

Publishing List: Jose Israel Rodriguez

Publications

1. L. Maxim, J. I. Rodriguez, and B. Wang. Euclidean distance degree of projective varieties. *Int. Math. Res. Not. IMRN* (Accepted 2019).
2. L. Maxim, J. I. Rodriguez, and B. Wang. Euclidean distance degree of the multiview variety. *SIAM J. Appl. Algebra Geom.* (Accepted 2019).
3. J. D. Hauenstein and J. I. Rodriguez. Multiprojective witness sets and a trace test *Advances in Geometry* (Accepted 2019).
4. J. I. Rodriguez and B. Wang. Computing Euler obstruction functions using maximum likelihood degrees. *Int. Math. Res. Not. IMRN* (Accepted 2019).
5. J. D. Hauenstein, J. I. Rodriguez, and F. Sottile. Numerical Computation of Galois Groups. *Found. Comput. Math.*, 18(4):867–890, 2018.
6. J. I. Rodriguez. Solving the likelihood equations to compute Euler obstruction functions. *Mathematical Software - ICMS 2018 Proceedings* volume 10931 of *Lecture Notes in Computer Science*. Springer, pages 405–413, 2018.
7. C. Amendola, N. Bliss, I. Burke, C. R. Gibbons, M. Helmer, S. Hosten, E. D. Nash, J. I. Rodriguez, D. Smolkin. The Maximum Likelihood Degree of Toric Varieties *J. Symbolic Comput.*, 92: 222–242, 2019.
8. A. Leykin, J. I. Rodriguez, and F. Sottile. Trace test. *Arnold Math. J.*, 4(1):113–125, 2018.
9. J. I. Rodriguez and B. Wang. The maximum likelihood degree of mixtures of independence models. *SIAM J. Appl. Algebra Geom.*, 1(1):484–506, 2017.
10. A. Martín del Campo and J. I. Rodriguez. Critical points via monodromy and local methods. *J. Symbolic Comput.*, 79(part 3):559–574, 2017.
11. E. Horobeț and J. I. Rodriguez. The maximum likelihood data singular locus. *J. Symbolic Comput.*, 79(part 1):99–107, 2017.
12. J. I. Rodriguez and X. Tang. A probabilistic algorithm for computing data-discriminants of likelihood equations. *J. Symbolic Comput.*, 83:342–364, 2017.
13. J. I. Rodriguez. Combinatorial excess intersection. *J. Symbolic Comput.*, 68(part 2):297–307, 2015.
14. J. I. Rodriguez and X. Tang. Data-discriminants of likelihood equations. In *ISSAC’15—Proceedings of the 2015 ACM International Symposium on Symbolic and Algebraic Computation*, pages 307–314. ACM, New York, 2015.
15. J. Hauenstein, J. I. Rodriguez, and B. Sturmfels. Maximum likelihood for matrices with rank constraints. *J. Algebr. Stat.*, 5(1):18–38, 2014.
16. J. Draisma and J. I. Rodriguez. Maximum likelihood duality for determinantal varieties. *Int. Math. Res. Not. IMRN*, (20):5648–5666, 2014.
17. J. I. Rodriguez. Maximum likelihood for dual varieties. In *SNC 2014—Proceedings of the 2014 Symposium on Symbolic-Numeric Computation*, pages 43–49. ACM, New York, 2014.

18. E. Gross and J. I. Rodriguez. Maximum likelihood geometry in the presence of data zeros. In *ISSAC 2014—Proceedings of the 39th International Symposium on Symbolic and Algebraic Computation*, pages 232–239. ACM, New York, 2014.
19. J. Rodriguez. Bounding the degree of Belyi polynomials. *J. Number Theory*, 133(9):2892–2900, 2013.
20. J. Rodriguez and M. Ruggiu. A novel method for the solution of the forward displacement problem of spherical parallel manipulators. *ZAMM Z. Angew. Math. Mech.*, 93(1):73–82, 2013.

Extended abstracts and book chapters

21. C. Farnsworth and J. I. Rodriguez. Homogenized funtf varieties and algebraic frame completion. *ACM SIGSAM Communications in Computer Algebra (CCA)* (2018).
22. J. I. Rodriguez. Testing membership of the likelihood correspondence. *Mathematisches Forschungsinstitut Oberwolfach Report No. 20/2017 Algebraic Statistics*, pages 1252–1254 (2017)

In revision

23. J. I. Rodriguez, L.-H. Lim, and Y. You. Fiber product homotopy method for multiparameter eigenvalue problems. *arXiv:1806.10578*(2018).
24. J. I. Rodriguez and B. Wang. Numerical computation of braid groups. *arXiv:1711.07947*(2017).
25. Y. You, L.-H. Lim, and J. I. Rodriguez. Accurate solutions to the polynomial eigenvalue problem. *arXiv:1711.01301* (2017).
26. C. Amendola and J. I. Rodriguez. Solving parameterized polynomial systems with decomposable projections. *arXiv:1612.08807*(2016).
27. D. Bates, E. Gross, A. Leykin, and J. I. Rodriguez. Bertini for Macaulay2, *arXiv:1310.3297*.

Submitted

28. L. Maxim, J. I. Rodriguez, and B. Wang. Defect of the Euclidean distance degree. *arXiv:1905.06758*(2019).
29. J. D. Hauenstein, A. Leykin, J. I. Rodriguez, and F. Sottile. A numerical toolkit for multiprojective varieties. *arXiv:1908.00899* (2019).
30. D. I. Bernstein, C. Farnsworth, and J. I. Rodriguez, The algebraic matroid of the funtf variety *arXiv:1812.10353*(2018).

In preparation

- * C. Crowley, J. I. Rodriguez, J. Weiker, and J. Zoromski. Regeneration networks for polynomial system solving (*In preparation*).
- * J. I. Rodriguez and L.-H. Lim. Numerical algebraic geometry for generalized method of moments (*In preparation*).

- * T. Brysiewicz, J. I. Rodriguez, F. Sottile, and T. Yahl. Solving Decomposable Sparse Systems (*In preparation*).
- * L. Maxim, J. I. Rodriguez, and B. Wang. A Morse theoretic approach to non-isolated singularities and applications to optimization (*In preparation*).