

Artículos de Investigación

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Publicados o aceptados:

1. “*Bounds and MacWilliams Identities for codes over Artinian rings*” (con Eduardo Camps-Moreno, Carlos Espinosa-Valdéz, Hiram H. López y Yuriko Pitones), aceptado en **SIAM J. Appl. Algebra Geom.**
2. “*The defect of the F-pure threshold*” (con Alessandro De Stefani e Ilya Smirnov), aceptado en **Adv. Math.**
3. “*Ladder determinantal varieties and their symbolic blowups*” (con Alessandro De Stefani, Jonathan Montaña, Lisa Seccia y Matteo Varbaro), aceptado en **Math. Z.**
4. “*Jumping numbers of F-pure submodules*” (con Alessandro De Stefani, Daniel J. Henández y Emily E. Witt), aceptado en **Beiträge zur Algebra und Geometrie.**
5. “*Bernstein-Sato polynomial and related invariants for meromorphic functions*” (con Josep Àlvarez Montaner, Manuel González Villa y Edwin León-Cardenal). **Trans. Amer. Math. Soc.** 378 (2025), No. 7, 4929-4954.
6. “*Blowup algebras of determinantal ideals in prime characteristic.*” (con Alessandro De Stefani y Jonathan Montaña), **J. Lond. Math. Soc.**, 110 (2024), No. 2, Paper No. e12969, 50 pages.
7. “*Bernstein’s inequality and holonomicity for certain singular rings*” (con Josep Àlvarez Montaner, Daniel J. Hernández, Jack Jeffries, Pedro Teixeira, y Emily E. Witt), **Int. Math. Res. Not. IMRN**, 2024, No. 20, 13127-13179.
8. “*Nash blowups of toric varieties in prime characteristic*” (con Daniel Duarte y Jack Jeffries), **Collect. Math.**, 75 (2024), No. 3, 629-637.
9. “*Regularity index of the generalized minimum distance function*” (con Carlos Espinosa-Valdéz y Yuriko Pitones), **J. Pure Appl. Algebra**, 228 (2024), No. 5, Paper No. 107567.
10. “*Purity of monoids and characteristic-free splittings in semigroup rings*” (con Alessandro De Stefani y Jonathan Montaña), **Math. Z.**, 305 (2023), No. 2, Paper No. 31.
11. “*Bernstein-Sato theory for singular rings in positive characteristic*” (con Jack Jeffries y Eamon Quinlan Gallego), **Trans. Amer. Math. Soc.** 376 (2023), No. 7, 5123-5180.
12. “*Frobenius methods in combinatorics*” (con Alessandro De Stefani y Jonathan Montaña), **São Paulo J. Math. Sci.** 17 (2023), No. 1, 387-429.
13. “*Poincaré series of multiplier and test ideals*” (con Josep Àlvarez Montaner), **Rev. Mat. Iberoam.** 38 (2022), no. 6, 1993-2009.
14. “*F-thresholds and test ideals of Thom-Sebastiani-Type polynomials*” (con Delio Jaramillo-Velez y Manuel González Villa), **Proc. Amer. Soc.** 150 (2022), no. 9, 3739–3755.
15. “*Bernstein-Sato polynomials in commutative algebra*” (con Josep Àlvarez Montaner y Jack Jeffries), **Commutative Algebra**, 1-76, Springer, Cham, [2021].

16. "Functional equations, V -filtrations, and multiplier ideals of direct summands" (con Josep Àlvarez Montaner, Daniel J. Hernández, Jack Jeffries, Pedro Teixeira y Emily E. Witt), **Commun. Contemp. Math.** 24 (2022), no. 10, Paper No. 2150083, 47 páginas.
17. "Connectedness of square-free Groebner Deformations" (con Lilia Alanís-López y Pedro Ramírez-Moreno), **Proc. Amer. Math. Soc.** 150 (2022), no. 4, 1405-1419.
18. "Nash blowups in prime characteristic" (con Daniel Duarte), **Rev. Mat. Iberoam.** 38 (2022), no. 1, 257-267.
19. "F-volumes" (con Wágner Badilla-Céspedes y Sandra Rodríguez-Villalobos), **J. Algebra**, 595 (2022), 14-37.
20. "Bounds for the minimum distance function" (con Yuriko Pitones y Rafael H. Villarreal), **An. Ştiinţ. Univ. "Ovidius" Constanţa Ser. Mat.**, (2021), no. 3, 229-242.
21. "Higher Nash blowups of normal toric varieties in prime characteristic" (con Daniel Duarte), **Tohoku Math. J.**, (2) 73 (2021), no. 3, 449-462.
22. "Splittings and symbolic powers of square-free monomial Ideals" (con Jonathan Montaña), **Int. Math. Res. Not. IMRN**, (2021), No. 3, 2304-2320.
23. "Local cohomology and Lyubeznik numbers of F -pure rings" (con Alessandro De Stefani y Eloísa Grifo), **J. Algebra**, Vol. 571, (2021), 316-338.
24. "Q-Hilbert functions of multiplier and test ideals", (con Josep Àlvarez Montaner). Extended abstracts GEOMVAP 2019-geometry, topology, algebra, and applications; women in geometry and topology, 1 – 6, **Trends Math. Res. Perspect. CRM Barc.**, 15, Birkhäuser/Springer, Cham, (2021).
25. "b-vectors of chordal graphs" (con Luis Pedro Montejano), **J. Commut. Algebra**, Vol. 12 (2020), No. 4, 539-557.
26. "Hilbert-Kunz multiplicities and F -thresholds" (con Ilya Smirnov), **Bol. Soc. Mat. Mex. (3)**, Vol. 26 (2020), No. 1, 15–25.
27. "Quantifying singularities with differential operators" (con Holger Brenner y Jack Jeffries), **Adv. Math.**, Vol. 358 (2019), 106843, 89 pp.
28. "Connectedness and Lyubeznik numbers" (con Sandra Spiroff y Emily E. Witt). (2017), **Int. Math. Res. Not. IMRN**, (2019), no. 13, 4233–4259.
29. "Lyubeznik numbers and injective dimension of local cohomology modules" (con Daniel J. Hernández, Felipe Pérez y Emily E. Witt), **Trans. Amer. Math. Soc.**, Vol 371 (2019), No. 11, 7533-7557.
30. "Cohomological dimension, Lyubeznik numbers, and connectivity in mixed characteristic", (con Daniel J. Hernández, Felipe Pérez y Emily E. Witt), **J. Algebra**, 514 (2018), 442-467.
31. "Symbolic powers of ideals" (con Hailong Dao, Alessandro De Stefani, Craig Huneke y Eloísa Grifo), Singularities and foliations. geometry, topology and applications, 387-432, **Springer Proc. Math. Stat.**, 222 (2018), Springer, Cham.
32. "On the existence of F -thresholds and related limits" (con Alessandro De Stefani y Felipe Pérez), **Trans. Amer. Math. Soc.**, Vol. 370 (2018), No. 9, 6629-6650.
33. "Footprint and minimum distance functions" (con Yuriko Pitones y Rafael Heraclio Villarreal), **Commun. Korean Math. Soc.**, Vol 33 (2018), No. 1, 85-101.

34. "Local m -adic constancy of F -pure thresholds and test ideals for hypersurfaces with isolated singularities", (con Daniel J. Hernández y Emily E. Witt), **Math. Proc. Cambridge Philos. Soc.**, Vol. 164 (2018), No. 2, 285-295.
35. " F -thresholds of graded rings" (con Alessandro De Stefani), **Nagoya Math. J.**, Vol. 229 (2018), 141-168.
36. " D -modules, Bernstein-Sato polynomials, and F -invariants of direct summands" (con Josep Àlvarez-Montaner y Craig Huneke), **Adv. Math.**, Vol. 321 (2017), 298-325.
37. "Support of local cohomology modules over hypersurfaces and rings with FFRT" (con Mel Hochster), **Math. Res. Lett.**, Vol. 24 (2017), No. 2, 401-420.
38. "Graph connectivity and binomial edge ideals" (con Arindam Banerjee), **Proc. Amer. Math. Soc.**, Vol. 145 (2017), No. 2, 487-499.
39. "On the hyperhomology of the small gobelin for codimension 2" (con Xavier Gómez-Mont), **Bol. Soc. Mat. Mex. (3)**, Vol. 23 (2017), No. 2, 623-651.
40. "Frobenius Betti numbers and modules of finite projective dimension" (con Alessandro De Stefani, y Craig Huneke), **J. Commut. Algebra**, Vol. 9 (2017), No. 4, 455-490.
41. " F -pure thresholds of homogeneous polynomials" (con Daniel J. Hernández, Emily E. Witt y Wenliang Zhang), **Michigan Math. J.**, Vol. 65 (2016), No. 1, 57-87.
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43. "A sufficient condition for strong F -regularity" (con Alessandro De Stefani), **Proc. Amer. Math. Soc.**, Vol. 144 2016, No. 1, 21-29.
44. " F -jumping and F -Jacobian ideals for hypersurfaces" (con Felipe Pérez), **J. Pure Appl. Algebra**, Vol. 220 (2016), No. 1, 292-318.
45. "Properties of Lyubeznik numbers under localization and polarization" (con Arindam Banerjee y Kohji Yanagawa), **J. Pure Appl. Algebra** 219 (2015), No. 11, 4872-4888.
46. "Generalized Lyubeznik numbers" (con Emily E. Witt), **Nagoya Math. J.**, Vol. 215 (2014), 168-202.
47. "Associated primes of local cohomology of flat extensions with regular fibers and Σ -finite D -modules", **J. Algebra**, Vol. 399 (2014), 770-781.
48. "Lyubeznik numbers in mixed characteristic" (con Emily E. Witt), **Math. Res. Lett.**, Vol. 20 (2013), No. 6, 1125-1143.
49. "Local cohomology modules of polynomial or power series rings over rings of small dimension", **Illinois J. Math.**, Vol. 57 (2013), No. 1, 279-294.
50. "On certain rings of differentiable type and finiteness properties of local cohomology", **J. Algebra**, Vol. 379 (2013), 1-10.
51. "Local cohomology properties of direct summands", **J. Pure Appl. Algebra**, Vol. 216, (2012), No. 10, 2137-2140.
52. "Ideals with Larger Projective Dimension and Regularity" (con Jesse Beder, Jason McCullough, Alexandra Seceleanu, Bart Snapp y Branden Stone), **J. Symbolic Comput.**, Vol. 46 (2011), No. 10, 1105-1113.

Sometidos:

53. "*F-singularities of polynomials with square-free support*" (con Aldo Conca, Alessandro De Stefani e Ilya Smirnov), preimpresión disponible en arXiv:2501.16198 [math.CA].
54. "*Non-existence of negative derivations on the higher Nash blowup local algebra*" (con Wágner Badilla-Céspedes, Abel Castorena and Daniel Duarte), preimpresión disponible en arXiv:2508.14353 [math.CA].