., **Teyssier**, R., Agertz, O., "Galaxies that shine: radiation-hydrodynamical simulations of disc galaxies", 2015, MNRAS, 451, 34
59. Rosdahl, J., **Teyssier**, R., "A scheme for radiation pressure and photon diffusion with the M1 closure in RAMSES-RT", 2015, MNRAS, 449, 4380
60. Bleuler, A., **Teyssier**, R., Carassou, S., Martizzi, D., "PHEW: a parallel segmentation algorithm for three-dimensional AMR datasets. Application to structure detection in self-gravitating flows", 2015, Computational Astrophysics and Cosmology, 2, 5
61. Moran, C., **Teyssier**, R., "Chameleon f(R) gravity on the Virgo cluster scale", 2015, MNRAS, 448, 307

62. Birnboim, Y., Balberg, S., **Teyssier**, R., "Galaxy evolution: modelling the role of non-thermal pressure in the interstellar medium", 2015, MNRAS, 447, 3678
63. Bournaud, F.; Daddi, E.; Weiß, A.; Renaud, F.; Mastropietro, C.; **Teyssier**, R., "Modeling CO emission from hydrodynamic simulations of nearby spirals, starbursting mergers, and high-redshift galaxies", 2015, A&A, 575, 56
64. Mollitor, P., Nezri, E., **Teyssier**, R., "Baryonic and dark matter distribution in cosmological simulations of spiral galaxies", 2015, MNRAS, 447, 1353

2014

65. Bleuler, A., **Teyssier**, R., "Towards a more realistic sink particle algorithm for the RAMSES code", 2014, MNRAS, 445, 4015
66. Roškar, R., **Teyssier**, R., Agertz, O., Wetzstein, M., Moore, B., "A Systematic Look at the Effects of Radiative Feedback on Disc Galaxy Formation", 2013, MNRAS, 444, 2837
67. Dubois, Y.; Pichon, C.; Welker, C.; Le Borgne, D.; Devriendt, J.; Laigle, C.; Codis, S.; Pogosyan, D.; Arnouts, S.; Benabed, K.; Bertin, E.; Blaizot, J.; Bouchet, F.; Cardoso, J.-F.; Colombi, S.; de Lapparent, V.; Desjacques, V.; Gavazzi, R.; Kassin, S.; Kimm, T.; McCracken, H.; Milliard, B.; Peirani, S.; Prunet, S.; Rouberol, S.; Silk, J.; Slyz, A.; Sousbie, T.; **Teyssier**, R.; Tresse, L.; Treyer, M.; Vibert, D.; Volonteri, M., "Dancing in the dark: galactic properties trace spin swings along the cosmic web", 2014, MNRAS, 444, 1453
68. Martizzi, D., Jimmy, D., **Teyssier**, R., Moore, B., "Brightest cluster galaxies in cosmological simulations with adaptive mesh refinement: successes and failures", 2014, MNRAS, 443, 1500
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