

**Lista de lucrări în domeniul de știință definit de disciplinele din postul scos
la concurs**

NUMELE ȘI PRENUMELE: Horobeț Emil

I. LISTA PUBLICAȚIILOR RELEVANTE

1. A. Boralevi, J. Draisma, E. Horobeț, E. Robeva, *Orthogonal and unitary tensor decomposition from an algebraic perspective*, J. Math., 222 (2017), 223-260, DOI: 10.1007/s11856-017-1588-6
2. E. Horobeț, *The Data Singular and the Data Isotropic Loci for Affine Cones*, Comm. Algebra, Volume 45 (2017), Issue 3, pp. 1177 – 1186.
3. E. Horobeț, J. I. Rodriguez, *The Maximum Likelihood Data Singular Locus*, J. Symbolic Comput., Volume 79 (2017), Part 1, pp. 99–107.
4. J. Draisma, E. Horobeț, *The average number of critical rank-one approximations to a tensor*, Linear Multilinear Alg., Volume 64 (2016), Issue 12, 2494 - 2514.
5. R. H. Eggermont, E. Horobeț, K. Kubjas, *Algebraic boundary of matrices of nonnegative rank at most three*, Linear Algebra Appl., Volume 508 (2016), 62-80.
6. E. Horobeț, *An algorithm of constructing the basic algebra of a skew group algebra*, Math. Rep., 18(68), No. 3 (2016), 403-416.
7. J. Draisma, E. Horobeț, G. Ottaviani, B. Sturmfels, R.R. Thomas, *The Euclidean Distance Degree of an Algebraic Variety*, Found. Comput. Math., Volume 16, Issue 1(2016), 99-149.
8. E. Horobeț, *Galois covering and smash product of skew categories*, Acta Univ. Sapientiae, Mathematica 5, No. 1(2013), pp. 47-53.
9. E. Horobeț, *Orbit decomposition of skew group algebras*, Mathematica, Tome 53(76), No. 2(2011), pp. 143 - 148.
10. E. Horobeț, *Representation theory of skew group algebras*, Lambert Academic Publishing, Saarbrücken, Germany, 2011, ISBN: 978-384-6543-77-1

II. LISTA COMPLETĂ DE PUBLICAȚII, CREAȚII, INVENȚII

A. Teza de doctorat.

Instituție: Eindhoven University of Technology, Eindhoven, Olanda
Titlul disertației: Tensors of Low Rank
Conducător științific: Dr. Jan Draisma
Data obținerii titlului de doctor: 19.05.2016
ISBN: 978-90-386-4065-5



B. Cărți publicate

B1. Cărți (manuale, monografii, tratate, îndrumare etc.) publicate la edituri recunoscute în străinătate.

1. E. Horobeț, *Representation theory of skew group algebras*, Lambert Academic Publishing, Saarbrücken, Germany, 2011, ISBN: 978-384-6543-77-1

B2. Cărți (manuale, monografii, tratate, îndrumare etc.) publicate în țară, la edituri recunoscute CNCSIS.

B3. Cărți (manuale, monografii, tratate, îndrumare etc.) publicate la alte edituri sau pe plan local.

1. Cs. Farkas, E. Horobeț, Sz. Szász, Cs. Tóth, *XVIII. Nemzetközi Magyar Matematikaverseny: Feladatok és megoldások*, Editura Mentor, Târgu-Mureș, 2019, ISBN: 978-606-8861-31-9.

B4. Cărți (manuale, monografii, tratate, îndrumare etc.) publicate pe web.

B5. Capitole de cărți publicate în străinătate

B6. Capitole de cărți publicate în țară

C. Lucrări științifice publicate

C1. Lucrări științifice publicate în reviste cotate ISI

1. A. Boralevi, J. Draisma, E. Horobeț, E. Robeva, *Orthogonal and unitary tensor decomposition from an algebraic perspective*, J. Math., 222 (2017), 223-260, DOI: 10.1007/s11856-017-1588-6
2. E. Horobeț, *The Data Singular and the Data Isotropic Loci for Affine Cones*, Comm. Algebra, Volume 45 (2017), Issue 3, pp. 1177 – 1186.
3. E. Horobeț, J. I. Rodriguez, *The Maximum Likelihood Data Singular Locus*, J. Symbolic Comput., Volume 79 (2017), Part 1, pp. 99–107.
4. J. Draisma, E. Horobeț, *The average number of critical rank-one approximations to a tensor*, Linear Multilinear Alg., Volume 64 (2016), Issue 12, 2494 - 2514.
5. R. H. Eggermont, E. Horobeț, K. Kubjas, *Algebraic boundary of matrices of nonnegative rank at most three*, Linear Algebra Appl., Volume 508 (2016), 62-80.
6. E. Horobeț, *An algorithm of constructing the basic algebra of a skew group algebra*, Math. Rep., 18(68), No. 3 (2016), 403-416.
7. J. Draisma, E. Horobeț, G. Ottaviani, B. Sturmfels, R.R. Thomas, *The Euclidean Distance Degree of an Algebraic Variety*, Found. Comput. Math., Volume 16, Issue 1(2016), 99-149.



C2. Lucrări științifice publicate în reviste indexate în baze de date internaționale (indicați și baza de date).

1. E. Horobeț, *Galois covering and smash product of skew categories*, Acta Univ. Sapientiae, Mathematica 5, No. 1(2013), pp. 47-53.
2. E. Horobeț, *Orbit decomposition of skew group algebras*, Mathematica, Tome 53(76), No. 2(2011), pp. 143 - 148.

C3. Lucrări științifice publicate în reviste din străinătate (altele decât cele menționate anterior).

C4. Lucrări științifice publicate în reviste din țară, recunoscute CNCSIS (altele decât cele din baze de date internaționale).

C5. Lucrări științifice publicate în reviste, altele decât cele menționate anterior

C6. Lucrări științifice publicate în volumele manifestărilor științifice

D. Traduceri de cărți, capitole de cărți, alte lucrări științifice

E. Editare, coordonare de volume

F. Brevete de invenții și alte titluri de proprietate

G. Contracte de cercetare (menționați calitatea de director sau membru)

Junie 2019 - Octombrie 2020:

Membru în echipă: proiect finanțat de *Institutul Programelor de Cercetare al Fundației Sapientia*, titlu: „*Puncte critice: de la analiză la algebră II.*”, valoare: 38000 RON.

Junie 2017 - Junie 2019:

Membru în echipă: proiect finanțat de *Institutul Programelor de Cercetare al Fundației Sapientia*, titlu: „*Puncte critice: de la analiză la algebră I.*”, valoare: 10000 RON.

Septembrie 2013 – Septembrie 2016:

Membru în echipă: Grant of the Ministry of National Education, CNCS-UEFISCDI, project number PN-II-ID-PCE-2012-4-0100, *Categorical and combinatorial methods in representation theory*.

Septembrie 2012 – August 2016:

Membru în echipă: Nederlandse Organisatie voor Wetenschappelijk Onderzoek (N.W.O.) Free Competition grant: *Tensors of bounded rank*.



H. Creația artistică

H1 Participări la manifestații artistice internaționale

H2. Participări la manifestații artistice naționale

H3. Expoziții, filme, spectacole, concerte, discuri de autor, opere internaționale

H4. Expoziții, filme, spectacole, concerte, discuri de autor, opere naționale

H5. Produse cu drept de proprietate intelectuală în domeniul artistic

III. RECUNOAȘTEREA

D I. Premii, distincții.

1. Concursul Internațional de Matematică a Maghiarilor (2007, medalie de argint), Szeged, Ungaria
2. Concursul tinerilor cercetători organizat de Societatea de Inovații din Ungaria (2008, Mențiune)
Titlu lucrare (modificat): Equichordal curves in higher dimension
3. BeNeLux Mathematical Congress Ph.D. prize (2016, selectat pentru echipa de prezentare)

J. Citări total: 47 în articole cu SRI mai mare sau egal cu 0.5

1. A. Boralevi, J. Draisma, E. Horobeț, E. Robeva, *Orthogonal and unitary tensor decomposition from an algebraic perspective*, J. Math., 222 (2017), 223-260, DOI: 10.1007/s11856-017-1588-6.
s=1.851 (în 2015), n=4, s/n=0.46275, articol recent.
Citări (C=4):
 1. Breiding, Paul, and Nick Vannieuwenhoven. "The condition number of join decompositions." *SIAM Journal on Matrix Analysis and Applications* 39.1 (2018): 287-309. (**s=2.994**)
 2. Vannieuwenhoven, Nick. "Condition numbers for the tensor rank decomposition." *Linear Algebra and its Applications* 535 (2017): 35-86. (**s=1.114**)
 3. Robeva, Elina, and Anna Seigal. "Singular vectors of orthogonally decomposable tensors." *Linear and Multilinear Algebra* 65.12 (2017): 2457-2471. (**s=1.018**)
 4. Pan, Junjun, and Michael K. Ng. "Symmetric orthogonal approximation to symmetric tensors with applications to image reconstruction." *Numerical Linear Algebra with Applications* 25.5 (2018): e2180. (**s=1.703**)
2. E. Horobeț, *The Data Singular and the Data Isotropic Loci for Affine Cones*, Comm. Algebra, Volume 45 (2017), Issue 3, pp. 1177 – 1186.
s=0.639 (în 2017), n=1, s/n=0.639, articol recent.
Citări (C=1):

1. Helmer, M., & Sturmfels, B. (2018). Nearest points on toric varieties. *MATHEMATICA SCANDINAVICA*, 122(2), 213-238. (**s=0.643**)

3. E. Horobeț, J. I. Rodriguez, *The Maximum Likelihood Data Singular Locus*, J. Symbolic Comput., Volume 79 (2017), Part 1, pp. 99–107.
s=1.521 (în 2018), n=2, s/n=0.7605, articol recent.
Citări (C=0)

4. J.Draisma, E. Horobeț, *The average number of critical rank-one approximations to a tensor*, Linear Multilinear Alg., Volume 64 (2016), Issue 12, 2494 - 2514.
s=1.018 (în 2018), n=2, s/n=0.509, articol recent.
Citări (C=1)
 1. Bürgisser, Peter, and Antonio Lerario. "Probabilistic schubert calculus." *Journal für die reine und angewandte Mathematik (Crelles Journal)* (2018). (**s=3.916**)

5. R. H. Eggermont, E. Horobeț, K. Kubjas, *Algebraic boundary of matrices of nonnegative rank at most three*, Linear Algebra Appl., Volume 508 (2016), 62-80.
s=1.114 (în 2017), n=3, s/n=0.371, articol recent.
Citări (C=1)
 1. Kubjas, Kaie, Elina Robeva, and Bernd Sturmfels. "Fixed points EM algorithm and nonnegative rank boundaries." *The Annals of Statistics* (2015): 422-461. (**s=4,874**)

6. J. Draisma, E. Horobeț, G. Ottaviani, B. Sturmfels, R.R. Thomas, *The Euclidean Distance Degree of an Algebraic Variety*, Found. Comput. Math., Volume 16, Issue 1(2016), 99-149.
s=6.959 (în 2015), n=5, s/n=1.391, articol recent.
Citări (C=40)
 1. Ye, Ke, and Lek-Heng Lim. "Schubert varieties and distances between subspaces of different dimensions." *SIAM Journal on Matrix Analysis and Applications* 37.3 (2016): 1176-1197. (**s=2.994**)
 2. Ottaviani, Giorgio, Pierre-Jean Spaenlehauer, and Bernd Sturmfels. "Exact solutions in structured low-rank approximation." *SIAM Journal on Matrix Analysis and Applications* 35.4 (2014): 1521-1542. (**s=2.994**)
 3. Henrion, Didier, Simone Naldi, and Mohab Safey El Din. "Exact algorithms for linear matrix inequalities." *SIAM Journal on Optimization* 26.4 (2016): 2512-2539. (**s=4,024**)
 4. Barvinok, Alexander. "Computing the permanent of (some) complex matrices." *Foundations of Computational Mathematics* 16.2 (2016): 329-342. (**s=6,959**)
 5. Gross, Elizabeth, et al. "Algebraic systems biology: a case study for the Wnt pathway." *Bulletin of mathematical biology* 78.1 (2016): 21-51. (**s=1,174**)
 6. Lee, Hwangrae, and Bernd Sturmfels. "Duality of multiple root loci." *Journal of Algebra* 446 (2016): 499-526. (**s=1,140**)
 7. Ponce, Jean, Bernd Sturmfels, and Mathew Trager. "Congruences and concurrent lines in multi-view geometry." *Advances in Applied Mathematics* 88 (2017): 62-91. (**s=1,528**)

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8. Schost, Éric, and Pierre-Jean Spaenlehauer. "A quadratically convergent algorithm for structured low-rank approximation." *Foundations of Computational Mathematics* 16.2 (2016): 457-492. **(s=6,959)**
9. Compagnoni, Marco, et al. "A comprehensive analysis of the geometry of TDOA maps in localization problems." *Inverse Problems* 30.3 (2014): 035004. **(s=1,731)**
10. Aluffi, Paolo. "Projective duality and a Chern-Mather involution." *Transactions of the American Mathematical Society* 370.3 (2018): 1803-1822. **(s=2,649)**
11. Bernardi, Alessandra, et al. "Tensor decomposition and homotopy continuation." *Differential geometry and its applications* 55 (2017): 78-105. **(s=0,939)**
12. Gross, Elizabeth, et al. "Numerical algebraic geometry for model selection and its application to the life sciences." *Journal of The Royal Society Interface* 13.123 (2016): 20160256. **(s=2,681)**
13. Hauenstein, Jonathan D., and Charles W. Wampler. "Unification and extension of intersection algorithms in numerical algebraic geometry." *Applied Mathematics and Computation* 293 (2017): 226-243. **(s=0,970)**
14. Henrion, Didier, Simone Naldi, and Mohab Safey El Din. "Real root finding for determinants of linear matrices." *Journal of Symbolic Computation* 74 (2016): 205-238. **(s=1,521)**
15. Drusvyatskiy, Dmitriy, et al. "The Euclidean distance degree of orthogonally invariant matrix varieties." *Israel Journal of Mathematics* 221.1 (2017): 291-316. **(s=1,851)**
16. Breiding, Paul, et al. "Learning algebraic varieties from samples." *Revista Matemática Complutense* 31.3 (2018): 545-593. **(s=1,447)**
17. Spaenlehauer, Pierre-Jean. "On the Complexity of Computing Critical Points with Gröbner Bases." *SIAM Journal on Optimization* 24.3 (2014): 1382-1401. **(s=4,024)**
18. Harris, Corey. "Computing Segre classes in arbitrary projective varieties." *Journal of Symbolic Computation* 82 (2017): 26-37. **(s=1,521)**
19. Bürgisser, Peter, and Antonio Lerario. "Probabilistic schubert calculus." *Journal für die reine und angewandte Mathematik (Crelles Journal)* (2018). **(s=3,916)**
20. Baaijens, Jasmijn A., and Jan Draisma. "Euclidean distance degrees of real algebraic groups." *Linear Algebra and its Applications* 467 (2015): 174-187. **(s=1,114)**
21. Seigal, Anna, and Bernd Sturmfels. "Real rank two geometry." *Journal of Algebra* 484 (2017): 310-333. **(s=1,140)**
22. Lee, Hwangrae. "The Euclidean distance degree of Fermat hypersurfaces." *Journal of Symbolic Computation* 80 (2017): 502-510. **(s=1,521)**
23. Drusvyatskiy, Dmitriy, Hon-Leung Lee, and Rekha R. Thomas. "Counting real critical points of the distance to orthogonally invariant matrix sets." *SIAM Journal on Matrix Analysis and Applications* 36.3 (2015): 1360-1380. **(s=2,994)**
24. Zhang, Xiping. "Chern classes and characteristic cycles of determinantal varieties." *Journal of Algebra* 497 (2018): 55-91. **(s=1,140)**
25. Aluffi, Paolo, and Corey Harris. "The Euclidean distance degree of smooth complex projective varieties." *Algebra & Number Theory* 12.8 (2018): 2005-2032. **(s=2,301)**
26. del Campo, Abraham Martin, and Jose Israel Rodriguez. "Critical points via monodromy and local methods." *Journal of Symbolic Computation* 79 (2017): 559-574. **(s=1,521)**
27. Fløystad, Gunnar, Joe Kileel, and Giorgio Ottaviani. "The Chow form of the essential variety in computer vision." *Journal of Symbolic Computation* 86 (2018): 97-119. **(s=1,521)**
28. Bik, Arthur, and Jan Draisma. "A note on ED degrees of group-stable subvarieties in polar representations." *Israel Journal of Mathematics* 228.1 (2018): 353-377. **(s=1,851)**
29. Ren, Yue, Johannes WR Martini, and Jacinta Torres. "Decoupled molecules with binding polynomials of bidegree $(n, 2)$." *Journal of mathematical biology* 78.4 (2019): 879-898. **(s=1,715)**
30. Compagnoni, Marco, et al. "On the statistical model of source localization based on range difference measurements." *Journal of the Franklin Institute* 354.15 (2017): 7183-7214. **(s=2,407)**

31. Harris, Corey, and Daniel Lowengrub. "The Chern-Mather class of the multiview variety." *Communications in Algebra* 46.6 (2018): 2488-2499. (s=0,639)
32. Casanellas, Marta, Jesús Fernández-Sánchez, and Mateusz Michałek. "Local equations for equivariant evolutionary models." *Advances in Mathematics* 315 (2017): 285-323. (s=3,217)
33. Stegeman, Alwin, and Shmuel Friedland. "On best rank-2 and rank-(2, 2, 2) approximations of order-3 tensors." *Linear and Multilinear Algebra* 65.7 (2017): 1289-1310. (s=1,018)
34. Ottaviani, Giorgio, and Alicia Tocino. "Best rank k approximation for binary forms." *Collectanea Mathematica* 69.1 (2018): 163-171. (s=1,393)
35. Rodriguez, Jose Israel, and Xiaoxian Tang. "A probabilistic algorithm for computing data-discriminants of likelihood equations." *Journal of Symbolic Computation* 83 (2017): 342-364. (s=1,521)
36. Lageman, Christian, and Uwe Helmke. "Counting critical formations on the circle: algebraic-geometric and Morse-theoretic bounds." *Mathematics of Control, Signals, and Systems* 28.2 (2016): 11. (s=1,977)
37. Pfeffer, Max, Anna Seigal, and Bernd Sturmfels. "Learning Paths from Signature Tensors." *SIAM Journal on Matrix Analysis and Applications* 40.2 (2019): 394-416. (s=2,994)
38. Li, Dengao, et al. "Integrated positioning algorithm based on GPS/WLAN." *Concurrency and Computation: Practice and Experience*: e5277. (s=0,571)
39. Di Rocco, Sandra, David Eklund, and Chris Peterson. "Numerical polar calculus and cohomology of line bundles." *Advances in Applied Mathematics* 100 (2018): 148-162. (s=1,528)
40. Helmer, Martin, and Bernt Ivar Utstøl Nødland. "Polar degrees and closest points in codimension two." *Journal of Algebra and Its Applications* (2018): 1950095. (s=0,667)

K. Alte realizări semnificative.

Data,

14.06.2019

Semnătura,

