

Dr. Vicente Rodriguez-Gomez

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| CONTACT INFORMATION | Instituto de Radioastronomía y Astrofísica Universidad Nacional Autónoma de México Apdo. Postal 72-3, 58089 Morelia, Mexico | <i>E-mail:</i> vrodgom.astro [at] gmail.com <i>Website:</i> GitHub <i>ORCID:</i> 0000-0002-9495-0079 |
| RESEARCH INTERESTS | Galaxy formation and evolution, cosmological simulations, hydrodynamics, galaxy mergers and interactions, galaxy morphology, data analysis | |
| EDUCATION | Harvard University PhD , Astronomy & Astrophysics 2016 <ul style="list-style-type: none">• Thesis advisor: Lars Hernquist• Thesis title: <i>Galaxy mergers and some consequences: the cosmological context</i>• Secondary Field in Computer Science and Engineering AM , Astronomy 2012 | |
| | National Autonomous University of Mexico BS , Physics 2009 | |
| EMPLOYMENT | Associate Professor 2018 – Present Instituto de Radioastronomía y Astrofísica, Universidad Nacional Autónoma de México Postdoctoral Fellow 2016 – 2018 Department of Physics & Astronomy, Johns Hopkins University Supervisor: Jennifer Lotz Postdoctoral Fellow 2016 Institute for Theory and Computation, Harvard-Smithsonian Center for Astrophysics Supervisor: Lars Hernquist | |
| SUMMARY OF PUBLICATIONS | Publications: 68 refereed (5 as first author) Citations: 6373 in total (1431 as first author) Bibliometrics: <i>h</i> -index of 34 | |
| PUBLIC SOFTWARE PACKAGES | <ul style="list-style-type: none">• statmorph https://statmorph.readthedocs.io Python package for calculating morphological diagnostics of galaxy images• SubLink https://bitbucket.org/vrodgom/sublink C++ code for constructing and analyzing merger trees in cosmological simulations• galaxev_pipeline https://github.com/vrodgom/galaxev_pipeline Python and C code for generating synthetic images of simulated galaxies | |
| GRANTS | <ul style="list-style-type: none">• NASA Astrophysics Data Analysis Program (Co-I) 2022• NASA JWST Cycle 1 General Observer Program (Co-I) 2021• XSEDE Computing allocation (Co-I) 2019–2020• PAPIIT Grant, UNAM (PI) 2019• UC MEXUS–CONACyT Collaborative Grant (PI) 2019• NASA HST Cycle 27 Archival Research Program (Co-I) 2019• NASA HST Cycle 22 Theory Program (Co-I) 2014 | |
| GRADUATE STUDENT MENTORSHIP | <ul style="list-style-type: none">• Alejandro Guzmán-Ortega 2020 – Present• Daniel Montenegro-Taborda 2020 – Present• Luis Enrique Pérez-Montaño 2019 – 2023 | |

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| ACADEMIC SERVICE | <p>Referee for: The Astrophysical Journal (ApJ), ApJ Letters, Monthly Notices of the Royal Astronomical Society (MNRAS), MNRAS Letters, Astronomy & Astrophysics, Astronomy & Computing, MDPI, World Scientific Publishing</p> <p>Proposal reviewer for: European Research Council, Dutch Research Council (NWO), PAPIIT-UNAM, University of Guanajuato</p> | |
| TEACHING | <ul style="list-style-type: none"> • Professor, Instituto de Radioastronomía y Astrofísica, UNAM <i>Preparatory Course in Electromagnetism</i> Fall 2021 • Professor, Instituto de Radioastronomía y Astrofísica, UNAM <i>Cosmology</i> Spring 2021 • Professor, Instituto de Radioastronomía y Astrofísica, UNAM <i>Preparatory Course in Electromagnetism</i> Fall 2020 • Professor, Instituto de Radioastronomía y Astrofísica, UNAM <i>Cosmology</i> Fall 2019 • Workshop Instructor, Clubes de Ciencia, Mexico <i>High-Performance Computing: from Climate Models to Cosmology</i> Summer 2019 • Professor, Escuela Nacional de Estudios Superiores - Morelia <i>Distributed Computing</i> Spring 2019 • Workshop Instructor, Clubes de Ciencia, Mexico <i>Accelerating Science Using Multiple Processors</i> Summer 2015 • Workshop Instructor, Clubes de Ciencia, Mexico <i>Simulating Structure Formation in the Universe</i> Summer 2014 • Teaching Fellow, Harvard University <i>Computing Foundations for Computational Science</i> Fall 2013 • Teaching Fellow, Harvard University <i>Introduction to Quantum Mechanics</i> Fall 2012 • Trainer, Physics Olympiad 2009 – 2010 Instructor of the Mexican students who participated in the 40th and 41st International Physics Olympiads | |
| OUTREACH | <ul style="list-style-type: none"> • Popular Media, Scientific American <i>Earliest Merging Galaxies Discovered in New JWST Photos</i> 2023 • Popular Media, The Atlantic <i>Look at What Happens When Two Galaxies Collide</i> 2022 • Outreach Talk, Tecnológico de Costa Rica (remote) <i>The Unexpected Effect of Black Holes on Neighboring Galaxies</i> 2021 • Popular Media, El Sol de Zamora <i>Agujeros negros podrían regular creación de galaxias</i> 2021 • Outreach Talk, Tecnológico de Costa Rica (remote) <i>A Decade of Cosmological Simulations</i> 2021 • Outreach Talk, La Jacaranda Cultural, Patzcuaro <i>A Decade of Cosmological Simulations</i> 2020 • Interview, Sistema Michoacano de Radio y TV <i>Featured in the weekly radio program Clasificación... pero con C de Ciencia</i> 2019 • Interview, UNAM Campus Morelia <i>Featured in the 77th issue of the BUM bimonthly bulletin</i> 2019 | |
| SELECTED SCIENTIFIC TALKS | <ul style="list-style-type: none"> • IAU Symposium 377, Kuala Lumpur, Malaysia 2023 • GECo Seminar, Laboratoire d'Astrophysique de Marseille, France (remote) 2022 • Astroclub, Observatorio Astronómico de Córdoba, Argentina (remote) 2022 • Astroseminar, Macquarie University, Sydney, Australia (remote) 2021 • Clash of the Titans Workshop, Lorentz Center, Leiden, Netherlands (remote) 2021 • Galaxy Crawl, University of Arizona, Tucson, AZ (remote) 2020 | |

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| • Seminar, Mesoamerican Centre for Theoretical Physics, Tuxtla, Mexico | 2020 |
| • Astronomy Colloquium, IRyA-UNAM, Morelia, Mexico | 2020 |
| • II Mexican Extragalactic Meeting, Morelia, Mexico | 2019 |
| • Galaxy Angular Momentum Alignment, Shanghai, China | 2019 |
| • LXII Meeting of the Mexican Physical Society, Villahermosa, Mexico | 2019 |
| • Santa Cruz Galaxy Workshop, University of California, Santa Cruz, CA | 2019 |
| • Construyendo el futuro - Encuentros de ciencia, Xochitepec, Mexico | 2018 |
| • IllustrisTNG Science Workshop, Garching, Germany | 2018 |
| • Santa Cruz Galaxy Workshop, University of California, Santa Cruz, CA | 2018 |
| • Galaxy Interactions and Mergers Across Cosmic Time, Sexten, Italy | 2018 |
| • The Growth of Galaxies in the Early Universe - IV, Sexten, Italy | 2018 |
| • Astronomy Colloquium, IRyA-UNAM, Morelia, Mexico | 2018 |
| • Galaxy Evolution in Groups and Clusters, Ringberg Castle, Germany | 2017 |
| • Astronomy Seminar, CCA, Flatiron Institute, New York, NY | 2017 |
| • ITC Luncheon, Harvard University, Cambridge, MA | 2017 |
| • Santa Cruz Galaxy Workshop, University of California, Santa Cruz, CA | 2017 |
| • HotSci Talk Series, Space Telescope Science Institute, Baltimore, MD | 2017 |
| • Galaxies Journal Club, Space Telescope Science Institute, Baltimore, MD | 2016 |
| • Astronomy Lunch Seminar, Tufts University, Medford, MA | 2016 |
| • The Many Pathways to Galaxy Growth, Prato, Italy | 2015 |
| • Astronomy Seminar, University of California, Riverside, CA | 2015 |
| • ITC Luncheon, Harvard University, Cambridge, MA | 2015 |
| • Astronomy Colloquium, IRyA-UNAM, Morelia, Mexico | 2015 |
| • AREPOfest-2 workshop, Cambridge, MA | 2014 |
| • Astronomy Colloquium, Columbia University, New York, NY | 2014 |
| • AREPOfest workshop, Heidelberg, Germany | 2013 |
| • Sussing Merger Trees workshop, Midhurst, UK | 2013 |

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| REFEREED | <i>Galactic angular momentum in the IllustrisTNG simulation - I. Connection to morphology,</i> |
| PUBLICATIONS | <i>halo spin, and black hole mass</i> |
| AS FIRST AUTHOR | Rodriguez-Gomez, V. , Genel, S., Fall, S. M., Pillepich, A., Huertas-Company, M., Nelson, D., Pérez-Montaño, L. E., Marinacci, F., Pakmor, R., Springel, V., Vogelsberger, M., and Hernquist, L., 2022, Monthly Notices of the Royal Astronomical Society, 512, 5978 |
| | <i>The optical morphologies of galaxies in the IllustrisTNG simulation: a comparison to Pan-STARRS observations</i> |
| | Rodriguez-Gomez, V. , Snyder, G. F., Lotz, J. M., Nelson, D., Pillepich, A., Springel, V., Genel, S., Weinberger, R., Tacchella, S., Pakmor, R., Torrey, P., Marinacci, F., Vogelsberger, M., Hernquist, L., and Thilker, D. A., 2019, Monthly Notices of the Royal Astronomical Society, 483, 4140 |
| | <i>The role of mergers and halo spin in shaping galaxy morphology</i> |
| | Rodriguez-Gomez, V. , Sales, L. V., Genel, S., Pillepich, A., Zjupa, J., Nelson, D., Griffen, B., Torrey, P., Snyder, G. F., Vogelsberger, M., Springel, V., Ma, C.-P., and Hernquist, L., 2017, Monthly Notices of the Royal Astronomical Society, 467, 3083 |
| | <i>The stellar mass assembly of galaxies in the Illustris simulation: growth by mergers and the spatial distribution of accreted stars</i> |
| | Rodriguez-Gomez, V. , Pillepich, A., Sales, L. V., Genel, S., Vogelsberger, M., Zhu, Q., Wellons, S., Nelson, D., Torrey, P., Springel, V., Ma, C.-P., and Hernquist, L., 2016, Monthly Notices of the Royal Astronomical Society, 458, 2371 |
| | <i>The merger rate of galaxies in the Illustris simulation: a comparison with observations and semi-empirical models</i> |

Rodriguez-Gomez, V., Genel, S., Vogelsberger, M., Sijacki, D., Pillepich, A., Sales, L. V., Torrey, P., Snyder, G., Nelson, D., Springel, V., Ma, C.-P., and Hernquist, L., 2015, *Monthly Notices of the Royal Astronomical Society*, 449, 49

REFEREED
PUBLICATIONS
AS CO-AUTHOR

Giant low surface brightness galaxies in TNG100

Zhu, Q., Pérez-Montañó, L. E., **Rodriguez-Gomez, V.**, Cervantes Sodi, B., Zjupa, J., Marinacci, F., Vogelsberger, M. and Hernquist, L., 2023, *Monthly Notices of the Royal Astronomical Society*, 523, 3991

Negligible Effects of Baryons on the Angular Momentum Scaling Relations of Galactic Dark Matter Halos

Fall, S. M. and **Rodriguez-Gomez, V.**, 2023, *The Astrophysical Journal*, 949, L14

The growth of brightest cluster galaxies in the TNG300 simulation: dissecting the contributions from mergers and in situ star formation

Montenegro-Taborda, D., **Rodriguez-Gomez, V.**, Pillepich, A., Avila-Reese, V., Sales, L. V., Rodríguez-Puebla, A. and Hernquist, L., 2023, *Monthly Notices of the Royal Astronomical Society*, 521, 800

The contribution of in situ and ex situ star formation in early-type galaxies: MaNGA versus IllustrisTNG

Cannarozzo, C., Leauthaud, A., Oyarzún, G. A., Nipoti, C., Diemer, B., Huang, S., **Rodriguez-Gomez, V.**, Sonnenfeld, A. and Bundy, K., 2023, *Monthly Notices of the Royal Astronomical Society*, 520, 5651

Morphological signatures of mergers in the TNG50 simulation and the Kilo-Degree Survey: the merger fraction from dwarfs to Milky Way-like galaxies

Guzmán-Ortega, A., **Rodriguez-Gomez, V.**, Snyder, G. F., Chamberlain, K. and Hernquist, L., 2023, *Monthly Notices of the Royal Astronomical Society*, 519, 4920

ERGO-ML I: inferring the assembly histories of IllustrisTNG galaxies from integral observable properties via invertible neural networks

Eisert, L., Pillepich, A., Nelson, D., Klessen, R. S., Huertas-Company, M. and **Rodriguez-Gomez, V.**, 2023, *Monthly Notices of the Royal Astronomical Society*, 519, 2199

Identifying Galaxy Mergers in Simulated CEERS NIRCам Images Using Random Forests

Rose, C., Kartaltepe, J. S., Snyder, G. F., **Rodriguez-Gomez, V.**, Yung, L. Y. A., Haro, P. A., Bagley, M. B., Calabro, A., Cleri, N. J., Cooper, M. C., Costantin, L., Croton, D., Dickinson, M., Finkelstein, S. L., Häußler, B., Holwerda, B. W., Koekemoer, A. M., Kurczynski, P., Lucas, R. A., Mantha, K. B., Papovich, C., Pérez-González, P. G., Pirzkal, N., Somerville, R. S., Straughn, A. N. and Tacchella, S., 2023, *The Astrophysical Journal*, 942, 54

Galaxy formation in the Santa Cruz semi-analytic model compared with IllustrisTNG - I. Galaxy scaling relations, dispersions, and residuals at $z = 0$

Gabrielpillai, A., Somerville, R. S., Genel, S., **Rodriguez-Gomez, V.**, Pandya, V., Yung, L. Y. A. and Hernquist, L., 2022, *Monthly Notices of the Royal Astronomical Society*, 517, 6091

Simulated Bars May Be Shorter but Are Not Slower Than Those Observed: TNG50 versus MaNGA

Frankel, N., Pillepich, A., Rix, H.-W., **Rodriguez-Gomez, V.**, Sanders, J., Bovy, J., Kollmeier, J., Murray, N. and Mackereth, T., 2022, *The Astrophysical Journal*, 940, 61

The merger and assembly histories of Milky Way- and M31-like galaxies with TNG50: disc survival through mergers

Sotillo-Ramos, D., Pillepich, A., Donnari, M., Nelson, D., Eisert, L., **Rodriguez-Gomez, V.**, Joshi, G., Vogelsberger, M. and Hernquist, L., 2022, Monthly Notices of the Royal Astronomical Society, 516, 5404

A machine learning approach to infer the accreted stellar mass fractions of central galaxies in the TNG100 simulation

Shi, R., Wang, W., Li, Z., Han, J., Shi, J., **Rodriguez-Gomez, V.**, Peng, Y. and Li, Q., 2022, Monthly Notices of the Royal Astronomical Society, 515, 3938

Realistic galaxy images and improved robustness in machine learning tasks from generative modelling

Holzschuh, B. J., O’Riordan, C. M., Vegetti, S., **Rodriguez-Gomez, V.** and Thuerey, N., 2022, Monthly Notices of the Royal Astronomical Society, 515, 652

The formation of low surface brightness galaxies in the IllustrisTNG simulation

Pérez-Montaño, L. E., **Rodriguez-Gomez, V.**, Cervantes Sodi, B., Zhu, Q., Pillepich, A., Vogelsberger, M. and Hernquist, L., 2022, Monthly Notices of the Royal Astronomical Society, 514, 5840

SDSS-IV MaNGA: Cannibalism Caught in the Act-On the Frequency of Occurrence of Multiple Cores in Brightest Cluster Galaxies

Hsu, Y.-H., Lin, Y.-T., Huang, S., Nelson, D., **Rodriguez-Gomez, V.**, Lai, H.-T., Greene, J., Leauthaud, A., Aragón-Salamanca, A., Bundy, K., Emsellem, E., Merrifield, M., More, S., Okabe, N., Rong, Y., Brownstein, J. R., Lane, R. R., Pan, K. and Schneider, D. P., 2022, The Astrophysical Journal, 933, 61

North Ecliptic Pole merging galaxy catalogue

Pearson, W. J., Suelves, L. E., Ho, S. C. -C, Oi, N., Brough, S., Holwerda, B. W., Hopkins, A. M., Huang, T. -C, Hwang, H. S., Kelvin, L. S., Kim, S. J., López-Sánchez, Á. R., Małek, K., Pearson, C., Poliszczuk, A., Pollo, A., **Rodriguez-Gomez, V.**, Shim, H., Toba, Y. and Wang, L., 2022, Astronomy and Astrophysics, 661, A52

The Fornax3D project: The environmental impact on gas metallicity gradients in Fornax cluster galaxies

Lara-López, M. A., Galán-de Anta, P. M., Sarzi, M., Iodice, E., Davis, T. A., Zabel, N., Corsini, E. M., de Zeeuw, P. T., Fahrion, K., Falcón-Barroso, J., Gadotti, D. A., McDermid, R. M., Pinna, F., **Rodriguez-Gomez, V.**, van de Ven, G., Zhu, L., Coccato, L., Lyubenova, M. and Martín-Navarro, I., 2022, Astronomy and Astrophysics, 660, A105

The building up of observed stellar scaling relations of massive galaxies and the connection to black hole growth in the TNG50 simulation

Varma, S., Huertas-Company, M., Pillepich, A., Nelson, D., **Rodriguez-Gomez, V.**, Dekel, A., Faber, S. M., Iglesias-Navarro, P., Koo, D. C. and Primack, J., 2022, Monthly Notices of the Royal Astronomical Society, 509, 2654

The abundance of satellites around Milky Way- and M31-like galaxies with the TNG50 simulation: a matter of diversity

Engler, C., Pillepich, A., Pasquali, A., Nelson, D., **Rodriguez-Gomez, V.**, Chua, K. T. E., Grebel, E. K., Springel, V., Marinacci, F., Weinberger, R., Vogelsberger, M. and Hernquist, L., 2021, Monthly Notices of the Royal Astronomical Society, 507, 4211

Lower-luminosity Obscured AGN Host Galaxies Are Not Predominantly in Major-merging Systems at Cosmic Noon

- Lambrides, E. L., Chiaberge, M., Heckman, T., Kirkpatrick, A., Meyer, E. T., Petric, A., Hall, K., Long, A., Watts, D. J., Gilli, R., Simons, R., Tchernyshyov, K., **Rodriguez-Gomez, V.**, Vito, F., de la Vega, A., Davis, J. R., Kocevski, D. D. and Norman, C., 2021, *The Astrophysical Journal*, 919, 129
- ZFIRE: The Beginning of the End for Massive Galaxies at $z \sim 2$ and Why Environment Matters*
Harshan, A., Gupta, A., Tran, K.-V., **Rodriguez-Gomez, V.**, Pillepich, A., Alcorn, L. Y., Nanayakkara, T., Kacprzak, G. G. and Glazebrook, K., 2021, *The Astrophysical Journal*, 919, 57
- Anisotropic satellite galaxy quenching modulated by black hole activity*
Martín-Navarro, I., Pillepich, A., Nelson, D., **Rodriguez-Gomez, V.**, Donnari, M., Hernquist, L. and Springel, V., 2021, *Nature*, 594, 187
- The stellar halos of ETGs in the IllustrisTNG simulations. II. Accretion, merger history, and dark halo connection*
Pulsoni, C., Gerhard, O., Arnaboldi, M., Pillepich, A., **Rodriguez-Gomez, V.**, Nelson, D., Hernquist, L. and Springel, V., 2021, *Astronomy and Astrophysics*, 647, A95
- A deep learning approach to test the small-scale galaxy morphology and its relationship with star formation activity in hydrodynamical simulations*
Zanisi, L., Huertas-Company, M., Lanusse, F., Bottrell, C., Pillepich, A., Nelson, D., **Rodriguez-Gomez, V.**, Shankar, F., Hernquist, L., Dekel, A., Margalef-Bentabol, B., Vogelsberger, M. and Primack, J., 2021, *Monthly Notices of the Royal Astronomical Society*, 501, 4359
- MOSEL and IllustrisTNG: Massive Extended Galaxies at $z = 2$ Quench Later Than Normal-size Galaxies*
Gupta, A., Tran, K.-V., Pillepich, A., Yuan, T., Harshan, A., **Rodriguez-Gomez, V.** and Genel, S., 2021, *The Astrophysical Journal*, 907, 95
- Quenched fractions in the IllustrisTNG simulations: the roles of AGN feedback, environment, and pre-processing*
Donnari, M., Pillepich, A., Joshi, G. D., Nelson, D., Genel, S., Marinacci, F., **Rodriguez-Gomez, V.**, Pakmor, R., Torrey, P., Vogelsberger, M. and Hernquist, L., 2021, *Monthly Notices of the Royal Astronomical Society*, 500, 4004
- Towards a consistent framework of comparing galaxy mergers in observations and simulations*
Wang, L., Pearson, W. J. and **Rodriguez-Gomez, V.**, 2020, *Astronomy and Astrophysics*, 644, A87
- The Morphology-Density Relationship in $1 < z < 2$ Clusters*
Sazonova, E., Alatalo, K., Lotz, J., Rowlands, K., Snyder, G. F., Boone, K., Brodwin, M., Hayden, B., Lanz, L., Perlmutter, S. and **Rodriguez-Gomez, V.**, 2020, *The Astrophysical Journal*, 899, 85
- The fate of disc galaxies in IllustrisTNG clusters*
Joshi, G. D., Pillepich, A., Nelson, D., Marinacci, F., Springel, V., **Rodriguez-Gomez, V.**, Vogelsberger, M. and Hernquist, L., 2020, *Monthly Notices of the Royal Astronomical Society*, 496, 2673
- The bivariate gas-stellar mass distributions and the mass functions of early- and late-type galaxies at $z \sim 0$*
Rodríguez-Puebla, A., Calette, A. R., Avila-Reese, V., **Rodriguez-Gomez, V.** and Huertas-Company, M., 2020, *Publications of the Astronomical Society of Australia*, 37, e024

Correlations between Black Holes and Host Galaxies in the Illustris and IllustrisTNG Simulations

Li, Y., Habouzit, M., Genel, S., Somerville, R., Terrazas, B. A., Bell, E. F., Pillepich, A., Nelson, D., Weinberger, R., **Rodriguez-Gomez, V.**, Ma, C.-P., Pakmor, R., Hernquist, L. and Vogelsberger, M., 2020, The Astrophysical Journal, 895, 102

MOSEL Survey: Tracking the Growth of Massive Galaxies at $2 < z < 4$ Using Kinematics and the IllustrisTNG Simulation

Gupta, A., Tran, K.-V., Cohn, J., Alcorn, L. Y., Yuan, T., **Rodriguez-Gomez, V.**, Harshan, A., Forrest, B., Kewley, L. J., Glazebrook, K., Straatman, C. M., Kacprzak, G. G., Nanayakkara, T., Labbé, I., Papovich, C. and Cowley, M., 2020, The Astrophysical Journal, 893, 23

Galaxy interactions in IllustrisTNG-100, I: The power and limitations of visual identification

Blumenthal, K. A., Moreno, J., Barnes, J. E., Hernquist, L., Torrey, P., Claytor, Z., **Rodriguez-Gomez, V.**, Marinacci, F. and Vogelsberger, M., 2020, Monthly Notices of the Royal Astronomical Society, 492, 2075

The Hubble Sequence at $z \sim 0$ in the IllustrisTNG simulation with deep learning

Huertas-Company, M., **Rodriguez-Gomez, V.**, Nelson, D., Pillepich, A., Bottrell, C., Bernardi, M., Domínguez-Sánchez, H., Genel, S., Pakmor, R., Snyder, G. F. and Vogelsberger, M., 2019, Monthly Notices of the Royal Astronomical Society, 489, 1859

A study of stellar orbit fractions: simulated IllustrisTNG galaxies compared to CALIFA observations

Xu, D., Zhu, L., Grand, R., Springel, V., Mao, S., van de Ven, G., Lu, S., Wang, Y., Pillepich, A., Genel, S., Nelson, D., **Rodriguez-Gomez, V.**, Pakmor, R., Weinberger, R., Marinacci, F., Vogelsberger, M., Torrey, P., Naiman, J. and Hernquist, L., 2019, Monthly Notices of the Royal Astronomical Society, 489, 842

Morphology and star formation in IllustrisTNG: the build-up of spheroids and discs

Tacchella, S., Diemer, B., Hernquist, L., Genel, S., Marinacci, F., Nelson, D., Pillepich, A., **Rodriguez-Gomez, V.**, Sales, L. V., Springel, V. and Vogelsberger, M., 2019, Monthly Notices of the Royal Astronomical Society, 487, 5416

Atomic and molecular gas in IllustrisTNG galaxies at low redshift

Diemer, B., Stevens, A. R. H., Lagos, C. d. P., Caletto, A. R., Tacchella, S., Hernquist, L., Marinacci, F., Nelson, D., Pillepich, A., **Rodriguez-Gomez, V.**, Villaescusa-Navarro, F. and Vogelsberger, M., 2019, Monthly Notices of the Royal Astronomical Society, 487, 1529

Automated distant galaxy merger classifications from Space Telescope images using the Illustris simulation

Snyder, G. F., **Rodriguez-Gomez, V.**, Lotz, J. M., Torrey, P., Quirk, A. C. N., Hernquist, L., Vogelsberger, M. and Freeman, P. E., 2019, Monthly Notices of the Royal Astronomical Society, 486, 3702

Studying the physical properties of tidal features - I. Extracting morphological substructure in CANDELS observations and VELA simulations

Mantha, K. B., McIntosh, D. H., Ciaschi, C. P., Evan, R., Ferguson, H. C., Fries, L. B., Guo, Y., Koekemoer, A. M., Landry, L. D., McGrath, E. J., Simons, R. C., Snyder, G. F., Thompson, S. E., Bell, E. F., Ceverino, D., Hathi, N. P., Pacifici, C., Primack, J. R., Rafelski, M. and **Rodriguez-Gomez, V.**, 2019, Monthly Notices of the Royal Astronomical Society, 486, 2643

The IllustrisTNG simulations: public data release

Nelson, D., Springel, V., Pillepich, A., **Rodriguez-Gomez, V.**, Torrey, P., Genel,

S., Vogelsberger, M., Pakmor, R., Marinacci, F., Weinberger, R., Kelley, L., Lovell, M., Diemer, B. and Hernquist, L., 2019, *Computational Astrophysics and Cosmology*, 6, 2

Anomalously Low-metallicity Regions in MaNGA Star-forming Galaxies: Accretion Caught in Action?

Hwang, H.-C., Barrera-Ballesteros, J. K., Heckman, T. M., Rowlands, K., Lin, L., **Rodriguez-Gomez, V.**, Pan, H.-A., Hsieh, B.-C., Sánchez, S., Bizyaev, D., Sánchez Almeida, J., Thilker, D. A., Lotz, J. M., Jones, A., Nair, P., Andrews, B. H. and Drory, N., 2019, *The Astrophysical Journal*, 872, 144

Jellyfish galaxies with the IllustrisTNG simulations - I. Gas-stripping phenomena in the full cosmological context

Yun, K., Pillepich, A., Zinger, E., Nelson, D., Donnari, M., Joshi, G., **Rodriguez-Gomez, V.**, Genel, S., Weinberger, R., Vogelsberger, M. and Hernquist, L., 2019, *Monthly Notices of the Royal Astronomical Society*, 483, 1042

The frequency of dwarf galaxy multiples at low redshift in SDSS versus cosmological expectations

Besla, G., Patton, D. R., Stierwalt, S., **Rodriguez-Gomez, V.**, Patel, E., Kallivayalil, N. J., Johnson, K. E., Pearson, S., Privon, G. C. and Putman, M. E., 2018, *Monthly Notices of the Royal Astronomical Society*, 480, 3376

SDSS-IV MaNGA: spatially resolved star formation histories and the connection to galaxy physical properties

Rowlands, K., Heckman, T., Wild, V., Zakamska, N. L., **Rodriguez-Gomez, V.**, Barrera-Ballesteros, J., Lotz, J., Thilker, D., Andrews, B. H., Boquien, M., Brinkmann, J., Brownstein, J. R., Hwang, H. -C and Smethurst, R., 2018, *Monthly Notices of the Royal Astronomical Society*, 480, 2544

Formation of a Malin 1 analogue in IllustrisTNG by stimulated accretion

Zhu, Q., Xu, D., Gaspari, M., **Rodriguez-Gomez, V.**, Nelson, D., Vogelsberger, M., Torrey, P., Pillepich, A., Zjupa, J., Weinberger, R., Marinacci, F., Pakmor, R., Genel, S., Li, Y., Springel, V. and Hernquist, L., 2018, *Monthly Notices of the Royal Astronomical Society*, 480, L18

Subhalo demographics in the Illustris simulation: effects of baryons and halo-to-halo variation

Chua, K. T. E., Pillepich, A., **Rodriguez-Gomez, V.**, Vogelsberger, M., Bird, S. and Hernquist, L., 2017, *Monthly Notices of the Royal Astronomical Society*, 472, 4343

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